AIRTEQ

User Manual

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D & R 's A I R T E Q

USERSMANUAL

CHAPTERS

1. Introduction

The D & R's Airteq is an On Air console with many hidden features only experienced by the user.
A combination of essential functions together with understanding the needs of today's broadcaster has made this console the best logical choice. Fader level control and master limit functions are accomplished by VCA's. All internal switching is done by solid state C-mos switches.
The main function of the Airteq is direct On-Air work and secondary it is a well loaded console for editing work outside broadcast hours.

There can be worked with the Airteq by the presenter himself or in a dual operation with an extra engineer. All relevant settings are easily accessable on the frontpanel and can even be hidden away with cover plates, to even further simplify control over the desk.
The logic underneath the control surface takes care of most switching automatically. This switching can be tailored to individually desires. The console is fully modular to easen servicing in the rare event that something goes wrong.
The following modules are available at the moment:
- Microphone/line module.
- Stereo line module.
- Telco module.
- Master section.
- Blind panels.
- High resolution metering.
- Sico remote control unit (4 as a maximum).

All frontpanel switching have led indicators to inform the presentor/engineer that a function has been activated.
A quick overview of all the typical radio features will be given below.

Duckmaster
Any microphone channel can be the master of other channels when set in the duck mode. This feature together with the internal limiting brings the high energy presentation wanted nowadays.

CRM off
Control room monitor off sets the desk in a self operating mode. All critical situations concerning feedback are taken over by internal electronic switches.

On
This actually is a reversed mute switch with the added advantage that as well as the channel as the redlight/machines can be activated.
There are several ways of activating machines/redlight without having to "jumper" on the board first. Electronic startswitching is incorperated, on the fader as well as on the "on"-switch.

Cue
The cue function is completely automatic. It is controlled by the fader and the On switch. Cue outputs can be chosen from the main monitor or seperate cue output, which in turn can be switched or not.

Cleanfeeds
Up to three mixminus mixes can be achieved to accomplish three "crosstalks" with incoming phone calls.

Four Aux sends are possible in the Airteq by adding concentric controls on top of the aux 1 and 2 controls. A total of 7 sends are available now.

Stereo module
The stereo module has two sets of line inputs and an input stereo/mono selection to amplify any type of incoming signal.
The eq is amplitude limited for unaffected broadcasting of the allready recorded material.

Telco module
A very comprehensive module with all the necessary controls to achieve a failfree broadcast of incoming calls. Extensive communication features are available for the presenter/engineer.

Master section
On Air switching is internal available as well as external. Limiting is very sophisticated with a dual band sidechain controlling the channel VCA's directly. The design of the sidechain of the limiter is so that instant peaklimiting is available without causing distortion in the lower frequencies. The attack and release is auto controlled. A sophisticated and practical circuit. The ducking works in the same way. Combination of limiting and ducking gives very high energy mixes.

Sico
Signal Communication is very extensive in the Airteq. Connected Sico boxes have their own communication fork circuitry to easen communication to every part of the console.

Monitor
Monitoring is through headphones or Control Room speakers or cue loudspeaker, or a combination of all three. There are numereous possibilities in set ups. All changeable by jumpersettings on the P.C.boards.

All D.C. control voltages are available on D type connectors on the back of the console. External control is possible of Faders, channel switching, cue switching, and much much more. Detailed explenation follows in the relevant chapters.

Faderstart
An electronic faderstart signal is available controlled either by the fader or the "on" switch. It's seperated from the mixer electronics by a reed relay. Junpers determine whether is an on/off or pulse type of switching.

Metering
The Airteq has a high resolution peak reading meter following the monitoring in most settings. External metering is easily connected to the D type connector.

A scriptspace is available in the Airteq, making life easier to work.

Sico boxes
The sico boxes have all the necessary controls to have a perfect communication between the presenters booth and the engineer. Detailed information can be found in the relevant chapter.

To become familiar with all the facilities of the Airteq, we advise you to read this manual very carefully. It will give you important information about operating, installation and servicing.

2. INSTALLATION

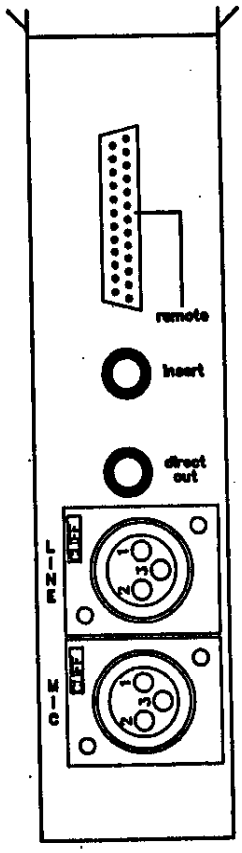
The Airteq is constructed for dropthrough mounting. This means that it will fit in a hole of approx. 795 mm. x 730 mm. for the Airteq 12 and 795 mm. x 1462,50 mm. for the Airteq 24. The meterhood will completely hide connectors and its cables, giving a neat appearance.
Before letting the mixer drop through the hole, take off the backplate of the meterhood to give accessability to the connector panels.

Wiring
This is a very important topic in creating a noise and humfree studio. The Airteq is completely balanced on all in and outputs, a necessity to create humfree wiring.

It is wise to try to balance all wiring where possible. If this is not possible unbalanced wiring is the alternative. In that case make sure you earth the out of phase in/output pins of the xlr's.
Hereafter are all the connectors to which your equipment has to be connected.

Backview

Mono channel



Mic-line module in/outputs

XLR mic input	level	: -70dB to -20dB
	pin 1	: signal ground (screen)
	pin 2	: signal high (in phase, hot)
	pin 3	: signal low (out of phase cold)
XLR line input	level	: -30dB to infinity
	pin 1	: signal ground (screen)
	pin 2	: signal high (in phase, hot)
	pin 3	: signal low (out of phase cold)
Direct out (jack)	level	: 0dB (on tip)
	sleave	: signal ground (screen)
	ring	: not connected
	tip	: signal in phase
Insert (jack)	level	: 0dBu
	tip	: signal input
	ring	: signal output
	sleeve	: signal ground

CONSOLE : AIRTEQ

DATE: 03 aug 1989

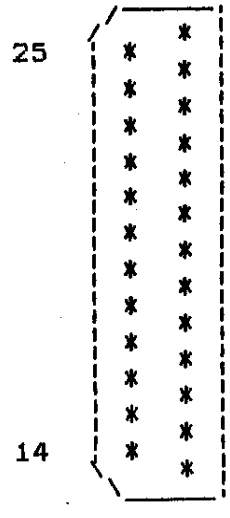
CONNECTOR : REMOTE (25p SUB-D female)
LOCATION : MONO/STEREO and TELCO CHANNEL

PIN NR.	NAME	DIRECTION of signal	ACTIVATED BY	LEVEL (dBu) referred to 0V audio	DC-LEVEL (Volt) referred to to 0V logic active/non-active	PHASE	COMMENT
1	0 V-EXTERNAL	-	-	-	-	-	ONLY for EXTERNAL purposes
2	POWER EXTERNAL	output	-	-	+5	-	Imax = 10mA - Ipin 24
3	CUE LED (+)	output	-	-	-	-	Iled = 12mA, connect led
4	CUE LED (-)	output	-	-	-	-	between pins 3 and 4
5	FADERSTART B (nc)	in/output	-	-	-	-	contact power :max. 3 W
6	FADERSTART B (cc)	out/input	-	-	-	-	contact current:max. 0.2 A
7	FADERSTART B (no)	in/output	-	-	-	-	contact voltage:max. 30 V
8	CUE (nc)	input	pin 9	-	-	-	max. input voltage : 6 V
9	CUE (cc)	output	-	-	+5 / +5	-	switch to pin 8 or pin 10
10	CUE (no)	input	pin 9	-	-	-	max. input voltage : 6 V
11	COUGH (nc)	input	pin 12	-	-	-	max. input voltage : 6 V
12	COUGH (cc)	output	-	-	+5 / +5	-	switch to pin 11 or pin 13
13	COUGH (no)	input	pin 12	-	-	-	max. input voltage : 6 V
14	ON (nc)	input	pin 15	-	-	-	max. input voltage : 6 V
15	ON (cc)	output	-	-	+5 / +5	-	switch to pin 14 or pin 16
16	ON (no)	input	pin 15	-	-	-	max. input voltage : 6 V
17	FADERSTART A (nc)	in/output	-	-	-	-	contact power :max. 3 W
18	FADERSTART A (cc)	out/input	-	-	-	-	contact current:max. 0.2 A
19	FADERSTART A (no)	in/output	-	-	-	-	contact voltage:max. 30 V
20	FADER (top)	output	-	-	0 <-> -5	-	depending on the chan.fader
21	FADER (slider)	input	-	-	-	-	use a lineair fader of 10k
22	FADER (bottom)	output	-	-	-5 / -5	-	
23	RING INDICATOR	output	-	-	0 / Z	-	use with pin 2 or pin 24
24	POWER EXTERNAL	output	-	-	+5	-	Imax = 10mA - Ipin 2
25	0 V-EXTERNAL	-	-	-	-	-	ONLY for EXTERNAL purposes

* nc = normally closed / cc = center contact / no = normally open
  Use a SPDT-switch (break before make) for the CUE, COUGH and ON function

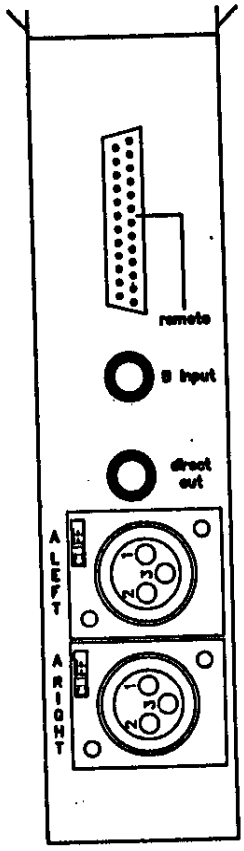
SPDT: cc ___/ nc / no

* FADERSTART B is only available on the AIRTEQ stereo channel
* COUGH-function is only available on the AIRTEQ mono channel
* FADERSTART A and B and COUGH-function are not available on the telco channel
* RING INDICATOR is only available on the telco channel. Pin 23 may be used to drive a LED or a small relais which should be driven from pin 2 or pin 24. 'Z' means a high-impedance-state, '0' means 0V-EXTERNAL GROUND with a imp. of 100 ohm
* DO NOT TRY TO CONNECT the 0V-AUDIO GROUND to the 0V-EXTERNAL GROUND, or this will DEGRADE the AUDIO PERFORMANCE of the console !



Backview

Stereo module

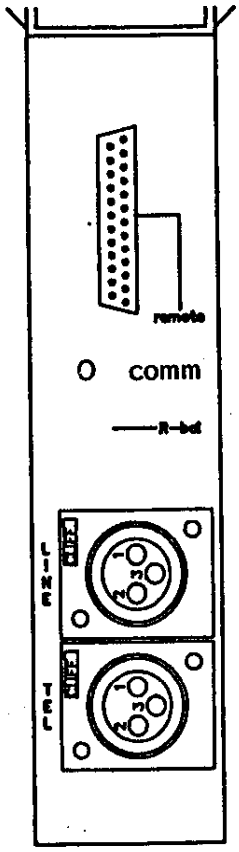


Stereo channel connectors

XLR line A inputs	level	: -30 to infinity
left/right balanced	pin 1	: signal ground (screen)
	pin 2	: signal high (in phase, hot)
	pin 3	: signal low (out of phase, cold)
Direct out (jack)	level	: 0dB (on tip and ring)
unbalanced	sleeve	: signal ground, screen
	ring	: output right
	tip	: output left
Line B input	level	: -30dB to infinity
unbalanced	sleeve	: signal ground screen
	ring	: right input
	tip	: left input
Remote		: See connector diagram.

Backview

Telco module



Telco module connectors

XLR telephone output balanced	level	: -6dB nominal at 600 Ohm
	pin 1	: B' bel disabled
	pin 2	: A
	pin 3	: B
XLR line input	level	: -30dBu / -8dBu nominal at 600 Ohm.
	pin 1	: Not connected
	pin 2	: A line
	pin 3	: B line
R balance		: to adjust damping of phone return signal.
C balance	8 positions	
Comm. impedance		: to adjust damping of communication channel.
Remote		: See connector diagram.

ALIGNMENT OF AIRTEQ TELCO MODULE
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date: 18 jan '90
doc.: TELCO

Before you can start aligning the Telco module, you must remove the cleanfeed jumpers CF1, CF2 and CF3 from masterprint 4. Masterprint 4 is the printed circuit board mounted beneath the tone generator.

The cleanfeed jumpers on the Telco modules (this could be a maximum of 3) have to be set accordingly the number of modules installed.

One Telco module

	Hybrid send conn 8	Hybrid receive conn 9
CF 1		*
CF 2	*	
CF 3	*	

Two Telco modules

	Hybrid send conn 8	Hybrid receive conn 9
CF 1	*	
CF 2		*
CF 3	*	

Three Telco modules

	Hybrid send conn 8	Hybrid receive conn 9
CF 1	*	
CF 2	*	
CF 3		*

* indicates place of jumper

Due to the fact that every connected Telco module and SiCo box influences the alignment you must connect all purchased Telco modules and SiCo boxes. When anything changes in the number of connected SiCo boxes and Telco modules, the alignment procedure has to be done from scratch.

NOTE: During initial set up no telephone sets must be connected to the Telco module.

If more than one Telco module has to be trimmed only one connect switch should be activated at the time.

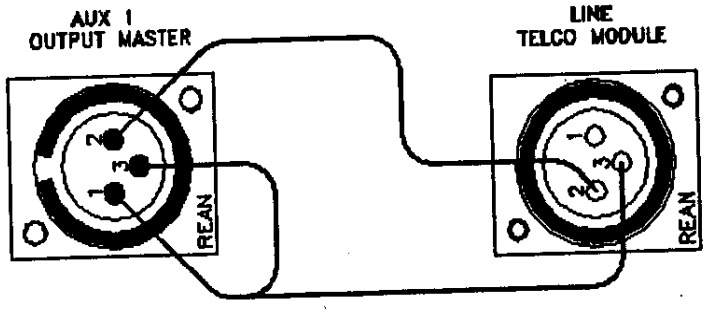
ALIGNMENT TELCO MODULE

ALIGNMENT COMM.

All controlls of the Airteq console has to be set as described below:
- Panpots centre position
- Faders down
- Equalizers centre position
- All switches up position
- Hi/lo filter in Telco module to 30Hz and 20kHz.
- All other controls fully counterclockwise.
- No led is lit on the whole Airteq.

Now a step by step procedure has to be carried out.

- "TONE ON" on mastersection has to be activated.
- "TO AUX" on mastersection has to be activated.
- "1 KHZ" on mastersection has to be activated.
- "CUE AUX1" on mastersection has to be activated.
- "MASTER AUX1" control fully clockwise.
- "AUTO CUE" on mastersection has to be activated.
- The signal has to be set to -10dB on the left ledbar by adjusting the "tone" control to the one o'clock position.
- Release the "CUE AUX1" switch on the master section.
- Now connect the Aux master output to the line input of one of the Telco modules (See connection in the manual).



- Activate "CONNECT" switch on the Telco module.
- Activate "COMM" switch on the master section.
- Activate "COMM" switch on the Telco module.
  (The Comm volume control has to be set fully counterclockwise)

- Activate "AFL" switch on the Telco module.

- The "Telco Send" volume control has to be set fully clockwise.

- The left ledbar indicates now the signal full scale.

- Adjust the "COMM" trimpot on the backpanel of the Telco module (above the R-bal trimpot) so that no indication is seen on the ledbar. (This has to be done very carefully).

NOTE: Do not be misleaded by the ledbar still indicating some level. The reason lies in the internal electret microphone giving signal to the output, even when its volume control is set fully counterclockwise.

ALIGNMENT ON THE MASTER MODULE

ALIGNMENT COMM.

Adjust the "comm.imp.adj." on the back of the master-section, by using a headphone (connected to the phones output).

- The "CRM-phones" control should be set at 3 o'clock.

- The "COMM" control should be set fully clockwise.

- Press the COMM. switch and start talking into the electret microphone.

- Now adjust the "comm.imp.adj" trimpot (above the tape ouputs) in such a way, that you reduce the level (of yourself) you'll hear to a minimum.

* Due to the fact that every connected Telco module and SiCo box influences the alignment you must connect all purchased Telco modules and SiCo boxes. When anything changes in the number of connected SiCo boxes and Telco modules, the alignment procedure has to be done from scratch.

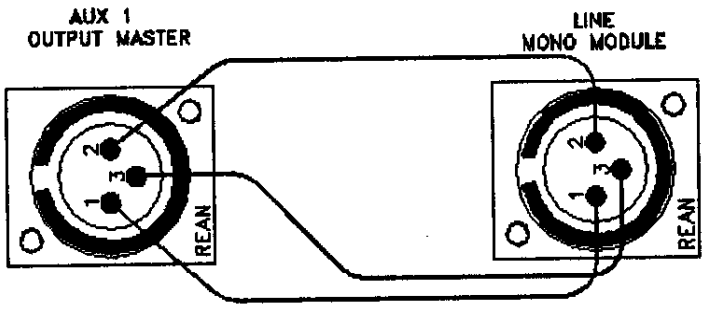
ALIGNMENT TELCO MODULE

ADJUSTMENT OF R AND C BALANCE

- Set all controls in the neutral position as described above in the "Alignment Telco Module" procedure.

Now the alignment is described step by step.

- Activate "TONE ON" on master section.
- Activate "TO AUX" on master section.
- Activate "1KZH" on master section.
- Activate "CUE AUX1" on master section.
- Turn the Aux 1 master control fully clockwise.
- Activate the "AUTOCUE" on the master section.
- Now adjust the "TONE" control untill the ledbar gives a 0dB reading on it's scale. (Tone control around the 3 o'clock position).
- De-activate the "CUE AUX1" on the master section.
- Now connect the AUX 1 output on the master section to the line input of a microphone/line channel.



Settings of mono mic/line channel

- Activate "CUE" switch.
- Fader fully down.
- Activate line switch.
- Adjust gain control untill a 0dB reading is seen on the left ledbar.
- Activate "ON" switch on mic/line channel.
- Adjust fader so a reading of 0dB is seen on the right ledbar.
- Now connect the telephone set and the telephone line to the Telco module.
- Now call up a caller with the telephone set.
- Activate "CONNECT" after the caller has picked up his phone.
- Activate the "AFL" switch.
- Adjust the "Telco Send" control so, a reading of 0dB is seen on the left ledbar.
- Release the "AFL" switch on the Telco module.
- Activate the "CUE" switch on the Telco module.
- Now turn the gain control of the Telco module fully clockwise.
- Now adjust the "R-bal" trimmer on the back of the Telco module, so a minimum reading on the left ledbar is achieved (-10dB).

NOTE: During these adjustments no conversation has to be taken place. It is not possible to fully attenuate the signal, only 20dB to 25dB is possible, because of complex varying impedances, dependant upon frequencies and inductances.

If the "R-bal" (means balance) can not be aligned properly, change the jumper setting of the "C-bal" on the Telco Module (connector 3). This connector is positioned beneath the "Telco-Send" control. After this new setting of, you can again adjust the ledbar reading to its minimum. This adjustment has to be performed once!

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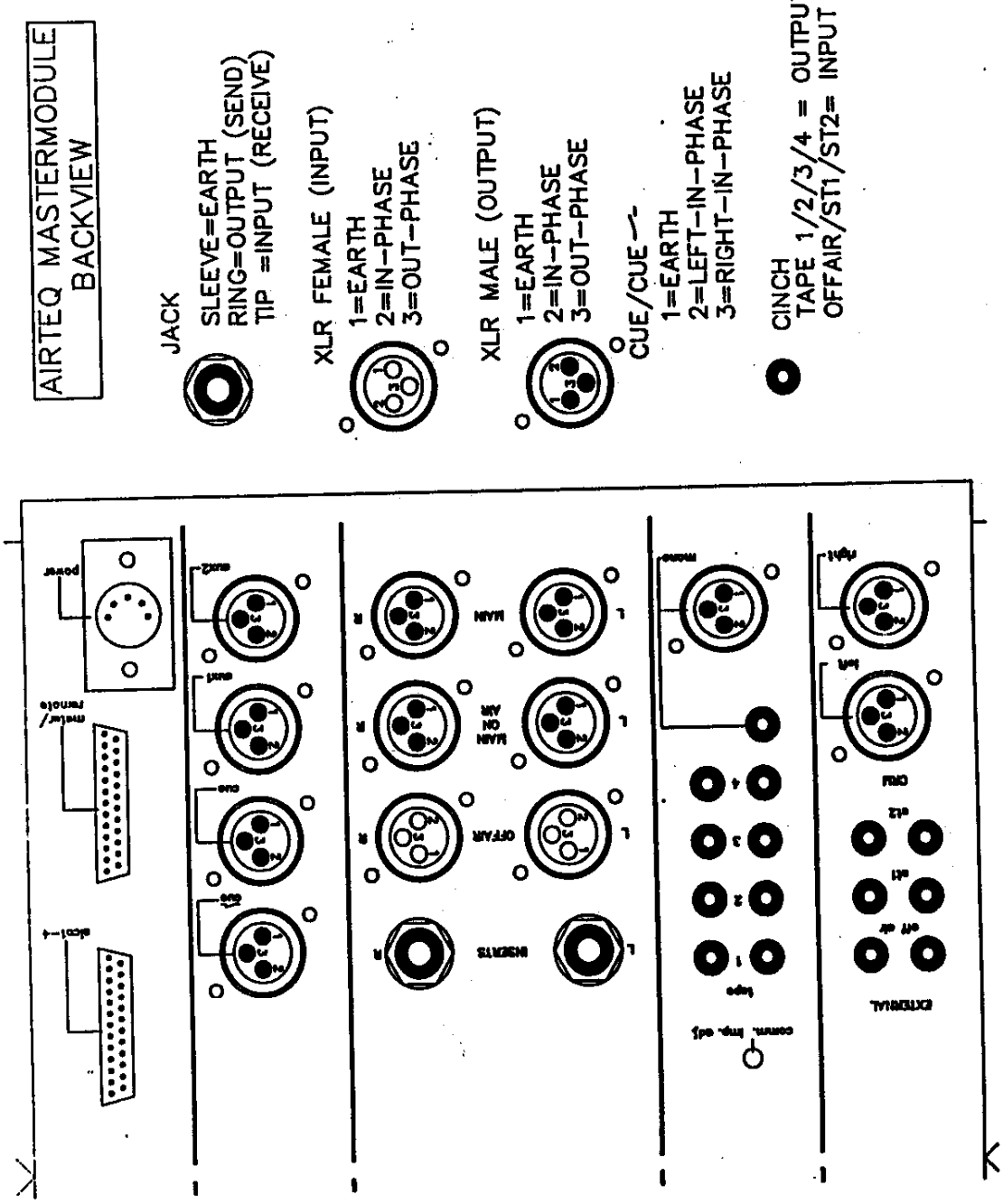
Backview mastermodule



Master section connectors

External:

Off air (cinch) L/R	level	: 0dBu/input/10kOhm
Stereo 1 (cinch)	level	: 0dBu/input/10kOhm
Stereo 2 (cinch)	level	: 0dBu/input/10kOhm
CRM (XLR) L/R	level	: +6dBu/47Ohm.
Unbalanced	pin 1	: signal ground (screen)
Transformer balancing	pin 2	: signal high (in phase, hot)
Optional	pin 3	: signal low (out of phase, cold)
	(pin 3	: will be grounded in standard configuration)
Headphones	level	: +6dB to - 20dB
	sleeve	: signal ground (screen)
	tip	: left output
	ring	: right output

Communication

Tape outputs 1 - 4 (cinch)	level	: +6dBu or -10dBV by jumpersettings
Mono XLR (transformer balanced)	level	: +6dBu
	pin 1	: signal ground (screen)
	pin 2	: signal high (in phase, hot)
	pin 3	: signal low (out of phase, cold)
Mono cinch (unbalanced)	level	: +6dB/-10dBv by jumpersetting
Communication impedance match		: to adjust optimum damping to SiCo boxes.

Outputs

Inserts left/right (jack) unbalanced	level	: 0dBu at 100 Ohm/10kOhm
	sleeve	: signal ground
	tip	: signal input
	ring	: signal output
Off air left/right input XLR balanced	level	: +6dBu
	pin 1	: signal ground (screen)
	pin 2	: signal high (in phase, hot)
	pin 3	: signal low (out of phase, cold)

DATE: 21 juni 1989

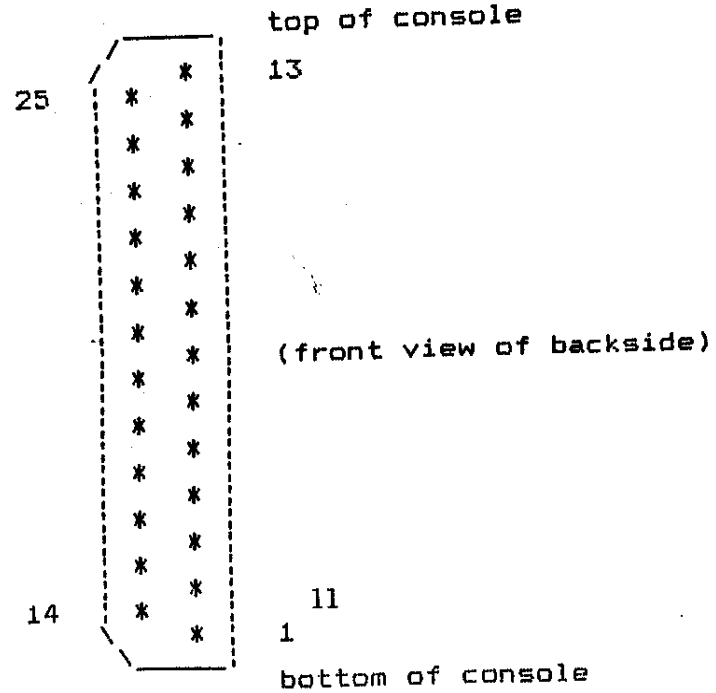
CONSOLE : AIRTEQ

CONNECTOR : METER/REMOTE (25p SUB-D female)
LOCATION : MASTER-SECTION

PIN NR.	NAME	DIRECTION of signal	ACTIVATED BY	LEVEL (dBu) referred to 0V audio	DC-LEVEL (Volt) referred to to 0V logic active/non-active	PHASE	COMMENT
1	OSCILLATOR	output	-	-00 / +14	-	in	activated by TONE-ON sw
2	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
3	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
4	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
5	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
6	LEDBAR RIGHT	output	-	+6	-	in	shows monitor select
7	LEDBAR POWER -	output	-	-	-18 / -18	-	use ONLY for HR-LEDBAR
8	LEDBAR POWER +	output	-	-	+18 / +18	-	use ONLY for HR-LEDBAR
9	n.c.	-	-	-	-	-	reserved
10	MAIN RIGHT	output	-	+6	-	in	unswitched
11	MAIN LEFT	output	-	+6	-	in	unswitched
12	AUX/4	output	-	+6	-	in	optional
13	AUX/3	output	-	+6	-	in	optional
14	AUX/4 internal	(output)	-	0	-	out	ONLY for metering
15	AUX/3 internal	(output)	-	0	-	out	ONLY for metering
16	AUX/2 internal	(output)	-	0	-	out	ONLY for metering
17	AUX/1 internal	(output)	-	0	-	out	ONLY for metering
18	LEDBAR LEFT	output	-	+6	-	in	shows monitor sel./ CUE
19	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
20	0 V-LEDBAR	-	-	-	-	-	ONLY for LEDBAR purposes
21	ON-AIR	output	-	-	-16 / +16	-	imp. act:1kΩ non-act:2k7
22	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
23	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
24	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
25	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes

* Pin 21 is reserved for an external stand-alone ON-AIR unit

* DO NOT TRY TO CONNECT the 0V-AUDIO GROUND to the 0V-LEDBAR GROUND, or this will DEGRADE the AUDIO PERFORMANCE of the console !



Main on air output (switched) XLR balanced	level	: +6dBu
	pin 1	: signal ground (screen)
	pin 2	: signal high (in phase, hot)
	pin 3	: signal low (out of phase, cold)
Main (unswitched) XLR balanced	level	: +6dBu
	pin 1	: signal ground (screen)
	pin 2	: signal high (in phase, hot)
	pin 3	: signal low (out of phase, cold)

Aux/Cue outputs

Cue switched output XLR unbalanced	level	: +6dBu
	pin 1	: signal ground (screen)
	pin 2	: left output
	pin 3	: right output
Cue unswitched output XLR unbalanced	level	: +6dBu
	pin 1	: signal ground (screen)
	pin 2	: left output
	pin 3	: right output
Aux 1/2 output XLR unbalanced Transformer balanced optional	level	: +6dBu
	pin 1	: signal ground (screen)
	pin 2	: signal (in phase, hot)
	pin 3	: signal ground/out of phase
Aux 3/4 output meter/remote connector, unbalanced (optional)	level	: +6dBu
	pin 12	: Aux 4
	pin 13	: Aux 3

Sico 1-4/Remote/Meter/Power

Sico 1-4		: See connector drawing
Meter/Remote		: See connector drawing
Power XLR 5 pin	pin 1	: Earth (digital + analog)
	pin 2	: +18Volt
	pin 3	: -18Volt
	pin 4	: +48Volt phantome
	pin 5	: Chassis ground

JUMPERSETTINGS

Mono mic/line module

Jumper 8 : Pulse/continue setting for remote start or red light indicator.
1-2 = contineous
2-3 = pulse

Jumper 9 : Sico select 1-4
1-4 = sico 1
2-3 = sico 2
3-2 = sico 3
4-1 = sico 4

Jumper 5 : Selects the highpass filter to be switched of togehter with the eq switch.
1-2 eq switch no influence
2-3 eq switch also switches the highpass off.

Jumper 6 : Selects Aux 1/3 to be pre or post VCA.
1-2 pre VCA
3-4 post VCA

Jumper 7 : Selects Aux 2/4 to be pre or post VCA.
1-2 pre VCA
3-4 post VCA

Stereo line module

Jumper 6 : Selects Aux 1/3 pre or post VCA.

Jumper 7 : Selects Aux 2/4 pre or post VCA.

Jumper 8 : Selects control DC to be pulse or contineously.
1-2 = contineously.
2-3 = pulse.

Jumper 3 : Selects master output mute for main tape deck to avoid feedback.
1-2 = switches tape send 1 off
(when channel is on)

Telco module

Jumper 3 : Setting of C balance
3 = default setting.

Jumper 7 : Setting of bypass
switching of high/lowpass filters together with eq bypass switching.
1 - 2 = eq bypass switch does not switch hi-lo off.
3 - 4 = eq bypass switch does switch off hi-lopass filters.

Jumper 8 : Selects mixminus feed to telco module.
1 - 1 = cleanfeed buss 1
2 - 2 = cleanfeed buss 2
3 - 3 = cleanfeed buss 3

Jumper 12/13 : Selects outgoing Telco signal to cleanfeed busses.
1 - 1 = cleanfeed 1
2 - 2 = cleanfeed 2
3 - 3 = cleanfeed 3

Jumper 10 : Selects Aux sends 1/3 pre/post fader
1 - 2 = pre fader
3 - 4 = post fader

Jumper 11 : Selects Aux sends 2/4 pre/post fader
1 - 2 = pre fader
3 - 4 = post fader

Jumper 15 : Selects the activating of the Telco cue switch when the communication switch is activated.
1 - 2 = cue activated
3 - 4 = not activated

Jumper 16 : Activates the CRM dimming when the communication is activated.
1 - 2 = dimming on
3 - 4 = not activated

Master PCB's from left to right

Tone generator board Airteq 4 : No jumpers

Cue/aux board Airteq 5 : No jumpers

Main output board Airteq : No jumpers

Communication boad Airteq 7

Jummpers 1-5 select output level of tape 1-4 and mono cinch out between +6dBu and -10dBv.

Jumper 1 : tape 1 left output : 1-2 = +6dBu
2-3 = -10dBv

Jumper 2 : tape 1 right output : 1-2 = +6dBu
2-3 = -10dBv

Jumper 3 : tape 2, 3, 4 left outputs : 1-2 = +6dBu
2-3 = -10dBv

Jumper 4 : tape 2, 3, 4 right outputs : 1-2 = +6dBu
2-3 = -10dBv

Jumper 5 : mono output : 1-2 = +6dBu
2-3 + -10dBv

CRM/headphone board Airteq 8

Jumper 7 : Selects cue left or mono summed cue to headphone output left.
: 1-2 = mono
3-4 = cue left output

Jumper 8 : Selects cue right or mono summed master output to headphone output right.
: 1-2 = cue rigt
3-4 = mono master output

Jumper 5 : Selects whether the headphone outputs should be possibly turned down to zero : 1-2 = turned to zero
3-4 = turned to zero
no jumper 1-2 = max. attenuation -40dB
no jumper 3-4 = max. attenuation -40dB

2. INSTALLATION:

Applying power:

Before switching on the power supply of the Airteq check the mains voltage of the supply by looking at the sticker on the back of the 19" housing. This should be 110 Volt for area's with voltages form 100 to 120Volts and 220 Volts for area's with 220 to 240 Volt main voltages.
The main fuse should be 3.15 Amp, 20 mm Anti surge for 220 Volt, and 6.3 Amp, 20 mm. Anti surge for 110 Volt area's.
Do not replace the fuse with any other type, as this could become a safety hazard, and will void the warranty.

INTERFACE LEVELS

The Airteq is prepared for interfacing with all available equipment in ints standard configuration see Connectors.
One point of attention has to made concerning the C.R.M. output. This output delivers a nominal +4dBu level which is sometimes too high for power amps rated at 300mV sensitivity for full output.
In those cases install an input attenuator at the power amps input to reduce this +4dBu level by approximately 12 dB.
Use a 2k2 series resistor and a 680 ohm shunt resistor across the amplifier input.

GENERAL WIRING PROCEDURES

To take full advantage of the excellent signal to noise ratio of the Airteq it is necessary to carefully read this part of the manual.
Hum, radio frequency interference, buzzes, instability are often caused by improper wiring and inferior earthing systems. Sometimes the incoming mains earth is not adequate for studio earthing and a separate technical earth has to be made for all the audio equipment.
Your electricity supply company will give you all the details to avoid insufficient safety regulations.
There are some ground rules to be followed.
All signals in a studio are referenced to earth. This earth has to be clean and free of noise. A central point should be decided for the main earth point system and all earths should be started from this point.

The way your electricity company has daisy chained the earth in your situation is unsuitable for your studio. The best way is to run a separate earth wire from each outlet to the system starpoint earth. This is the safety earth and screen reference for all your equipment.
A separate wire from all the equipment racks to the starpoint is nice to have in cases where the earthing via mains plugs is not satisfying.
The starpoint should be located at the rear of the console or equipment rack.

Install separate "clean and dirty" mains outlets. The "clean" ones for audio equipment and the "dirty" ones for lighting, air-conditioning, freezers and so on.
Do not mix up these two sorts of outlets.
Mains born interference can be isolated by introducing an isolating transformer for the clean outlets earth the transformer directly to the technical earth or as close as possible to the incoming earth.
All equipment has to located as far as possible from the incoming mains distribution boxes.
Unbalanced equipment may need to be isolated from the rack to avoid earth loops.

SETTING UP THE INITIAL WIRING

First connect the power supply of the Airteq to the console. All faders must be down and the C.R.M. fully up.

a. Connect the power amps to the C.R.M. outputs and check for any hum, buzz or interference. If this is allright proceed.
b. Now the recordplayers/cd players and cartridge machines can be wired up. First the tape out to the line inputs and check noise/hum with every connected channel. It will built up a little of cours.
Then connect the inputs of the equipment to the master outputs of the Airteq. Carefully listen to the noise/hum.
c. Connect stereo tape recorders, studio monitors and all signal processors, one at the time and keep checking that your system stays clean. If not, carefully check that there is no earth loop.

SHIELDING/EARTHING OF AUDIO EQUIPMENT

The screen of any audio connection should be connected at one end only. If not, earth loops and high frequency crosstalk will be the result. Connect the shield as a general rule to the signal source end. In high R.F. area's it is wise to earth the other end of the screen via a 0.01 uF capacitor. This will be a short circuit at high frequencies but not at low frequencies.

Typical shielding situations:

Output	Input	Screen (shield)
Unbalanced	Unbalanced	Source
Unbalanced	Balanced	Sourse
Unbalanced	Differential	Source
Balanced	Unbalanced	Destination
Balanced	Balanced	Source
Balanced	Differential	Destination
Differential	Unbalanced	Source
Differential	Balanced	Source
Differential	Differential	Source

Balanced means transformer balanced, while differential is electronically balanced. There are some cases which give better results in practise. Always connect one at the time and check.
Always use twin screened audio cables and connect both conductors at both ends, the shielding at one end. (except patch, cords, these earthes are tied together in the console).
We know that this part is a difficult one but once properly installed and wired, the results will be clean and noise free.

FAULT FINDING

It is essential to study the signal flow chart carefully. Only in this way you can isolate problems in the Airteq. By following the signal through in and output jacks it is possible to locate a fault. If a fault is located, inform your dealer or us and we will try to help you by advice if this will not help just return the channel or master to your dealer or the factory and we will be happy to repair it within 24 hours.
Many faults can be found by logical thinking and replacing integrated circuits, which is very easy they are all socketed.

REMOVING A MODULE

Switch off the power supply first.
In case a mono or stereo channel has to be removed it is necessary to remove the metal number indicator strip placed behind the modules. It is always easier to remove a module when this strip is removed, but not always necessary.
The "number strip" can be removed by unscrewing the two bolts on either side of the console hidden behind the caps placed in the sideparts of the console housing.
To remove a module, first untight the retaining screws, which will allow to carefully withdraw the module in an upwards direction. When the module is lifted, carefully disconnect its flatcables and remove the module out of the chassis. Now extender cables can be connected (if ordered).
The master section can be lifted in the same way, but we advice to service the master section only bu qualified personal. To replace a module, sometimes it is easier to unscrew nearby modules retaining screws. This will make replacing the modules easier.

NOTE: START with tightening the backscrew first.

3. OPERATION

Airteq mono mic/line module.

The channel can operate in either the microphone or line input mode. The microphone input is an electronically balanced (transformer balancing is optional) design of extremely low noise. The input impedance is higher than 2 kOhm, which will not cause any loading effect on today's studio microphones. Try to use condensor microphnes as the ultimate choice. Dynamic will do also. Be carefull with connecting electret microphones. The internal 48 phantome power may damage low cost unbalanced electret microphones.

Duck master

This switch selects the channel that has control over all the others in terms of level variation. It means that when you use this switch in a channel where the D.J. presents his program, he will lower the level coming from other channels the moment he opens his mouth. The amount of ducking can be set in the master section. There can be more duckmasters channels than one.

C.R.M. off

This switch sets the mic/line channel (in line mode is not active) in the self operation mode. This means when a presenter is an engineer at the same time. In this case some switching has to be performed to avoid noises and or feedback while presenting.
The moment the channel is active the Control Room Monitors (C.R.M.) will be switched off to avoid feedback to the presenters microphone. At the same time the mic on indicator in the master section will light.

Note: As long as the "C.R.M. off" switch is activated and a microphone is active, it is not possible to activate a cue switch. It is ofcourse possible to push that switch but it will not respond.

+48 Volt

The +48V switch is there to feed condensor microphones. When using other microphones such as dynamic and electret ones, the phantom power supply should not be switched on.
Note: If phantom power is switched on or off, when the microphone input channel is active, a "click" or "thump" will be heard. This is because you are interrupting a standing DC voltage directly on the mic input socket, where a gain of 70dB will amplify this interrupting.
Similarly, switching from mic to line whilst phantom power is switched on, will have the same result for the same reason. This is NOT a fault.

Line

This switch selects the balanced line input of the module. At the same time it reduces the mic gain to minimum gain to avoid crosstalk between mic and line inputs with increased gain. The switch also interrups the C.R.M. off switch.

Phase

The phase reverse switch changes the polarity of both the mic and line inputs. This is a very usefull function when presenters are discussing opposite each other, creating phase response problems.

High pass

The high pass filter is switched in and out of the signal patch by its associated push button. The roll off of 12dB at 100 Hz ensures a very effective way of removing rumble and "pop" noise.
Note: By jumper settings a selection can be made if you want the high pass filter to be switched off together with the eq switch. Normally it is switched on always, to increase the intelligibility of speach.

Mic/line gain

The microphone input can be varied between -20dB and -70dB of gain. The line input can be varied between -30dB and infinity.

Equalizer

The Airteq has a three band equalizer with a restricted control range of ± 12dB to avoid unpleasant corrections for the listener. The eq can be by passed completely.

Aux send 1-4

There are as standard two Aux sends both preset post fader in the factory, other settings are possible (see jumper settings).
Aux 3 and 4 are optional.

Cleanfeeds

There are three cleanfeed busses inside the Airteq to create 3 mixminus signals for simultaneous telephone conversations of 3 callers maximum. The jumper settings on the Telco modules create the mixminus feed.

Pan

This control enables the microphone/line signal to be placed in any desired position in the stereo picture. Seperating of presenter and guest is a usefull feature of the pan-pot to increase the understanding when speaking at the same time.

On

This is a multifunctional switch. It switches the channel on, creates the redlight signalling and mutes the cueing of that channel.
The "on" switch works together with the fader. Both can have the same functions. Some engineers prefer, to switch on the channel by a switch, other prefer bringing up the fader. The Airteq is so flexible it can do both at the same time, without internal presets to be performed.
There are two leds associated with the "on" switch. A green one telling you that the channel is in its standby mode. Only one action has to take place to open the channel.
When the fader is down and the "on" switch is activated, the green led will light. The moment the fader is moved upwards, the green led will turn off and the associated red led will light, telling you that the channel is open.
To set the channel in its bypass mode, this can be done either by releasing the "on" switch or bringing down the fader. In this way the presenter/engineer can choose how to use the redlight signalling. Either with fader or with the "on" switch. A very convenient desing.
The "on" switch also controls the cue. When the cue switch is activated it will be electronically switched off, the moment the channel is activated.

Cue

This switch allows listening to the channel input when the fader is closed, indicated by a led, as all switching in the Airteq.
The cue can only be activated when the C.R.M. off is not activated. Level setting of this microphone can be done with the C.R.M. control fully down and the C.R.M. off switch not activated.
The cue function is coupled to both the "on" switch and the fader.

A contineously activated cue switch will give a convenient reverse talkback from the studio the moment the channel is off. The on switch and the fader will switch off the moment the channel is active.
The cue can be heard via a seperate loudspeaker switched or unswitched (see master section) or it can be auto-switched to the main monitors if necessary.

Fader

This is the most important part of the channel. The fader contols a high performance VCA. This VCA can be controlled by the following voltages:
- The linear channel fader
- The sidechain of the limiter circuitry
- The sidechain of the ducking circuitry
- The on switch
- The cough circuit, opening the cue at the same time

The fader together with the on switch performs a well designed attenuation law. Even when the "on" switch is activated, the VCA will first attenuate the signal and then a seperate mute circuit will become active.

Faderswitch

This very important feature of radio desks is performed electronically increasing reliability.
The position of the fader is sensed by an electronic circuit. This circuit controls the redlight signalisation (if the mic/line switch is in its mic position!) switches cue in and out and activates the mute switch in its down position to achieve high cut off values of the fader.

Peakled

This led monitors the post eq and post insertion point. It indicates signal levels above +17dB occuring in the channel. A headroom of only 5dB is left now. Adjusting the gain control will increase the headroom to a more save area.

Airteq stereo line input

To this module you can connect stereo tapemachines, phonoplayers, CD players, cartmachines etc.

A.B.switch

This switch selects which connected machine will be amplified by the channel. A cost reducing way of having contineously connected all available equipment without the need of buying a channel per machine.

Note: Grammaphones do need a R.I.A.A. corrected pre-amplifier before connected to the Airteq's stereo module.
The A/B selector also switches the associated machine startswitch to avoid strange happenings in the studio.

Mono L/R

These two switches gives you the possibility to bring any sort of signal into the channel. Mono from the left input to both inputs or visa versa. Or a mixed sum of either a stereo or mono signal to both or one channel path.

Gain

This control sets the sensitivity of the channel in relation to the 0dB mark of the channel fader.

Equalizer

The equalizer is a three band circuit with restricted amplitude range to avoid over equalizing of allready recorded material. Especially sibilance are to be taken care for. The whole eq can be taken out of the signal path.

Aux 1-4

Aux 1 and 2 are standard, both are factory preset as postfader.
Aux 3 and 4 are optional.

Cleanfeeds

There are three cleanfeed busses in the Airteq feeding a maximum of three Telco modules.

Pan

This control has to be used to correct imbalances in the left/right balance. A centre detent accentuates the correct midposition.

On-switch

This is a multifunctional switch as in the mic/line channel. It can activate the channel, the faderstart and switches off the cue.

There are two leds associated with the "on" switch. A green one indicating standby. A red one indicating the channel is active. The channel can only be active if both the channel fader and the "on" switch are activated. In this way the presenter/engineer can choose his own way of working. Either switching in the channel by the "on" switch or bringing up the fader. In both cases the faderstart is activated.

Cue

This switch is used for stereo monitoring the source of the channel while the fader and/or "on" switch is not active. The cue is mostly used to check signals before bringing them into the air. The cue can be heard via a seperate loudspeaker or via the main monitors/headphones. During broadcast it's wise to use the seperate cue output or a special arrangement of the C.R.M. outputs (see master chapter). In production, the autocue mode will be a convenient set up.
Cueing the signal is prefader post panpot.

Peak

This led indicates that the post eq signal is exceeding +17dB. This is 5dB prior to dipping. Gain control adjustment will increase headroom again by decreasing the level.

Fader

The 100 mm. lineair fader controls a VCA which is also controlled by the limiter and ducking circuits as well as the on switch.
The fader position is monitored by an electronic sensing circuit which generates a faderstart and switches off the cue (when activated).
The faderstart can be a pulse or contineous D.C. voltage to start connected equipment. A jumpersetting selects the appropriate mode. Special circuitry will always bring the electronics in the right mode related to the faderposition when the Airteq is switched on.
The remote control outputs are isolated by reedswitches and will switch over from the A to B input accordingly.

Telco module

The Telco module is a perfect interface between the telephone line and the Airteq.

Telco send

This control adjusts the outgoing level to the caller.

Afl

This switch enables the presenter/engineer to monitor the outgoing signal as a final check.

Ring led

This led indicates incoming calls. The ring led is switched off when the connect switch is pressed..

Present led

This led modulates when the caller is talking. A nice feature when there is no actual discussion and the caller is not in the air, but want to say something to a not connected presenter/engineer.

Dimled

This led indicates that the incoming call is dimmed by the outgoing signal from the console. A presenter has always control over het discussion in this circuitry. A nice little feature of the Airteq.

Connect

This switch makes the actual connection between the telephone line and the input channel.

Bell off
If a mono channel is activated in the "self op mode", with depressed CRM off, then the bell of the telephone will not ring.
The incoming phone calls are signalled by the ring led. On the D-connector at the back side is a connection for an external ring light.

Lowpass filter

This 12dB per octave filter removes excessive high frequency noise from the incoming telephone line. It ranges from 2kHz to 20kAz.

Highpass filter

This 12dB per octave filter removes excessive low frequency noise from the incoming telephone line. It ranges from 30Hz to 300Hz.

Gain

This control adjusts the incoming level of the telephone line. A wide range to even amplify the worst case conditions.

Equalizer

This is a special designed telephone eq. to improve intelligibility of incoming calls. It can be switched on and off.

Aux 1 - 4

These sends are factory pre-set post fader. Aux 3 and 4 are optional.

Cleanfeeds

There are three cleanfeed busses in the console with summing amps located in the Telco modules. By jumper settings the right mixminus mode can be accomplished. A maximum of three Telco modules can be put into the Airteq and conversations between three callers are easily created.

Pan

This control adjusts the incoming level between the left, middle and right outputs of the Airteq.

On

This switch has actually the same function as in the other channels. A standby function is indicated by a green led and a red led indicates that the incoming call is "on the air".
The on switch also activates the mic on signalling and switches off the eventually activated cue signal.
The channel can only be activated if the fader is up. In other words the fader and on switch perform the same functions. The presenter/engineer selects its most preferable way of working.

Cue

This switch lets you listen to the incoming call and is convenient for optimising the quality of the incoming signal by adjusting the filter sections and gain control.
Cueing is only possible when either the fader and On switch are not active.

Peak

This led indicates a signal level of +17dB or higher, thus reduced headroom. Adjusting the gain will improve headroom.

Comm

This is a communication routing switch to allow a presenter to talk via the SiCo box to the caller without being on the Air.
This connection works as a two way Forkcircuit.

Fader

A lineair fader controls a VCA. The VCA is also controlled by the On switch. The delay time after connecting the incoming call.
- The limiter sidechain
- The ducking sidechain
- The internal Telco dimmer, which reduces problems with imperfect balanced telephone lines.

The faderswitch

Electronically senses and used for switching on/off cue sends, channel on/off and activating extra muting switches.

Mastersection

This section contains all the circuitry for distributing the signals from the channels as well as many logic circuitry for signalling. The master can be positioned anywhere in the frame.

Tone

This section contains a low distortion phax shift type of sinus oscillator to make lining up an easy job. The signal can be sent to the Aux outputs and to the main stereo and mono outputs. There is a level control and an On switch. Three frequencies are available, 10kHz, 1kHz and 100Hz. Only one at the time is possible.

Cue/Aux section

The Cue output is fully stereo and there are two seperate outputs. One direct and one switched. The switched one is active when the C.R.M. off is active. This output is used when you want a seperate Cue sound but switched off in the "one man operation". A led indicates this mode. A level control is available.
Aux 1-4 masters control the outgoing level to the connectors. Aux 1 and 2 can be transformer balanced. Aux 3 and 4 will be optional concentric controls with their outputs on the meter/remote connector. An AFL switch lets you hear the outgoing signal.

Main outputs

The "On Air" switch connects the switched main outputs to the outputs of the Airteq. The switch is protected for accidentally use by a cover. In case of powerfailure there is no circuitry between the off Air and On Air in/outputs, making this a failsafe circuit. Engineers who want the On Air relay outside the console, seperate transformer balanced main outputs are available as well as a d.c. control voltage from the On Air switch.
A balanced mono summed output is also available on the connector panel.
The stereo output signal can be switched to mono.
The limiter circuit is a very sophisticated circuit which is capable of handling fast high frequency transients as well as low frequency signals. It has a two band sidechain with program dependant attack/relaese times, making it an ideal overall program limiter. The active led indicates control of the limiter. Use it so the activated light occasionally.

Mic on

This big lamp indicates that a microphone channel is active somewhere in the system.

Tape 1 off

This led lights when a stereo channel is active that is assigned to switch off the tape 1 output to avoid feedback. The main stereotape deck which is used to record productions is probably connected to the tape 1 output while its output is connected to a stereo input. When that stereochannel is not switching off tape 1 output, a feedback loop is created.

Duck

The Duck control determines the amount of level reducing of all the channels that are not Duckmasters. The whole circuit can be switched off.

Communication

An internal electret microphone is used to communicate through the SiCo boxes to a maximum of 4 presenters area's and to the Telco modules.

SiCo 1 - 4

These switches route the outgoing and incoming communication signals. The related leds flash when a presenter tryes to reach the engineer during broadcast.
Any combination of SiCo boxes due to the internal communication Fork circuitry can be made. The Telco modules can be incorperated in this communication circuit.

The outgoing level can be set by the level control and the electret can be activated by the momentary comm. switch.

Control Room Monitor

Phones

The topcontrol adjusts the level to the headphone output in the scriptspace compartment. This level will not be muted in the selfop mode as is the CRM output. A jumper setting also determines whether this control could be turned down to zero. A riseful situation in life broadcast. The phones output shall not be influenced by dimming or muting control voltages.

Autocue

This switch changes over the main output signal to the prefader channel signals, when a cue switch is activated. By jumpersettings there are several modes possible. Either the control room monitor is switched over to the cue signal completely or left is switched over to a summed mono cue signal or main left and right are summed to the right output and left and right cue are summed to the left output. It's up to the engineer how he wants to set up his system or how he is used to work in the past.

Off Air

There are two sets of inputs for the On Air return signal. Two XLR balanced inputs for putting through the nationwide broadcast and one set of cinch inputs to be used as monitoring the outgoing signal after being on the air.

Stereo 1/2

These are two sets of inputs to bring in stereo sources in the control room during broadcast.

Monitor

This levelcontrol adjusts the mainmonitor level. It can be switched mono if desired. When talkback is active the main monitor will be dimmed, a led indicates active dimming.

Metering

The Airteq has a peakreading meter adjusted to read +6dBu at its 0dB position. The attack- and release times are standard 10mSec attack, 1.6 sec for 20dB release. An external meter can be connected instead of or parallel to the internal meter.

Options

There are three frame sizes, for 12, 18 or 24 input modules. Position of input modules and mastersection can be placed anywhere in the chassis.
Optional: Transformer balancing is possible on mic-line inputs and stereo line inputs. The phantom powering will not be influenced by this transformer. Conductive plastic faders of the Penny & Giles 3000 series are optional.

Lining up

All trimpots found on the mic/line modules are for the VCA's and are factory set to its optimum position. Do not adjust these!
There are two other trimcontrols to be lined up before using the Airteq. One is the internal hybrid for communication and the other is the hybrid in the Telcomodules.

Hybrid balance

There is a trimcontrol on the back of the module and C balance jumpers on the board. The hybrid balancing is a precise work, but performed once if the telephone is not changed from the console to the first Telephone exchange. Use a direct line, no telephone installations between the Airteq and the telephone company.
Take out the Telco module and put it on top of the other modules, put something underneath to avoid scratching the surface.
Switch on the power supply.
Make a connection to a not local caller and activate the connect switch. Turn on the cue switch and ask the caller to be quiet and cover up his mouthpiece. Bring in some signal in another channel of the Airteq and send it to the caller. Now you hear part of the outgoing signal through the hybrid returning. By alternate trimming and selecting other C's the optimum damping of the hybrid can be achieved. The adjustment of the internal Communication Hybrid is much easier. When a Sico box is connected route the talkback mic's to that sico box and start talking. You have to trim your own words out of the main monitors. It is that simple.

Summary

In this manual we have tried to give you an oversight of the numereous possibilities the Airteq offers you. If there are questions left, do not hesitate to call our customer service.
We wish you many years of enjoyable music and Total Control of your station.

Best regards,

D. de Rijk
president D & R Electronica b.v.

mixing consoles

AIRTEQ

Service Manual

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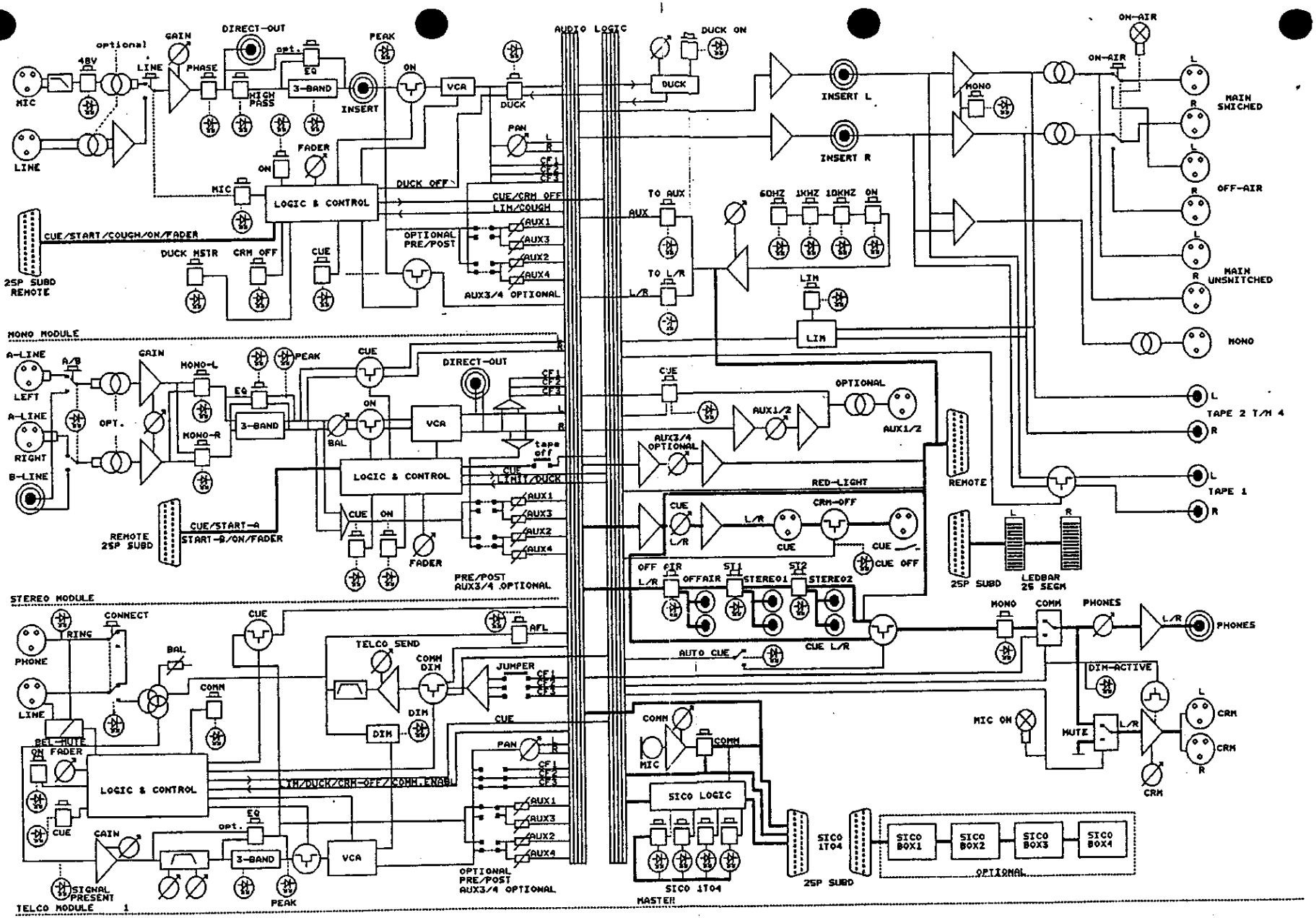


AIRTEQ BLOCK-DIAGRAM

D&R 12-06-1989

CONSOLE : AIRTEQ

DATE: 03 aug 1989

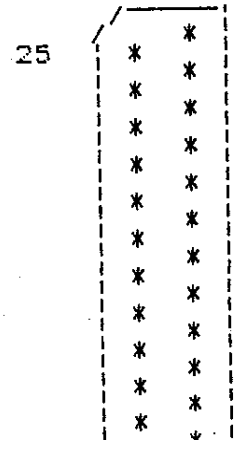
CONNECTOR : REMOTE (25p SUB-D female)
LOCATION : MONO/STEREO and TELCO CHANNEL

PIN NR.	NAME	DIRECTION of signal	ACTIVATED BY	LEVEL (dBu) referred to 0V audio	DC-LEVEL (Volt) referred to to 0V logic active/non-active	PHASE	COMMENT
1	0 V-EXTERNAL	-	-	-	-	-	ONLY for EXTERNAL purposes
2	POWER EXTERNAL	output	-	-	+5	-	Imax = 10mA - Ipin 24
3	CUE LED (+)	output	-	-	-	-	Iled = 12mA, connect led
4	CUE LED (-)	output	-	-	-	-	between pins 3 and 4
5	FADERSTART B (nc)	in/output	-	-	-	-	contact power :max. 3 W
6	FADERSTART B (cc)	out/input	-	-	-	-	contact current:max. 0.2 A
7	FADERSTART B (no)	in/output	-	-	-	-	contact voltage:max. 30 V
8	CUE (nc)	input	pin 9	-	-	-	max. input voltage : 6 V
9	CUE (cc)	output	-	-	+5 / +5	-	switch to pin 8 or pin 10
10	CUE (no)	input	pin 9	-	-	-	max. input voltage : 6 V
11	COUGH (nc)	input	pin 12	-	-	-	max. input voltage : 6 V
12	COUGH (cc)	output	-	-	+5 / +5	-	switch to pin 11 or pin 13
13	COUGH (no)	input	pin 12	-	-	-	max. input voltage : 6 V
14	ON (nc)	input	pin 15	-	-	-	max. input voltage : 6 V
15	ON (cc)	output	-	-	+5 / +5	-	switch to pin 14 or pin 16
16	ON (no)	input	pin 15	-	-	-	max. input voltage : 6 V
17	FADERSTART A (nc)	in/output	-	-	-	-	contact power :max. 3 W
18	FADERSTART A (cc)	out/input	-	-	-	-	contact current:max. 0.2 A
19	FADERSTART A (no)	in/output	-	-	-	-	contact voltage:max. 30 V
20	FADER (top)	output	-	-	0 <-> -5	-	depending on the chan.fader
21	FADER (slider)	input	-	-	-	-	use a lineair fader of 10k
22	FADER (bottom)	output	-	-	-5 / -5	-	
23	RING INDICATOR	output	-	-	0 / Z	-	use with pin 2 or pin 24
24	POWER EXTERNAL	output	-	-	+5	-	Imax = 10mA - Ipin 2
25	0 V-EXTERNAL	-	-	-	-	-	ONLY for EXTERNAL purposes

* nc = normally closed / cc = center contact / no = normally open
  Use a SPDT-switch (break before make) for the CUE, COUGH and ON function

SPDT: cc .__/ nc, no

* FADERSTART B is only available on the AIRTEQ stereo channel
* COUGH-function is only available on the AIRTEQ mono channel
* FADERSTART A and B and COUGH-function are not available on the telco channel
* RING INDICATOR is only available on the telco channel. Pin 23 may be used to drive a LED or a small relais which should be driven from pin 2 or pin 24. 'Z' means a high-impedance-state, '0' means 0V-EXTERNAL GROUND with a imp. of 100 ohm
* DO NOT TRY TO CONNECT the 0V-AUDIO GROUND to the 0V-EXTERNAL GROUND, or this will DEGRADE the AUDIO PERFORMANCE of the console !



CONSOLE : AIRTEQ

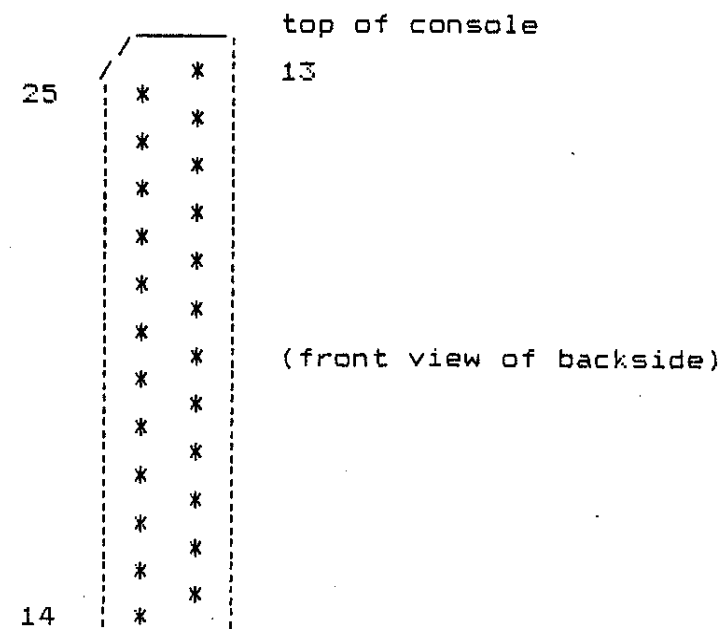
DATE: 21 juni 1989

CONNECTOR : METER/REMOTE (25p SUB-D female)
LOCATION : MASTER-SECTION

PIN NR.	NAME	DIRECTION of signal	ACTIVATED BY	LEVEL (dBu) referred to 0V audio	DC-LEVEL (Volt) referred to to 0V logic active/non-active	PHASE	COMMENT
1	OSCILLATOR	output	-	-00 / +14	-	in	activated by TONE-ON sw
2	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
3	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
4	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
5	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
6	LEDBAR RIGHT	output	-	+6	-	in	shows monitor select
7	LEDBAR POWER -	output	-	-	-18 / -18	-	use ONLY for HR-LEDBAR
8	LEDBAR POWER +	output	-	-	+18 / +18	-	use ONLY for HR-LEDBAR
9	n.c.	-	-	-	-	-	reserved
10	MAIN RIGHT	output	-	+6	-	in	unswitched
11	MAIN LEFT	output	-	+6	-	in	unswitched
12	AUX/4	output	-	+6	-	in	optional
13	AUX/3	output	-	+6	-	in	optional
14	AUX/4 internal	(output)	-	0	-	out	ONLY for metering
15	AUX/3 internal	(output)	-	0	-	out	ONLY for metering
16	AUX/2 internal	(output)	-	0	-	out	ONLY for metering
17	AUX/1 internal	(output)	-	0	-	out	ONLY for metering
18	LEDBAR LEFT	output	-	+6	-	in	shows monitor sel./ CUE
19	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
20	0 V-LEDBAR	-	-	-	-	-	ONLY for LEDBAR purposes
21	ON-AIR	output	-	-	-16 / +16	-	imp. act:1k8 non-act:2k7
22	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
23	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
24	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
25	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes

* Pin 21 is reserved for an external stand-alone ON-AIR unit

* DO NOT TRY TO CONNECT the 0V-AUDIO GROUND to the 0V-LEDBAR GROUND, or this will DEGRADE the AUDIO PERFORMANCE of the console !



CONSOLE : AIRTEQ

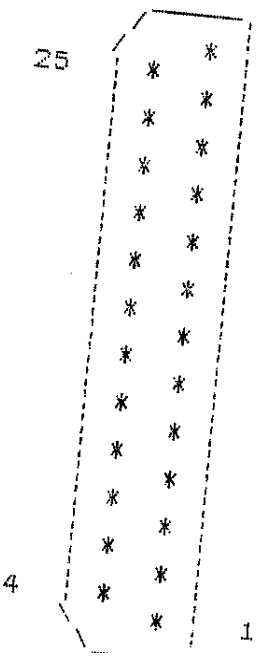
CONNECTOR : SICO 1-4 (25p SUB-D female)
LOCATION : MASTER-SECTION

DATE: 26 febr 1990

PIN NR.	NAME	DIRECTION of signal	ACTIVATED BY	LEVEL (dBu) referred to 0V audio	DC-LEVEL (Volt) referred to to 0V logic active/non-active	PHASE	COMMENT
1	MONO-CUE	output	-	+6	-	in	
2	COUGH SICO/1	input	0 V-logic	-	0 / -16	-	only if jumper selection
3	COUGH SICO/3	input	0 V-logic	-	0 / -16	-	is made on channel-pcb's
4	CRM-MUTE	output	-	-	-16 / +16	-	
5	SELECT SICO/2	in/output	0 V-logic	-	0 / -16	-	
6	SELECT SICO/4	in/output	0 V-logic	-	0 / -16	-	
7	HYBRID-BUSS	in/output	-	-6	-	in	buss impedance 600 ohm
8	MASTER LEFT	output	-	+6	-	in	
9	MASTER RIGHT	output	-	+6	-	in	
10	AUX/1	output	-	+6	-	in	
11	AUX/2	output	-	+6	-	in	
12	MASTER ACTIVE	output	-	-	-	in	
13	TELCO ACTIVE	input	-	-	-	in	
14	0 V-logic	-	0 V-logic	-	0 / -16	-	
15	COUGH SICO/2	input	-	-	0 / -16	-	
16	COUGH SICO/4	input	0 V-logic	-	-	-	
17	SELECT SICO/1	in/output	0 V-logic	-	0 / -16	-	ONLY for LOGIC-purposes
18	SELECT SICO/3	in/output	0 V-logic	-	0 / -16	-	only if jumper selection
19	0 V-logic	-	0 V-logic	-	0 / -16	-	is made on channel-pcb's
20	0 V-logic	-	-	-	0 / -16	-	
21	0 V-AUDIO	-	-	-	-	-	
22	0 V-AUDIO	-	-	-	-	-	ONLY for LOGIC purposes
23	0 V-AUDIO	-	-	-	-	-	ONLY for LOGIC purposes
24	0 V-AUDIO	-	-	-	-	-	ONLY for AUDIO purposes
25	SICO ACTIVE	input	0 V-logic	-	-	-	ONLY for AUDIO purposes
					0 / -16	-	ONLY for AUDIO purposes

* When pins are in a non-active mode, they are also in a high-impedance state (except for pin 4)

! DO TRY TO CONNECT the 0V-AUDIO GROUND to the 0V-LOGIC GROUND, or this will DEGRADE the AUDIO PERFORMANCE of the console !



(front view of backside)

AIRTEQ MAIN BUSS-CONNECTOR (CONN.1 on PCB)

date : 26-05-1989

in nr.	function	PCB1 mono	PCB2 ster.	PCB3 telco	PCB4 tone	PCB5 aux	PCB6 L+R	PCB7 comm	PCB8 CRM
1	+ 5 V			<-			<-	->	
2	earth mstr	<-	<-	<-	->	<-	<-	<-	<-
3	duck send	->					<-		
4	- 5 V			<-			<-	->	
5	clean feed 1	->	->	<-/->					
6	earth mstr	<-	<-	<-	->	<-	<-	<-	<-
7	clean feed 2	->	->	<-/->					
8	earth mstr	<-	<-	<-	->	<-	<-	<-	<-
9	clean feed 3	->	->	<-/->					
10	earth mstr	<-	<-	<-	->	<-	<-	<-	<-
11	right signal	->	->	->	->		<-		
12	right earth	->	->	->	->		<-		
13	earth mstr	<-	<-	<-	->	<-	<-	<-	
14	left earth	->	->	->	->		<-		
15	left signal	->	->	->	->		<-		
16	earth mstr	<-	<-	<-	->	<-	<-	<-	<-
17	aux 2	->	->	->	->	<-			
18	aux 2 earth	->	->	->	->	<-			
19	aux 4	->	->	->	->	<-			
20	aux 4 earth	->	->	->	->	<-			
21	aux 1	->	->	->	->	<-			
22	aux 1 earth	->	->	->	->	<-			
23	aux 3	->	->	->	->	<-			
24	aux 3 earth	->	->	->	->	<-			
25	cue left	->	->	->		<-			
26	earth mstr	<-	<-	<-	->	<-	<-	<-	<-
27	cue right	->	->	->		<-			
28	+ 48 phantome	<-			->				
29	+ 18 V audio +Vs	<-	<-	<-	->	<-	<-	<-	<-
30	+ 18 V audio +Vs	<-	<-	<-	->	<-	<-	<-	<-
31	+ 18 V audio +Vs	<-	<-	<-	->	<-	<-	<-	<-
32	- 18 V audio -Vs	<-	<-	<-	->	<-	<-	<-	<-
33	- 18 V audio -Vs	<-	<-	<-	->	<-	<-	<-	<-
34	- 18 V audio -Vs	<-	<-	<-	->	<-	<-	<-	<-

AIRTEQ DIGITAL BUSS-CONNECTOR (CONN.2 on PCB)

date : 26-05-1989

in nr.	function	PCB1 mono	PCB2 ster.	PCB3 telco	PCB4 tone	PCB5 aux	PCB6 l+r	PCB7 comm	PCB8 crm
1	CRM dim							->	<-
2	earth logic	<-	<-	<-	->	<-	<-	<-	<-
3	limit return	<-	<-	<-			->		
4	earth logic	<-	<-	<-	->	<-	<-	<-	<-
5	cue send	->	->	->		->			<-
6	earth logic	<-	<-	<-	->	<-	<-	<-	<-
7	CRM off	->		<-		<-	<-		<-
8	earth logic	<-	<-	<-	->	<-	<-	<-	<-
9	duck return	<-	<-	<-			->		
10	cough from sico 1	<-						->	
11	TAPE off		->				<-		
12	cough from sico 2	<-						->	
13	comm. enable			<-				->	
14	cough from sico 3	<-						->	
15	+ 18 V logic +Vs1	<-	<-	<-	->	<-	<-	<-	<-
16	+ 18 V logic +Vs1	<-	<-	<-	->	<-	<-	<-	<-
17	cough from sico 4	<-						->	
18	- 18 V logic -Vs1	<-	<-	<-	->	<-	<-	<-	<-
19	- 18 V logic -Vs1	<-	<-	<-	->	<-	<-	<-	<-
20	hybrid-buss			<->				<->	

-> = signal leaving PCB
<- = signal entering PCB

CONSOLE : AIRTEQ DATE: 24 juli 1989

PROCEDURE : AUX-ATTENUATION adjust procedure
LOCATION : MASTER-SECTION (AIRTEQ-5 / VR1,VR2 (,VR3,VR4))

Below, an example for the AUX1-output is given:

OSCILLATOR SETUP : sinus / 10kHz / +10dBu / symmetric and floating

MIXINGCONSOLE SETUP:

Input : Microphone-channel (AIRTEQ-1) / line-input
Output : AUX1 on the mastermodule (AIRTEQ-5)

Microphone-channel setup :	Function	Position
Switch:	duck mstr	off
	CRM off	off
	+48V	off
	line	on
	phase	off
	high-pass	off
	eq	off
	on	on
	cue	off
Rotary-controls :	pan	C
	aux1/aux2	0
	high/mid/low	0 (12 o'clock)
	gain	about 12 o'clock
	fader	@ 0dB
Indication:	peak-led should not be activated	

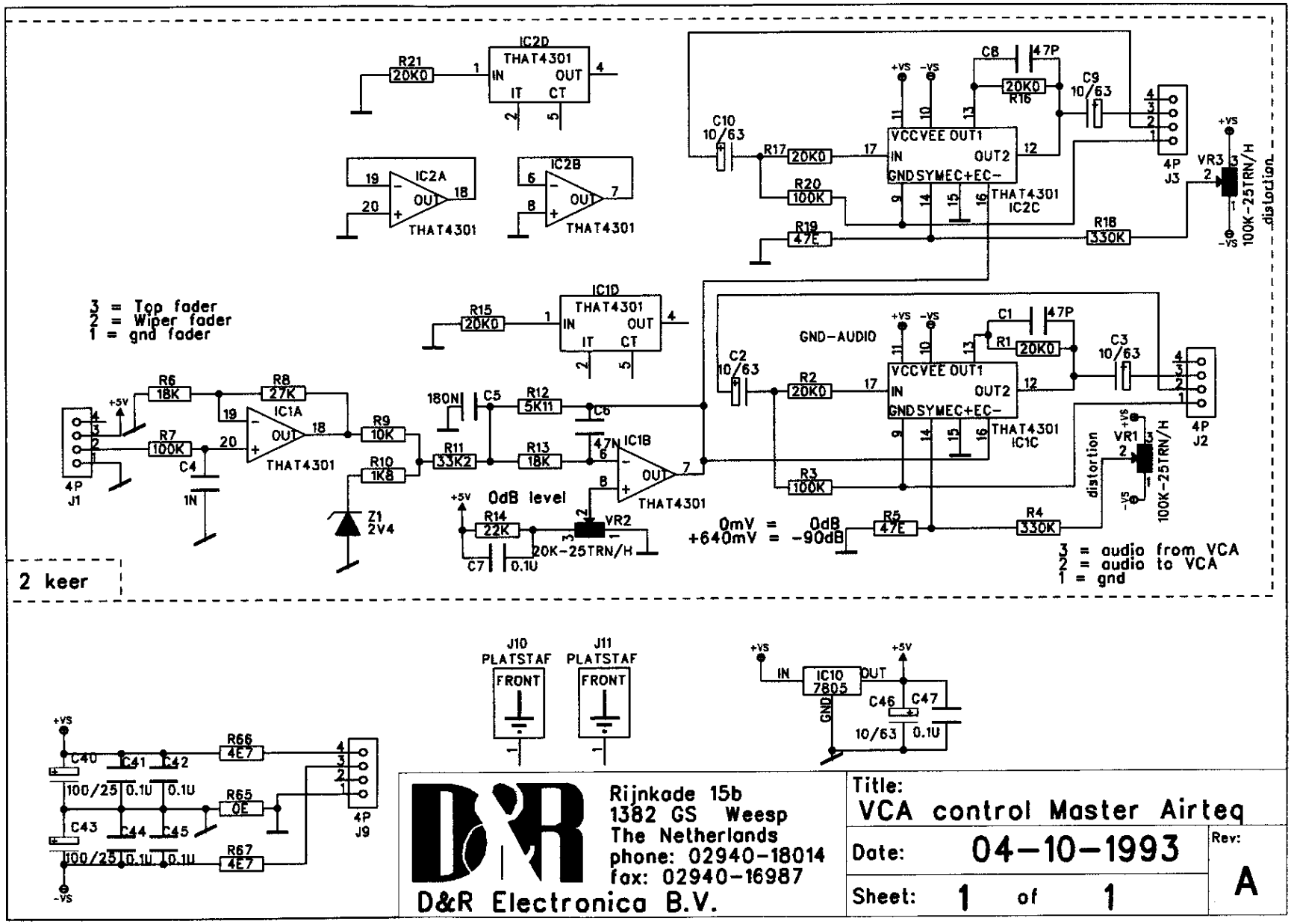
- Turn the AUX1 control on the mastermodule to its maximum

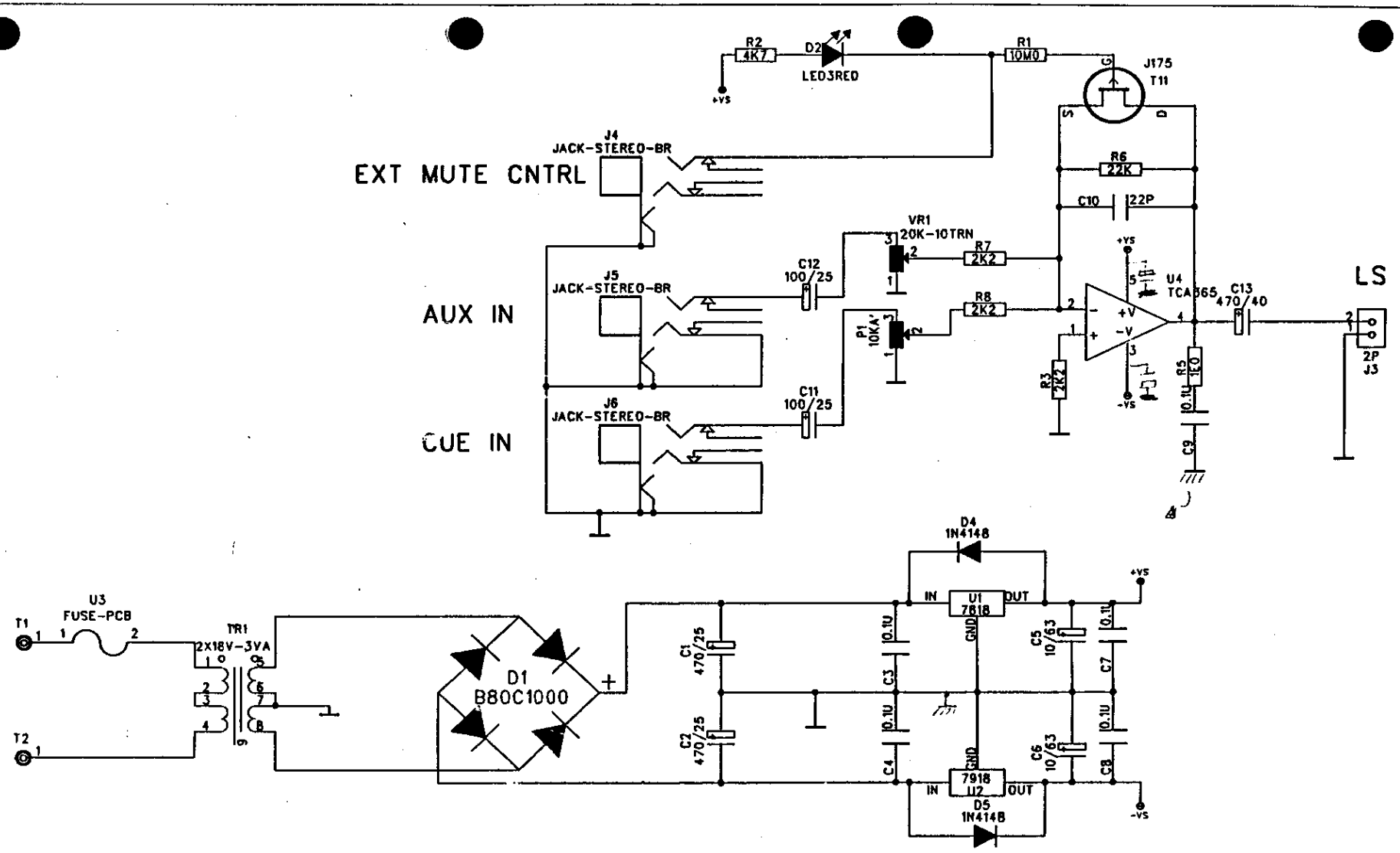
- Turn the AUX1 control on the microphone-channel at max. (10)
  The AUX1 output should give a level of about +20dBu, adjust this to +20.0 dBu by turning the gain control on the microphone-channel

- Turn the AUX1 control on the channel to min. (0)

- Measure with a sharp 10kHz bandpass filter the residual signal, (wich sometimes must be filtered out of the low noise floor) and minimise this by turning the VR1 10-turn trimpotentiometers on the AIRTEQ-5 pcb.
  (Use VR1 for AUX1 / VR2 for AUX2 / VR3 for AUX3 / VR4 for AUX4)

- REMARK : When a channel is added to - or removed from the mastermodule, VR1,2,3 and 4 should be adjusted again to obtain a maximum audio attenuation, when the AUX controls on the channels are at their zero (0) position.


3 = Top fader
2 = Wiper fader
1 = gnd fader
2 keer
IC2D
THAT4301
R21
20K0
IC2A
IC2B
THAT4301
IC1D
R15
20K0
C10
10/63
R17
20K0
R20
100K
R19
47E
C8
47P
R16
20K0
C9
10/63
VCCVEE OUT1
IN
OUT2
GNDSYMEC+EC-
IC2C
R18
330K
4P
J3
VR3
100K-25TRN/H
distortion
GND-AUDIO
C1
47P
R1
20K0
C3
10/63
C2
10/63
R2
20K0
R3
100K
IC1C
4P
J2
VR1
100K-25TRN/H
distortion
R6
18K
R8
27K
IC1A
R7
100K
C4
1N
R9
10K
R10
1K8
Z1
2V4
4P
J1
180N
C5
R12
5K11
C6
47N
R11
33K2
R13
18K
IC1B
0dB level
R14
22K
C7
0.1U
VR2
20K-25TRN/H
0mV = 0dB
+640mV = -90dB
R5
47E
R4
330K
3 = audio from VCA
2 = audio to VCA
1 = gnd
J10
PLATSTAF
FRONT
J11
PLATSTAF
FRONT
IC10
7805
C46
10/63
C47
0.1U
C40
100/25
C41
0.1U
C42
0.1U
R66
4E7
R65
0E
C43
100/25
C44
0.1U
C45
0.1U
R67
4E7
4P
J9
D&R Electronica B.V.
Rijnkade 15b
1382 GS Weesp
The Netherlands
phone: 02940-18014
fax: 02940-16987
Title:
VCA control Master Airteq
Date: 04-10-1993
Sheet: 1 of 1
Rev:
A



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Rijnkade 15b
1382 GS Weesp
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phone: 02940-18014
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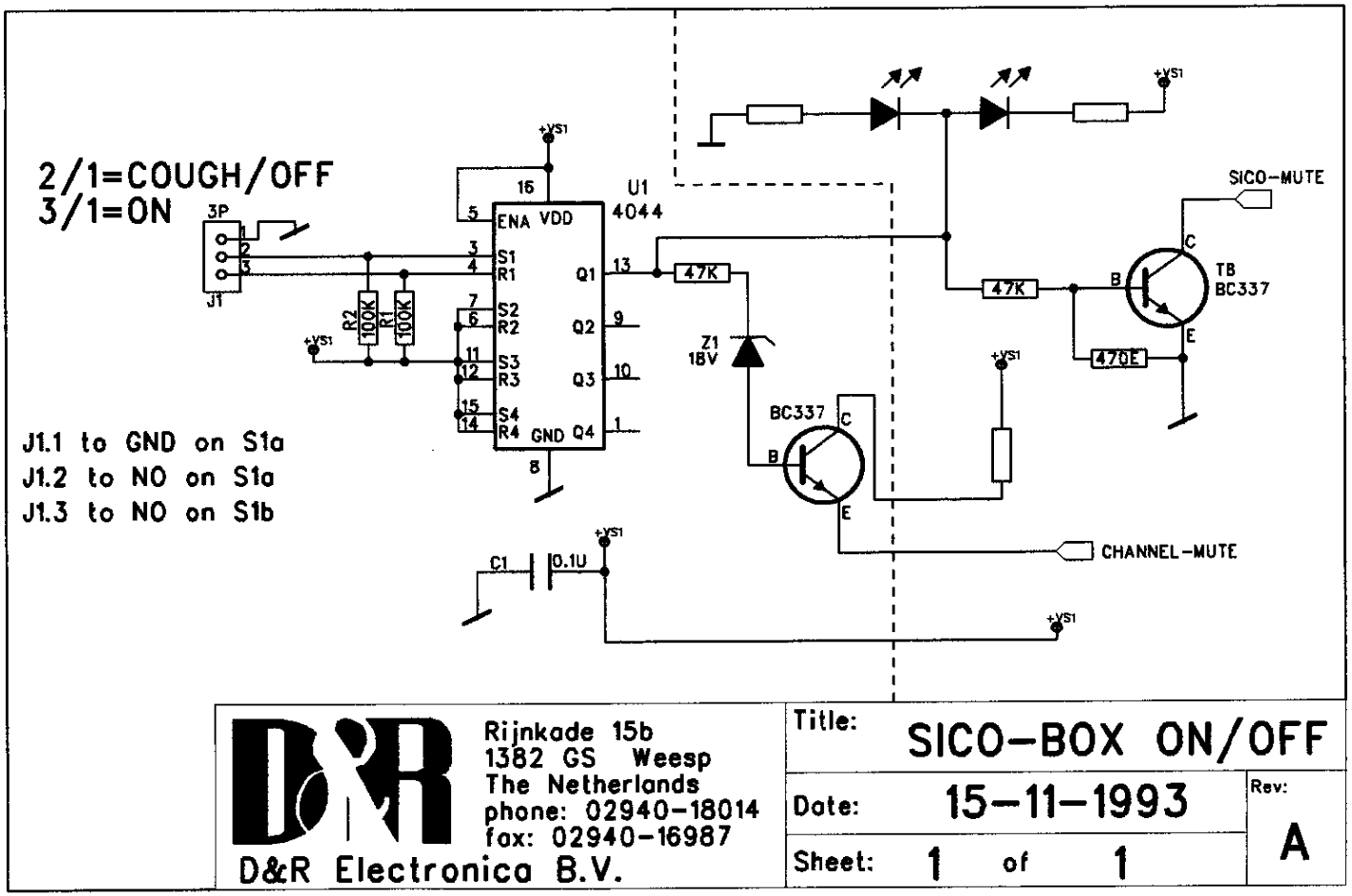
Title: CUEAMP
Date: OCTOBER 1993
Sheet: of
Rev: A



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1382 GS Weesp
The Netherlands
phone: 02940-18014
fax: 02940-16987
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Title:	SICO-BOX ON/OFF
Date:	15-11-1993
Sheet:	1 of 1
Rev:	A

AIRTEQ

1

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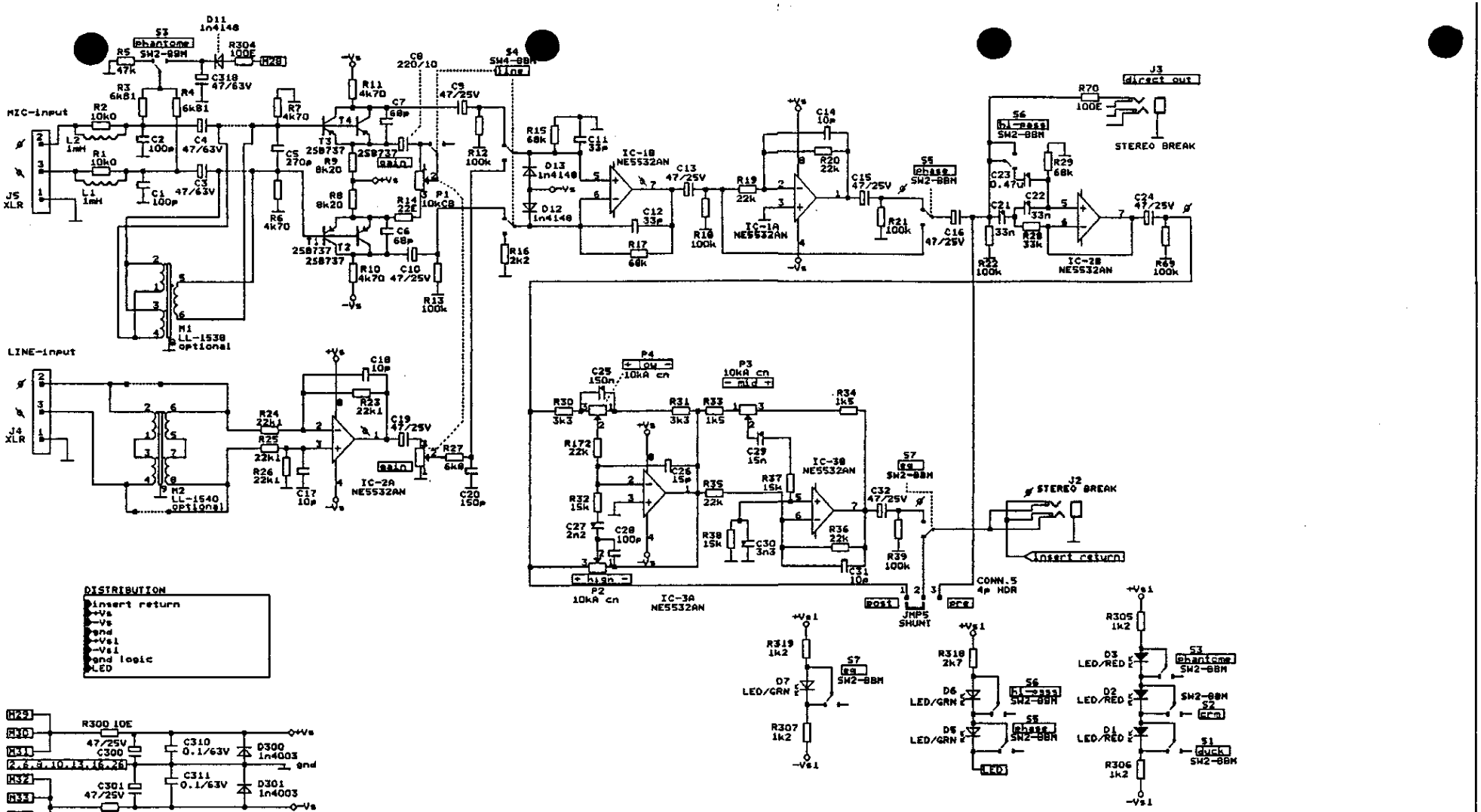
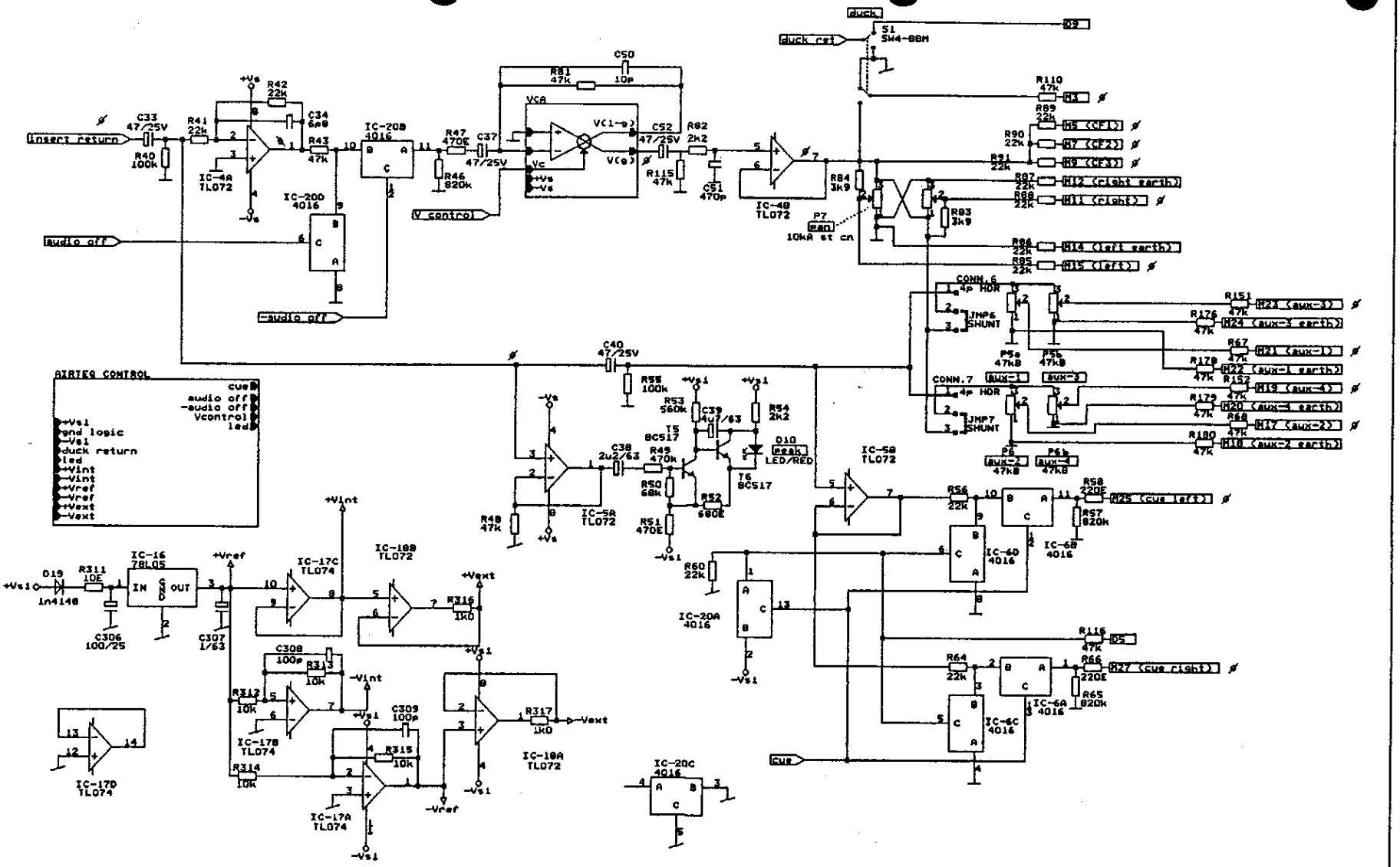


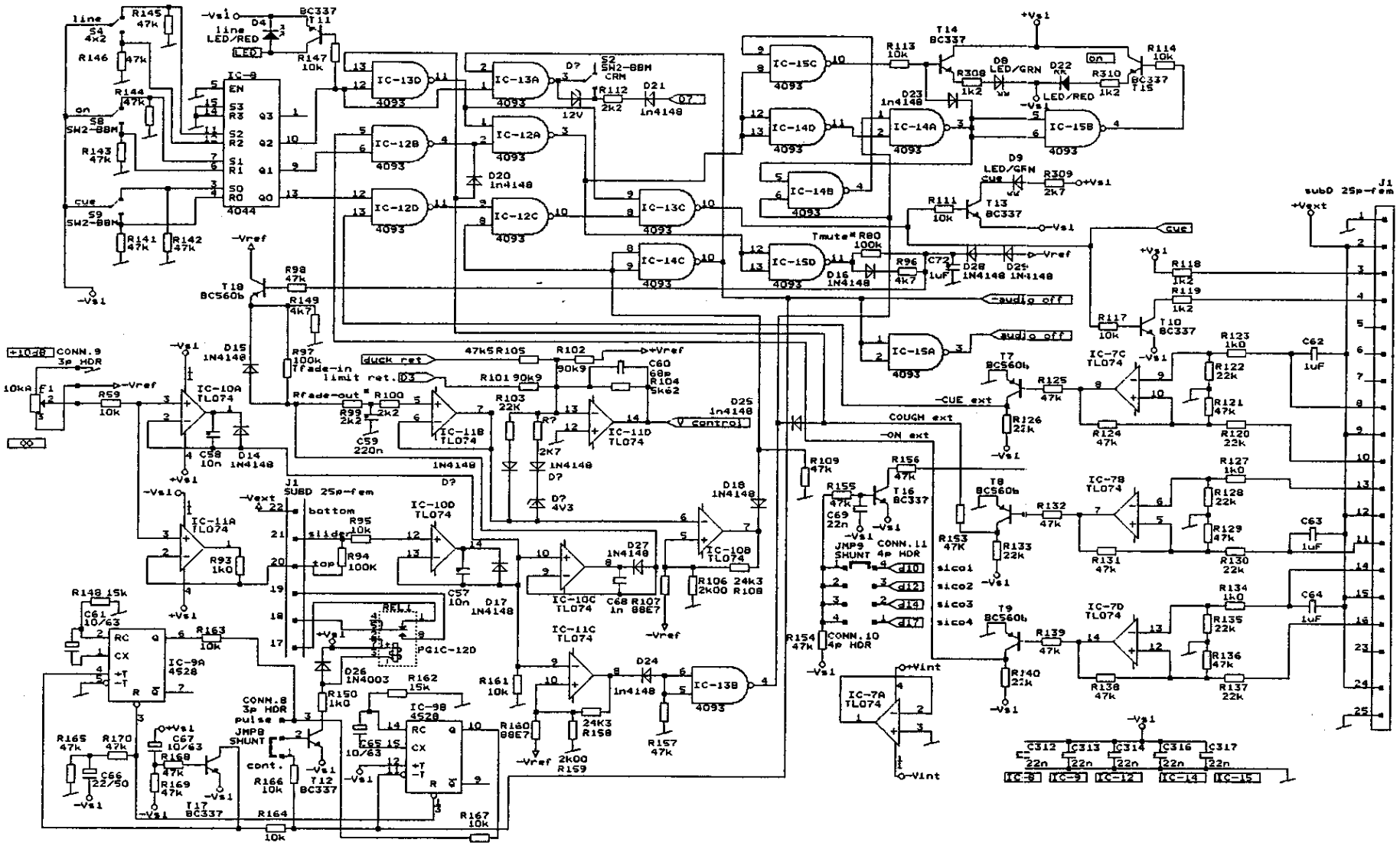
R.Linkeek 15b 1382 CS WEESP Tel: 02940-18014 Fax: 02940-16987 Tlx: 18503 dr nl Electronica by HOLLAND	THIS DRAWING REPLACES PREVIOUS ONES			AIRTEQ-1 Mono channel
	INDEX	B	A	
	MOD.BY	J.de Vries	J.de Vries	J.de Vries
	DATE	18-04-89	11-05-89	22-12-1989
	DESIGN	J.de Rijk		
	DRAWN	P.Mlicke	J.de Vries	R.Borghammer

Size B | Document Number AIRTEQ-1 | REV a

Date: December 22, 1989 Sheet 1 of 4



D&R Rijnkade 15b 1382 GS WEESP Tel: 02940-18014 Fax: 02940-16987 Electronics by HOLLAND	THIS DRAWING REPLACES PREVIOUS ONES			AIRTEQ-1 MONO CHANNEL
	INDEX: P	a	b	Size: B — Document Number: AIRTEQ-1 (airldstr) — REV: a
	MOD.BY: J.de Vries	J.de Vries	J.de Vries	
	DATE: 19-04-89	11-05-89	22-12-1989	
	DESIGN: J.de Rijk			
	DRAWN: P.Hilcke	J.de Vries	R.Bergshammer	Date: December 22, 1989 Sheet 2 of 4



* Tmute<Tfade-in
* Rfade-out also affects Rfade-in & Rmute

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1382 GS WEESP
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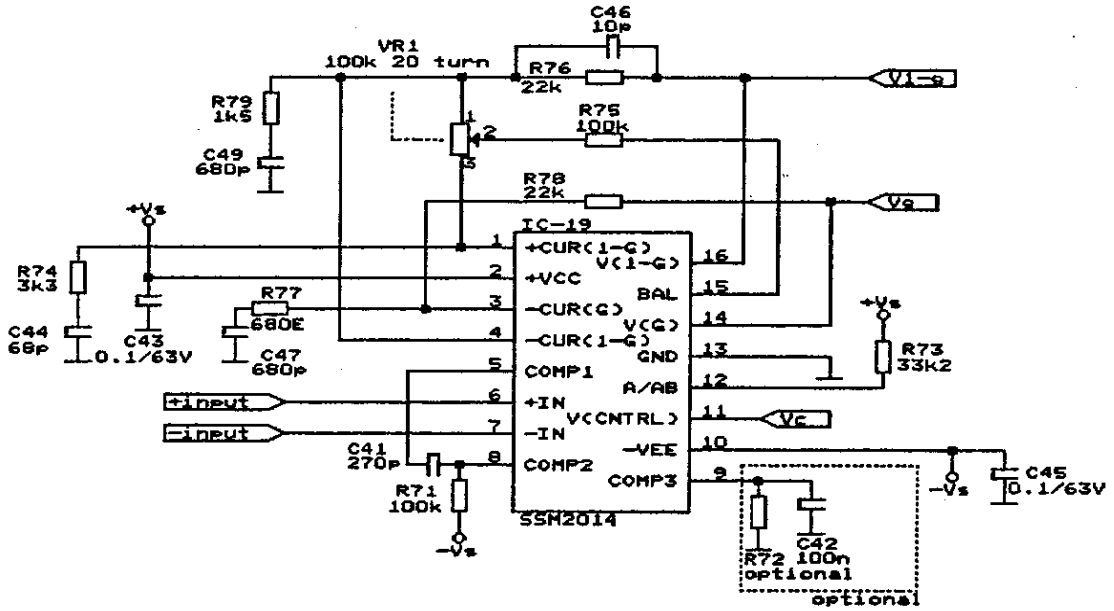
Electronics by HOLLAND

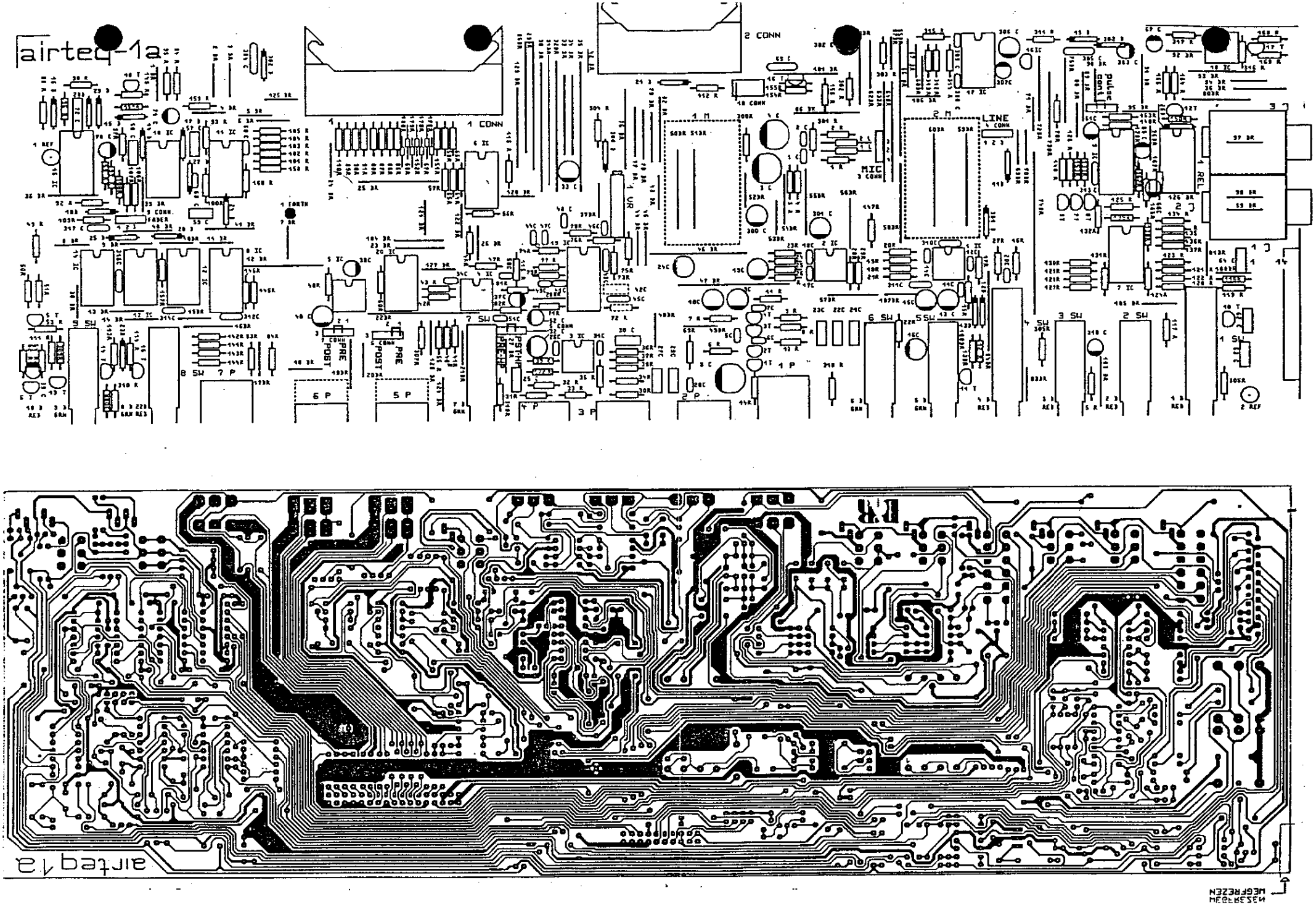
THIS DRAWING REPLACES PREVIOUS ONES				
INDEX	D	a	b	
MOD.BY		J.de Vries	J.de Vries	
DATE	19-04-89	11-05-89	22-12-1989	
DESIGN	J.de Vries		26-01-1991	
DRAWN	J.v.Hezik	J.de Vries	R.Bergshammer	

Size: B | Document Number: AIRTE9-1 control (airlcntr) | REV: a

Date: February 12, 1991 | Sheet 3 of 4



Rijnkade 15b 1382 GS WEESP Tel: 02940-18014 Fax: 02940-16987 Electronica by HOLLAND	THIS DRAWING REPLACES PREVIOUS ONES					
	INDEX	p	a	b		
	MOD.BY		J.de Vries	J.de Vries	Size	Document Number / REV
	DATE	19-04-89	11-05-89	22-12-1989	A	VCA AIRTEQ (AIR1VCA) / a
	DESIGN	J.de Vries				
	DRAWN	P.Wilcke	J.de Vries	R.Bergshammer	Date: December 22, 1989	Sheet 4 of 4


airteq-1a
airteq-1a
LINE
MIC
1 CONN
2 CONN
3 CONN
6 P
5 P
3 P
2 P
1 P
9 SW
8 SW
7 SW
6 SW
5 SW
4 SW
3 SW
2 SW
1 SW
PRE
POST
PRE-P
POST-P
1 EARTH
2 REF
1 REL
2 REL
pulse
cont

AIRTEQ 2

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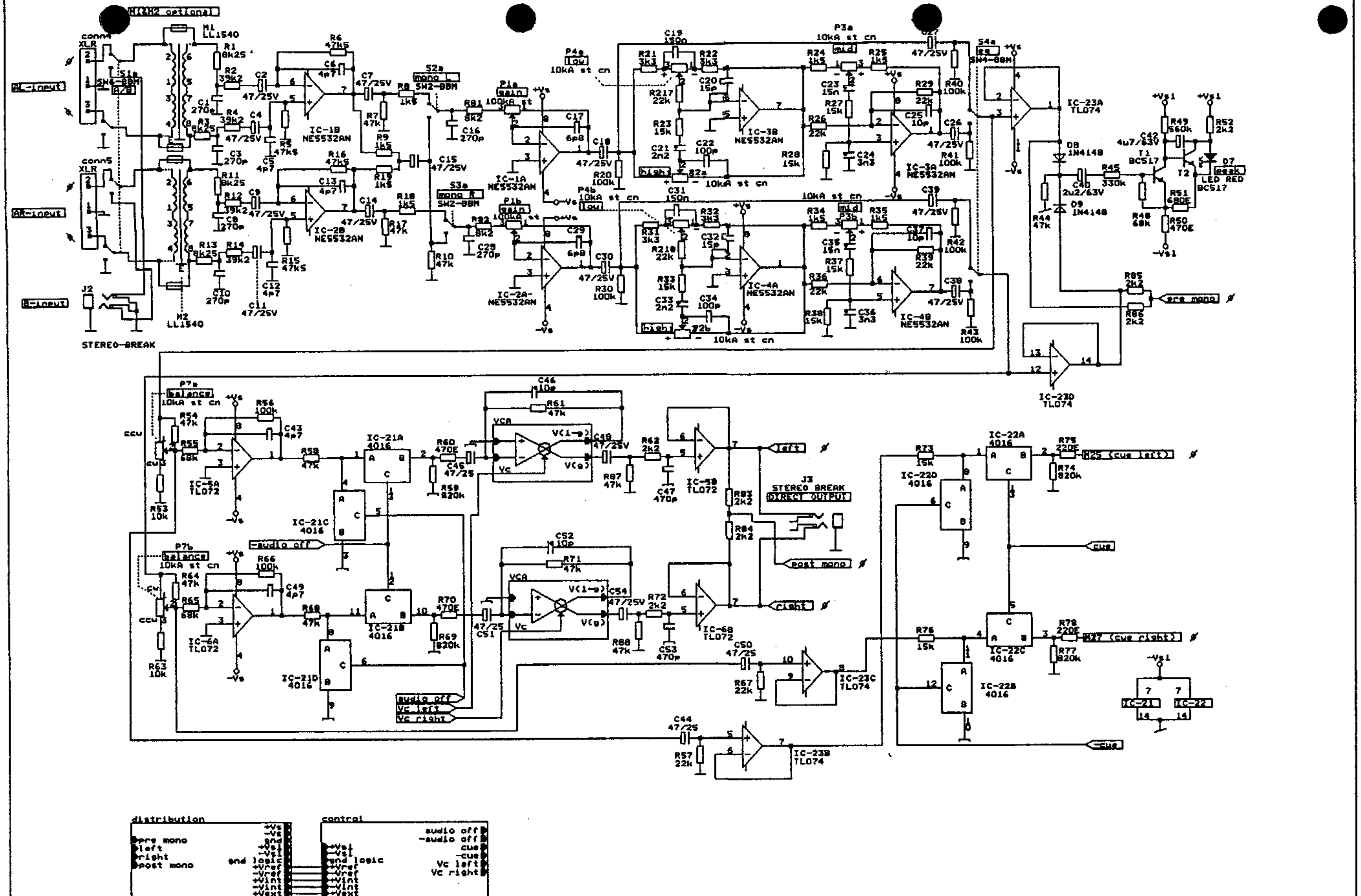
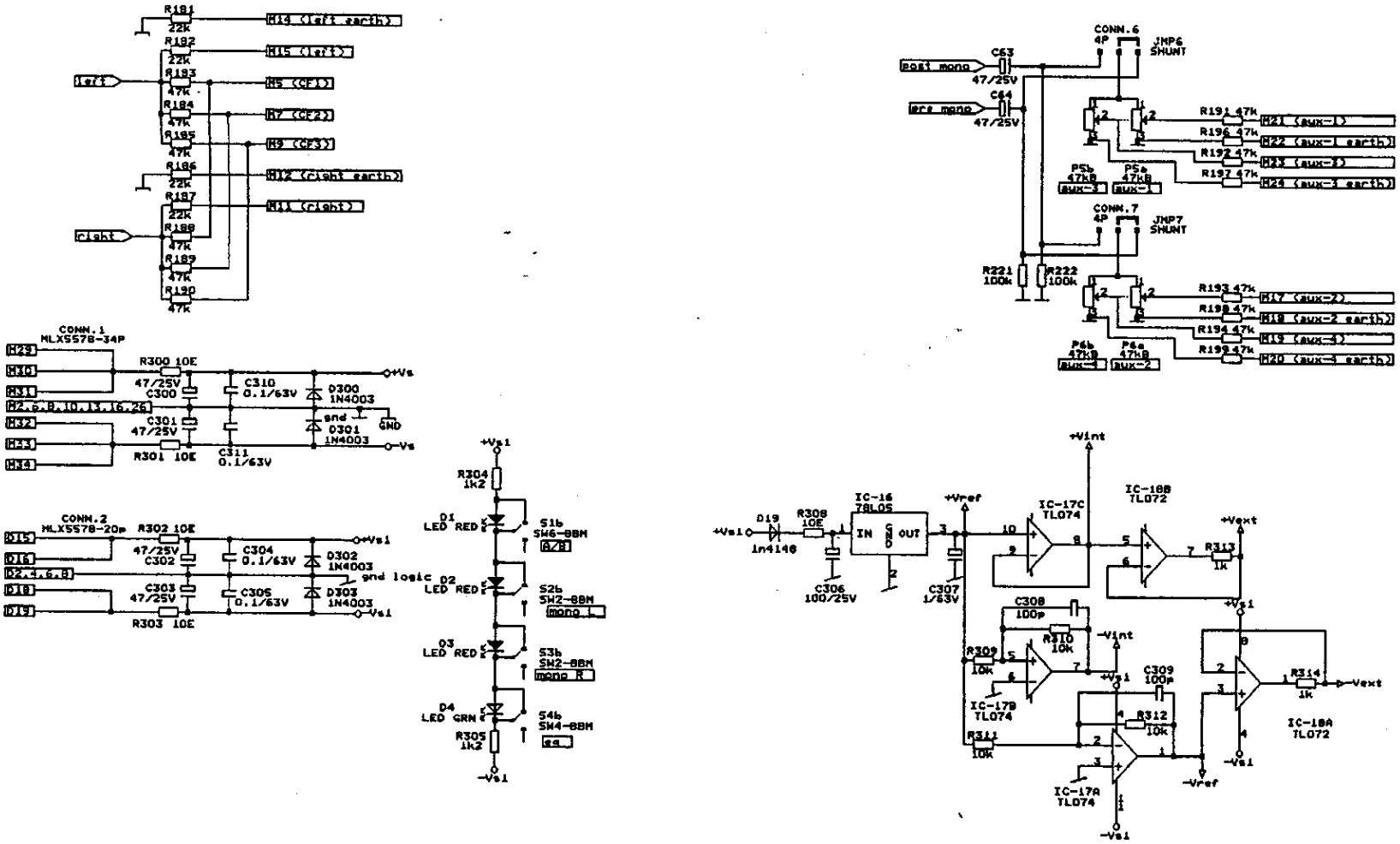
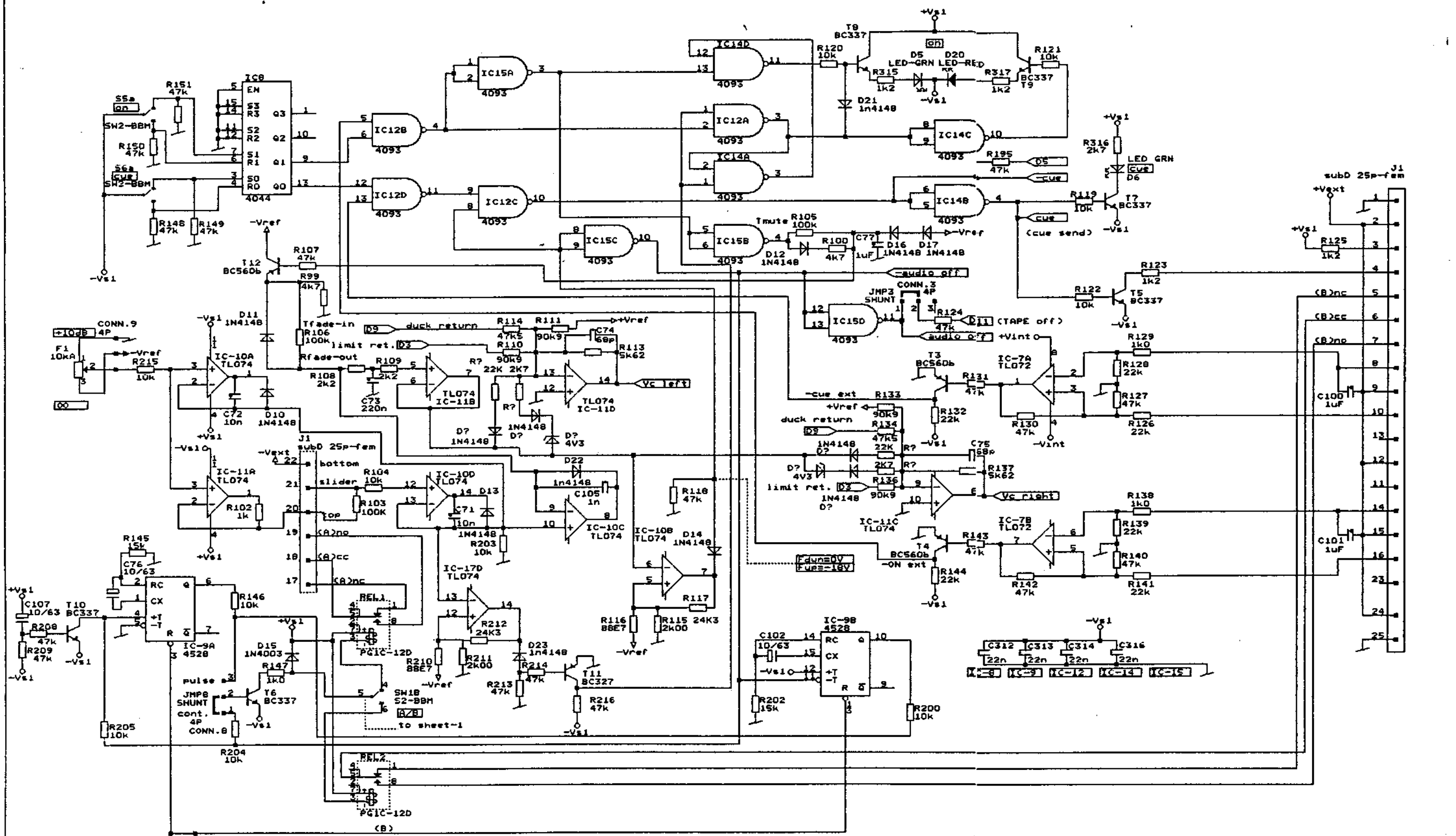


Rijnkade 15b 1382 GS WEESP Tel: 02940-18014 Fax: 02940-16987 Tlx: 18503 dr nl Electronica bv HOLLAND	THIS DRAWING REPLACES PREVIOUS ONES			AIRTEQ STEREO MODULE		
INDEX	p	a	a	Size	Document Number	REV
MOD.BY	J. de Vries	J. de Vries	J.de Vries	B	AIRTEQ-2 main diagram (airteq2)	a
DATE	19-10-88	30-05-89	22-12-1989	Date:	December 22, 1989 Sheet 1 of 5	
DESIGN	D.de Rijk					
DRAWN	P.Wilcke	J. de Vries	R.Berghammer			

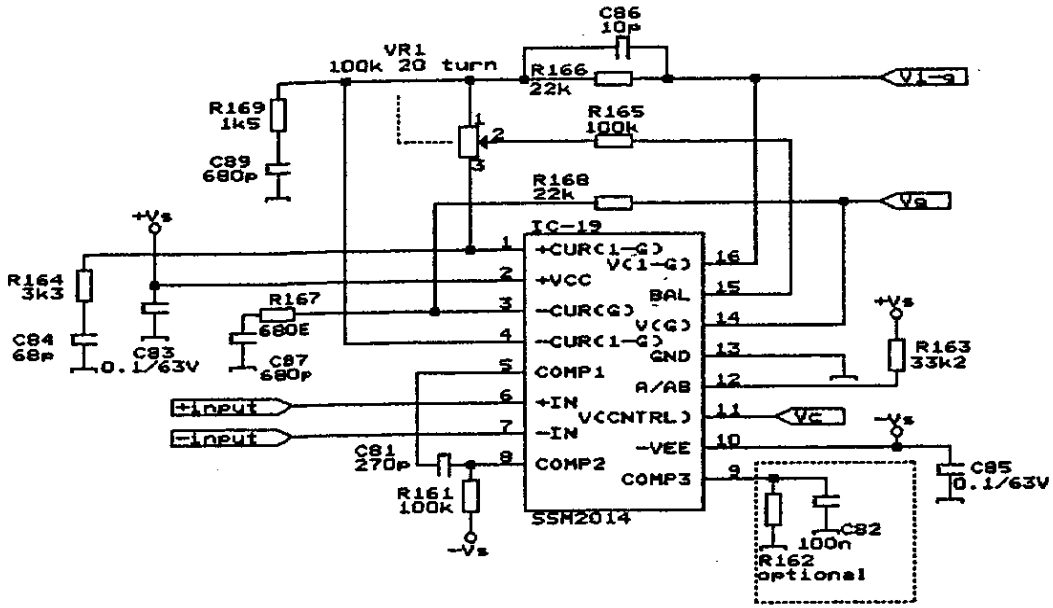


Rijnhaede 15b 1382 GS WEESP Tel: 02940-18014 Fax: 02940-16987 Telex: 18503 dr nl Electronica bv HOLLAND	THIS DRAWING REPLACES PREVIOUS ONES		AIRTEG STEREO MODULE
INDEX: p	q	a	
MOD.BY: J. de Vries	J. de Vries	J. de Vries	Size: B Document Number: AIRTEG-2 distribution (air2distr) REV: a
DATE: 24-10-89	30-05-89	22-12-1989	
DESIGN: D.de Rijk			
DRAWN: P.Hilcke	J. de Vries R.Berghammer		Date: December 22, 1989 Sheet 2 of 5



* Tmute<Tfade-in
* Rfade-out also affects Rfade-in & Rmute

Rijnkade 15b 1382 GS WEESP Tel: 02940-18014 Fax: 02940-16987 Tlx: 18503 dr nl	THIS DRAWING REPLACES PREVIOUS ONES			AIRTEQ STEREO MODULE
	INDEX	P	a	Size B Document Number AIRTEQ-2 control (air2cntr) REV a
	MOD.BY	J. de Vries	J. de Vries	J.de Vries
	DATE	12-07-88	30-05-89	22-12-1989
	DESIGN	J. de Vries		
Electronics by HOLLAND	DRAWN	P.Wilcke	J. de Vries	R.Berghammer
				Date: February 12, 1991 Sheet 3 of 5



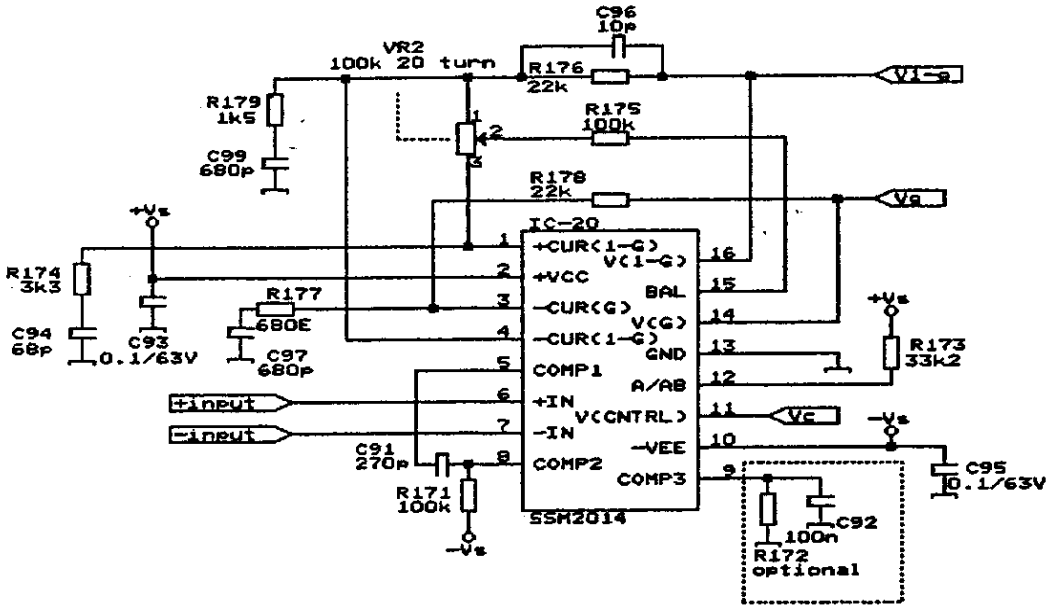
Rijnkade 15b
1382 GS WEESP
Tel: 02940-18014
Fax: 02940-16987
Tlx: 18503 dr nl
Electronica bv HOLLAND

THIS DRAWING REPLACES PREVIOUS ONES			
INDEX	p	q	a
MOD.BY		J. de Vries	J. de Vries
DATE	30-06-1988	30-05-1989	22-12-1989
DESIGN	J. de Vries		
DRAWN	P.Hilcke	J. de Vries	R.Bergbammer

AIRTEQ STEREO MODULE

Size	Document Number	REV
A	AIRTEQ-2 VCA Left (air2lvca)	a

Date: December 22, 1989 Sheet 4 of 5



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Tlx: 18503 dr nl
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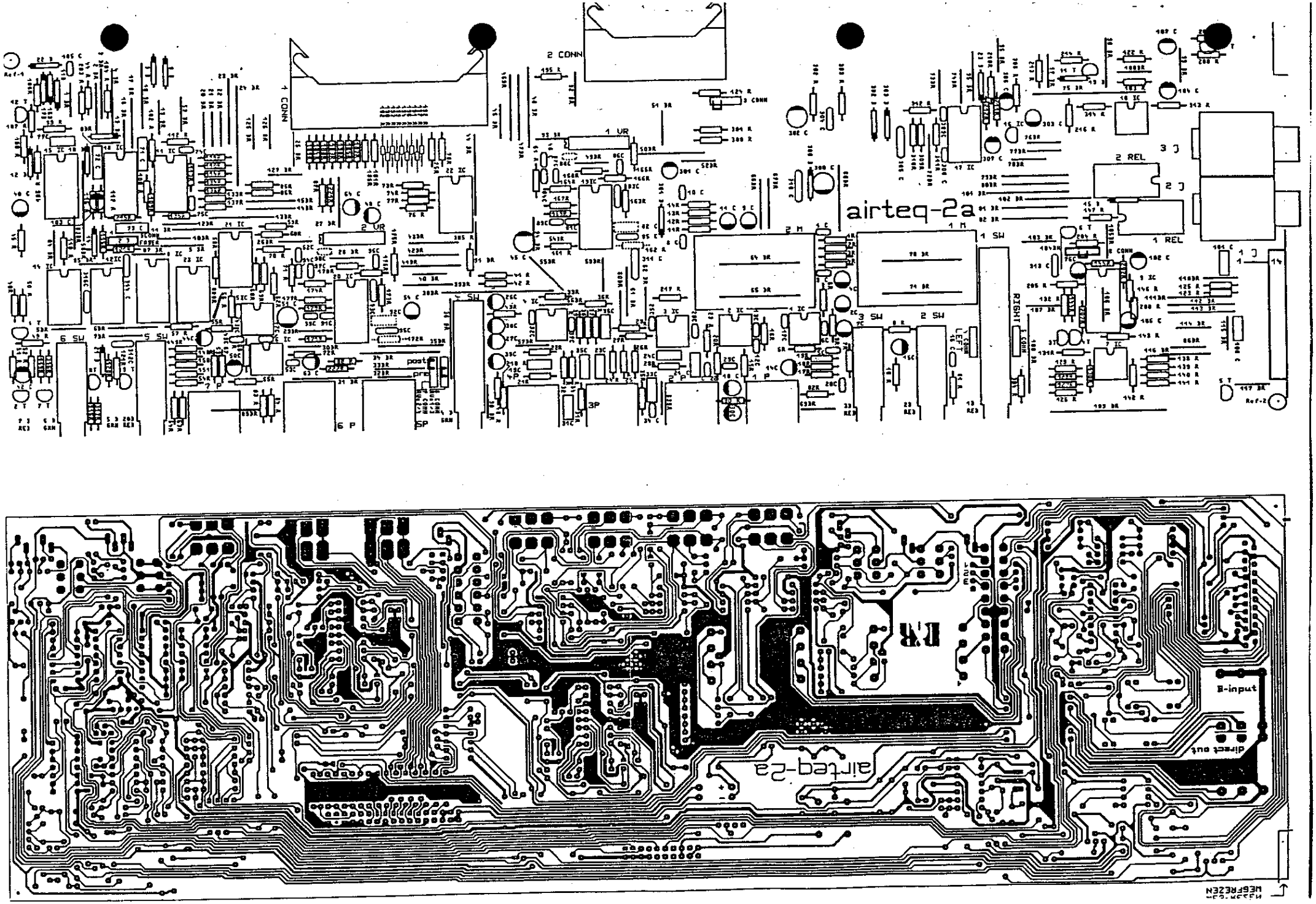
THIS DRAWING REPLACES PREVIOUS ONES			
INDEX	P	Q	R
MOD.BY		J. de Vries	J. de Vries
DATE	30-06-1988	30-05-1989	22-12-1989
DESIGN	J. de Vries		
DRAWN	P.Hilcke	J. de Vries	R.Bergshammer

AIRTEQ STEREO MODULE

Size	Document Number	REV
A	AIRTEQ-2 VCA Right (air2Rvca)	a

Date: December 22, 1989 Sheet 5 of 5


airteq-2a
2 CONN
4 CONN
1 VR
2 VR
3 CONN
2 REL
1 REL
1 SW
2 SW
3 SW
4 SW
5 SW
6 SW
RIGHT
LEFT
6 P
3P
SP
airteq-2a
B-input
direct out

:RTEQ-2 main diagram (airteq2)

Revised: December 22, 1989
Revision: a

:RTEQ STEREO MODULE

.ll Of Materials December 22, 1989 13:30:23 Page 1

:tem	Quantity	Reference	Part
1	2	T1,T2	BC517
2	4	D7,D1,D2,D3	LED RED
3	4	R77,R59,R69,R74	820k
4	2	R75,R78	220E
5	4	R2,R4,R12,R14	39k2
6	6	R6,R5,R15,R16,R114,R134	47k5
7	10	R9,R8,R18,R19,R24,R25, R34,R35,R169,R179	1k5
8	46	R10,R7,R17,R44,R54,R58, R61,R64,R68,R71,R87,R88, R107,R118,R124,R127,R130, R131,R140,R142,R143,R148, R149,R150,R151,R183,R184, R185,R188,R189,R190,R191, R192,R193,R194,R195,R196, R197,R198,R199,R207,R208, R209,R213,R214,R216	47k
9	16	R20,R30,R40,R41,R42,R43, R56,R66,R105,R106,R161, R165,R171,R175,R221,R222	100k
10	22	R26,R29,R36,R39,R57,R67, R126,R128,R132,R139,R141, R144,R166,R168,R176,R178, R181,R182,R186,R187,R217, R218	22k
11	10	R27,R23,R28,R33,R37,R38, R73,R76,R145,R202	15k
12	1	R49	560k
13	3	R50,R60,R70	470E
14	3	R51,R167,R177	680E
15	9	R52,R62,R72,R83,R84,R85, R86,R108,R109	2k2
16	17	R53,R63,R104,R119,R120, R121,R122,R146,R200,R203, R204,R205,R215,R309,R310, R311,R312	10k
17	3	R55,R48,R65	68k
18	2	R81,R82	8k2
19	8	C1,C3,C8,C10,C16,C28,C81, C91	270p
20	21	C2,C4,C7,C9,C11,C14,C15, C18,C26,C27,C30,C38,C39, C48,C54,C63,C64,C300, C301,C302,C303	47/25V
21	6	C6,C5,C12,C13,C43,C49	4p7
22	2	C17,C29	6p8

tem	Quantity	Reference	Part
23	4	C22,C34,C308,C309	100p
24	4	IC-1,IC-2,IC-3,IC-4	NE5532AN
25	4	IC-6,IC-5,IC-7,IC-18	TL072
26	6	C46,C25,C37,C52,C86,C96	10p
27	2	C47,C53	470p
28	4	IC-23,IC-10,IC-11,IC-17	TL074
29	2	IC-21,IC-22	4016
30	2	P1a,P1b	100kA st
31	8	P3b,P2a,P2b,P3a,P4a,P4b, P7a,P7b	10kA st cn
32	1	J3	STEREO BREAK
[illegible]	6	S2a,S2b,S3a,S3b,S5a,S6a	SW2-BBM
34	2	S4a,S4b	SW4-BBM
35	6	R1,R3,R11,R13,R112,R135	8k25
36	2	M2,M1	LL1540
37	9	D9,D8,D10,D11,D12,D13, D14,D16,D17	1N4148
38	1	J2	STEREO-BREAK
39	6	R21,R22,R31,R32,R164, R174	3k3
40	2	C19,C31	150n
41	2	C21,C33	2n2
42	2	C20,C32	15p
43	2	C35,C23	15n
44	2	C36,C24	3n3
45	1	R45	330k
46	1	C40	2u2/63V
47	1	C42	4u7/63V
48	4	C45,C44,C50,C51	47/25
49	2	conn4,conn5	XLR
50	2	S1a,S1b	SW6-BBM
[illegible]	4	C89,C87,C97,C99	680p
52	4	C84,C74,C75,C94	68p
53	8	C85,C83,C93,C95,C304, C305,C310,C311	0.1/63V
54	2	VR1,VR2	100k 20 turn
55	2	IC-19,IC-20	SSM2014
56	2	R162,R172	optional
57	2	R163,R173	33k2
58	2	C82,C92	100n
59	5	R300,R301,R302,R303,R308	10E
60	5	CONN.6,CONN.3,CONN.7, CONN.8,CONN.9	4P
61	4	JMP6,JMP3,JMP7,JMP8	SHUNT
62	4	P5a,P5b,P6a,P6b	47kB
63	6	R304,R123,R125,R305,R315,	1k2

Item	Quantity	Reference	Part
		R317	
64	2	C307,C103	1/63V
65	4	R313,R102,R103,R314	1k
66	1	IC-16	78L05
67	1	C306	100/25V
68	4	D19,D21,D22,D23	1n4148
69	1	CONN.1	MLX5578-34P
70	5	D300,D15,D301,D302,D303	1N4003
71	1	CONN.2	MLX5578-20p
72	2	D4,D6	LED GRN
73	3	IC12,IC14,IC15	4093
[illegible]	1	IC8	4044
75	2	C72,C71	10n
76	2	R113,R137	5k62
77	2	R116,R210	162E
78	3	T3,T4,T12	BC560b
79	4	R129,R101,R138,R147	1k0
80	4	R111,R110,R133,R136	90k9
81	1	J1	subD 25p-fem
82	4	C312,C313,C314,C316	22n
83	1	R316	2k7
84	6	T5,T6,T7,T8,T9,T10	BC337
85	1	SW1	S2-BBM
86	2	R115,R211	2k43
87	3	C102,C76,C107	10/63
88	1	C105	1n
89	2	R212,R117	48k7
90	1	C104	1/63
91	1	C73	220n
92	1	F1	10kA
93	3	C100,C77,C101	1uF
[illegible]	1	D5	LED-GRN
95	1	D20	LED-RED
96	2	R100,R99	4k7
97	1	T11	BC327
98	1	C106	22/50
99	1	IC-9	4528
100	2	REL1,REL2	PG1C-12D →

AIRTEQ

3

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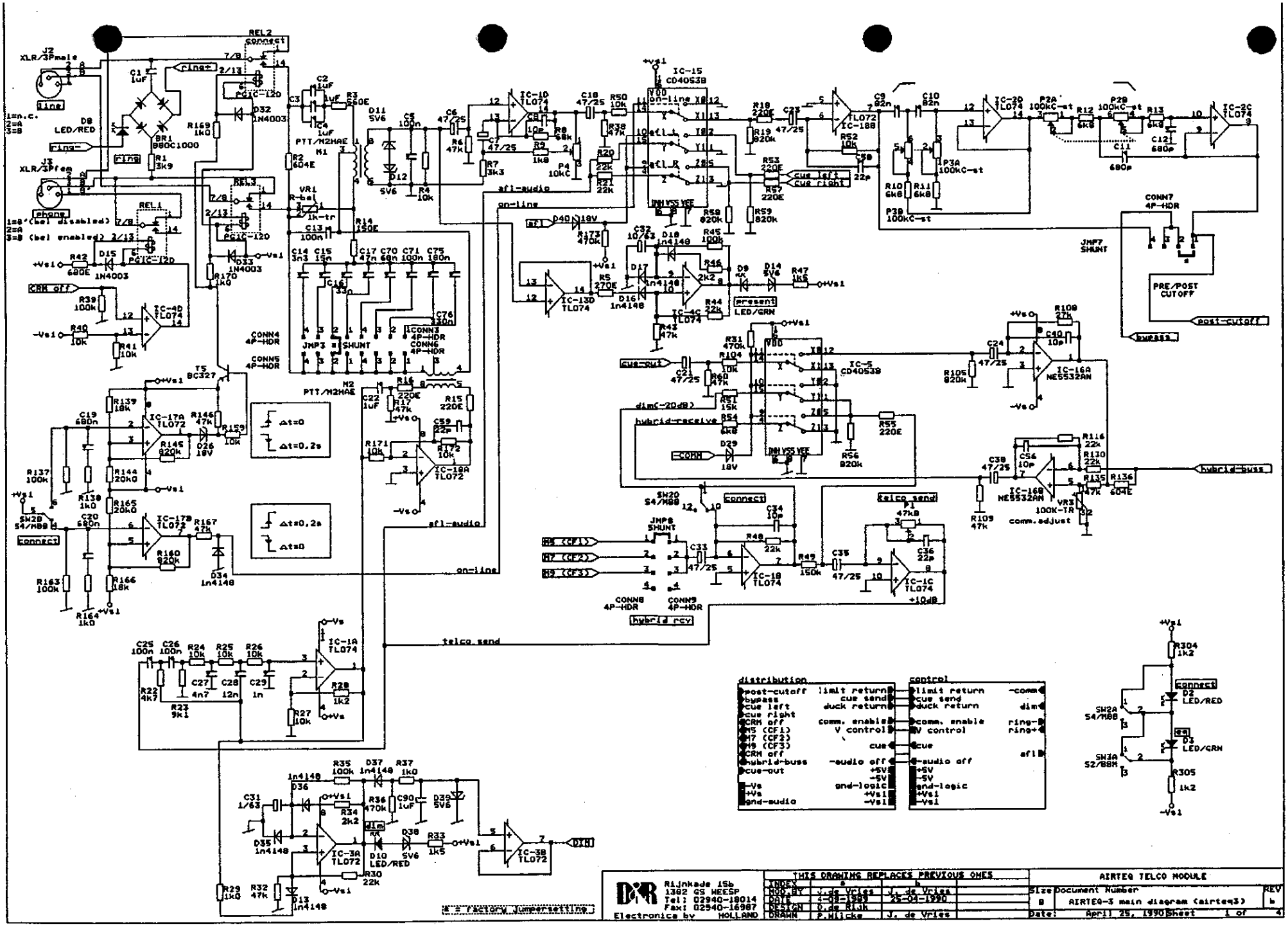
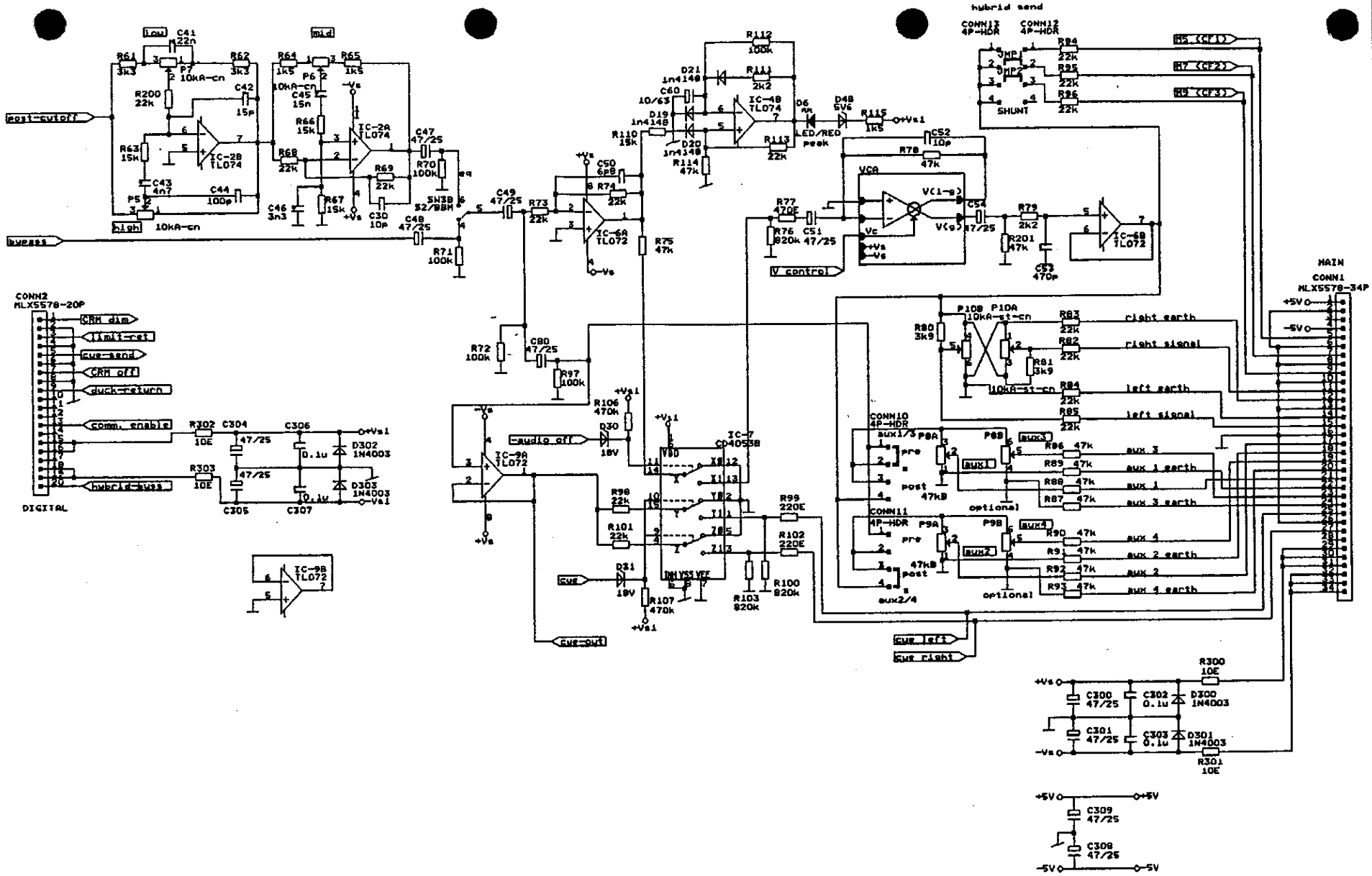
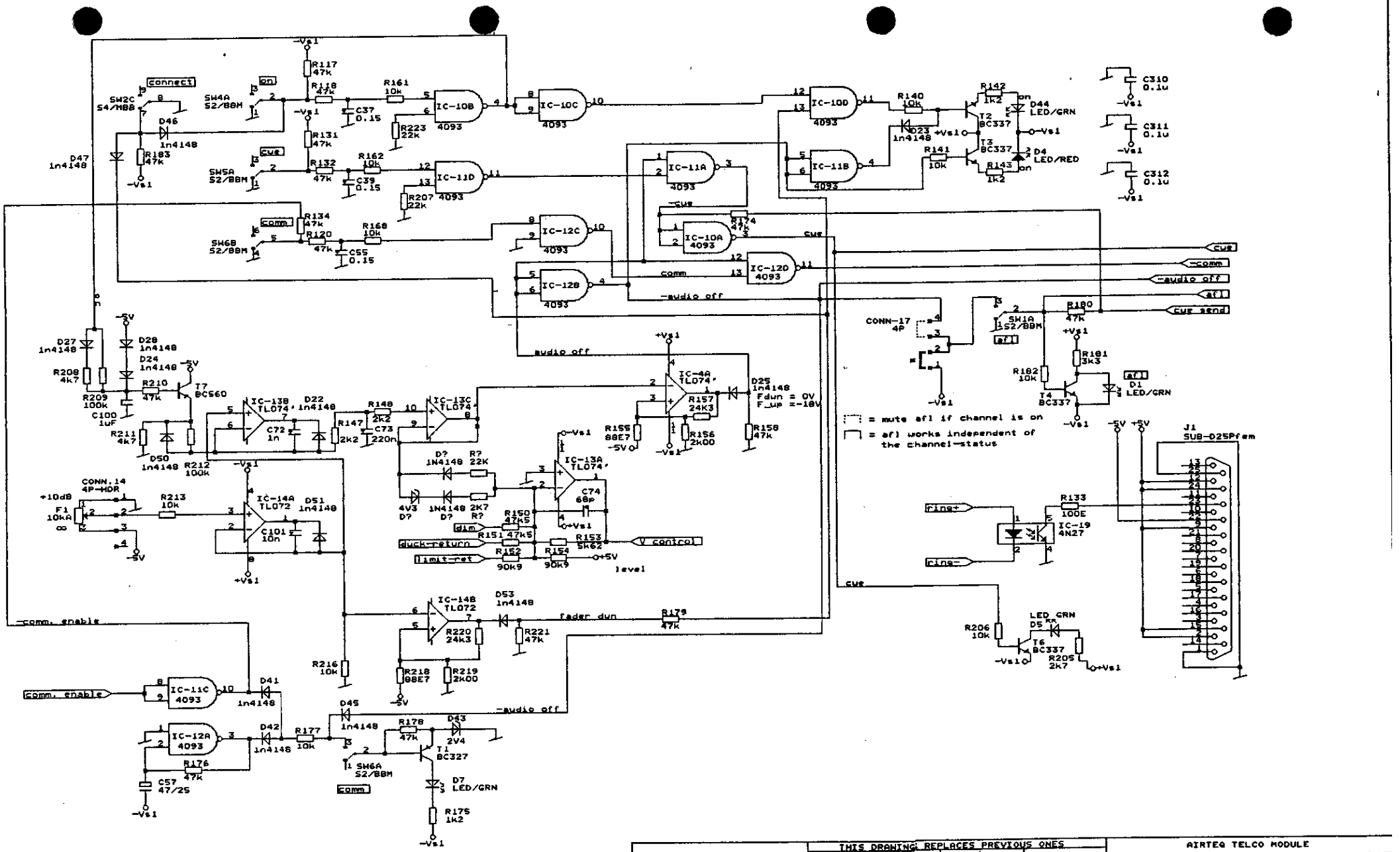

J2 XLR/3Pmale
J3 XLR/3Pfem
1=n.c.
2=A
3=B
ring+
ring-
ring
phone
1=B (bal disabled)
2=A
3=B (bal enabled)
REL2 connect
REL3
REL1
PCIC-12D
D8 LED/RED
D32 1N4003
D33 1N4003
D15 1N4003
BR1 B80C1000
PTT/M2HAE
M1
M2
VR1 R-bal
CRM off
CONN4 4P-HDR
CONN5 4P-HDR
CONN3 4P-HDR
CONN6 4P-HDR
JMP3 SHUNT
T5 BC327
Δt=0
Δt=0.2s
Δt=0,2s
Δt=0
SW2B S4/MBB
connect
IC-15 CD4053B
on-line
afl
afl-audio
IC-10 TL074
IC-13D TL074
IC-4D TL074
IC-4C TL074
present LED/GRN
IC-17A TL072
IC-17B TL072
IC-18A TL072
IC-18B TL072
cue-out
dim(-20dB)
hybrid-receive
CONN
IC-5 CD4053B
IC-16A NE5532AN
IC-16B NE5532AN
IC-1A TL074
IC-1B TL074
IC-1C TL074
+10dB
JMP8 SHUNT
M6 (CF1)
M7 (CF2)
M8 (CF3)
CONN8 4P-HDR
CONN9 4P-HDR
hybrid rcv
telco send
telco send
comm.adjust
VR3 100K-TR
hybrid-buss
IC-3A TL072
IC-3B TL072
DIM
* = factory jumpersetting
JMP7 SHUNT
PRE/POST CUTOFF
post-cutoff
bypass
cue left
cue right
P1 47kB
distribution
post-cutoff
bypass
cue left
cue right
CRM off
M5 (CF1)
M7 (CF2)
M8 (CF3)
CRM off
hybrid-buss
cue-out
-Vs
+Vs
gnd-audio
limit return
cue send
duck return
comm. enable
V control
cue
-audio off
+5V
-5V
gnd-logic
+Vsl
-Vsl
control
limit return
cue send
duck return
comm. enable
V control
cue
-audio off
+5V
-5V
gnd-logic
+Vsl
-Vsl
-comm
dim
ring-
ring+
afl
SW2A S4/MBB
SW3A S2/BBM
D2 LED/RED
D3 LED/GRN
R304 1k2
R305 1k2
Rijnkade 15b
1382 GS WEESP
Tel: 02940-18014
Fax: 02940-16987
Electronics by HOLLAND
THIS DRAWING REPLACES PREVIOUS ONES
INDEX a b
MOD.BY J.de Vries J. de Vries
DATE 4-08-1989 25-04-1990
DESIGN D.de Rijk
DRAWN P.Hilcke J. de Vries
AIRTEQ TELCO MODULE
Size Document Number REV
B AIRTEQ-3 main diagram (airteq3) b
Date: April 25, 1990 Sheet 1 of 4



x = factory jumpersetting

Rijnkade 15b 1382 GS WEESP Tel: 02940-18014 Fax: 02940-16987 Electronics by HOLLAND	THIS DRAWING REPLACES PREVIOUS ONES INDEX a b DRW.BY J.de Vries J. de Vries DATE 14-09-1989 25-04-1990 DESIGN D.de Rijk DRAWN J.A.v.Hezik J. de Vries
AIRTEQ TELCO MODULE Size Document Number REV B AIRTEQ-3 distribution (air3detr) b Date: April 25, 1990 Sheet 2 of 4	


connect
on
cue
comm
SW2C S4/MBB
SW4A S2/BBM
SW5A S2/BBM
SW6B S2/BBM
SW6A S2/BBM
IC-10B
IC-10C
IC-10D
IC-11A
IC-11B
IC-11C
IC-11D
IC-12A
IC-12B
IC-12C
IC-12D
IC-10A
4093
-Vs1
R117 47k
R118 47k
R131 47k
R132 47k
R134 47k
R120 47k
R161 10k
R162 10k
R168 10k
R223 22k
R207 22k
C37 0.15
C39 0.15
C55 0.15
D46 1n4148
D47 1n4148
R183 47k
R140 10k
R141 10k
R142 1k2
R143 1k2
D23 1n4148
I2 BC337
I3 BC337
D44 LED/GRN
D4 LED/RED
C310 0.1u
C311 0.1u
C312 0.1u
R174 47k
-cue
cue
comm
-audio off
audio off
afl
cue send
-comm
CONN-17 4P
SW1A S2/BBM
R180 47k
R181 3k3
R182 10k
I4 BC337
D1 LED/GRN
+Vs1
-Vs1
-5V
+5V
D27 1n4148
D28 1n4148
D24 1n4148
R208 4k7
R209 100k
C100 1uF
R210 47k
I7 BC560
R211 4k7
D50 1n4148
R212 100k
IC-13B TL074
IC-13C TL074
IC-13A TL074
IC-4A TL074
D22 1n4148
R147 2k2
R148 2k2
C72 in
C73 220n
D25 1n4148
Fdun = 0V
F_up =-10V
R155 68E7
R156 2k00
R157 24K3
R158 47k
D? 1N4148
R? 22K
4V3 D?
2K7 R?
C74 68p
R150 47k5
R151 47k5
R153 5k62
R154 90k9
R152 90k9
dim
duck-return
limit-ret
V control
level
CONN.14 4P-HDR
+10dB
F1 10kA
R213 10k
IC-14A TL072
C101 10n
D51 1n4148
J1 SUB-D25Pfem
ring+
ring-
R133 100E
IC-19 4N27
= mute afl if channel is on
= afl works independent of the channel-status
IC-14B TL072
D53 1n4148
fader dun
R179 47k
R220 24k3
R221 47k
R218 68E7
R219 2k00
R216 10k
-comm. enable
comm. enable
D41 1n4148
D42 1n4148
D45 1n4148
D43 2V4
R176 47k
R177 10k
R178 47k
C57 47/25
T1 BC327
D7 LED/GRN
R175 1k2
R206 10k
LED GRN D5
T6 BC337
R205 2k7
Rijnkade 15b
1382 GS WEESP
Tel: 02940-18014
Fax: 02940-16987
Electronica by HOLLAND
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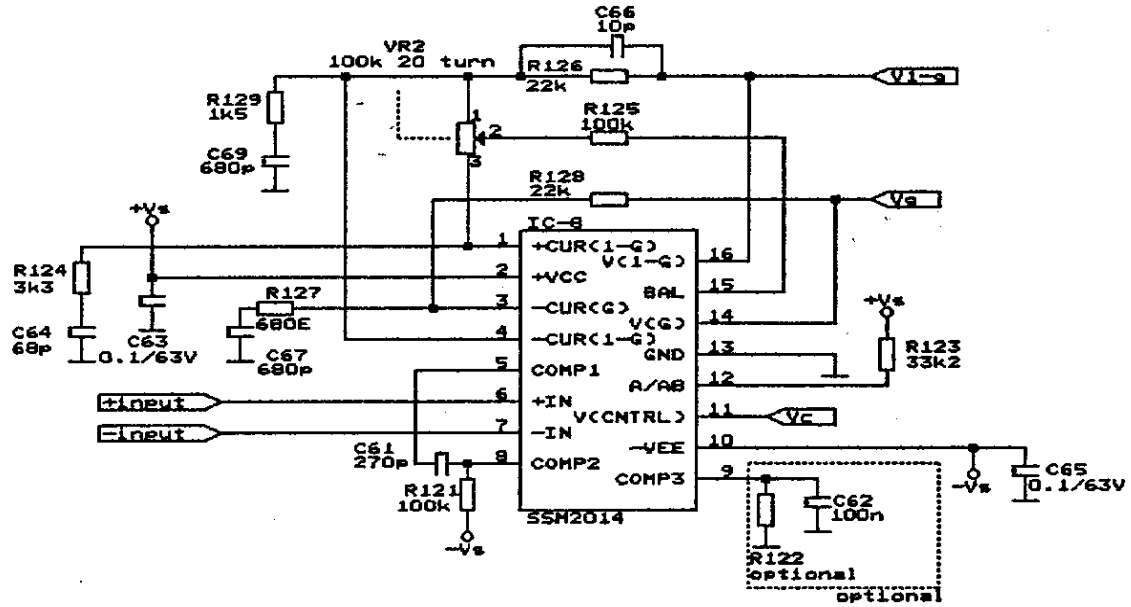
INDEX a b
MOD.BY J. de Vries
DATE 4-09-1989 25-04-1990
DESIGN J. de Vries
DRAWN R.berghammer J. de Vries
AIRTEQ TELCO MODULE
Size B
Document Number AIRTEQ-3 control (air3cntr)
REV b
Date: February 12, 1991 Sheet 3 of 4



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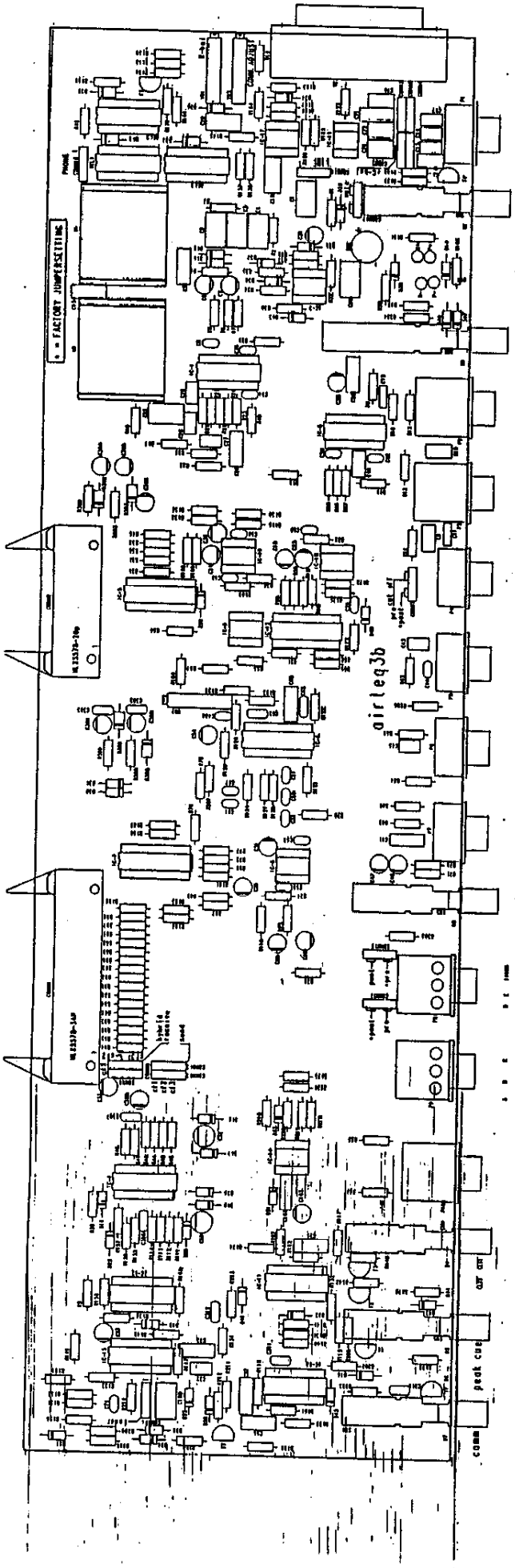
INDEX	a	b	
MOD.BY		J. de Vries	
DATE	4-09-1989	25-04-1990	
DESIGN	J.de Vries		
DRAWN	P.Hilcke	J. de Vries	

AIRTEQ TELCO MODULE

Size	Document Number	REV
A	AIRTEQ-3 vca (airt3vca)	b

Date: April 25, 1990 Sheet 4 of 4

SCHAKELAAR CONTROLE AIRTEQ3 "B"



<<<<------ SW2-BBM

<<<<------ SW4-MBB

<<<<------ SW2-BBM

<<<<------ SW2-BBM

<<<<------ SW2-BBM

<<<<------ SW2-BBM

AIRTEQ

4

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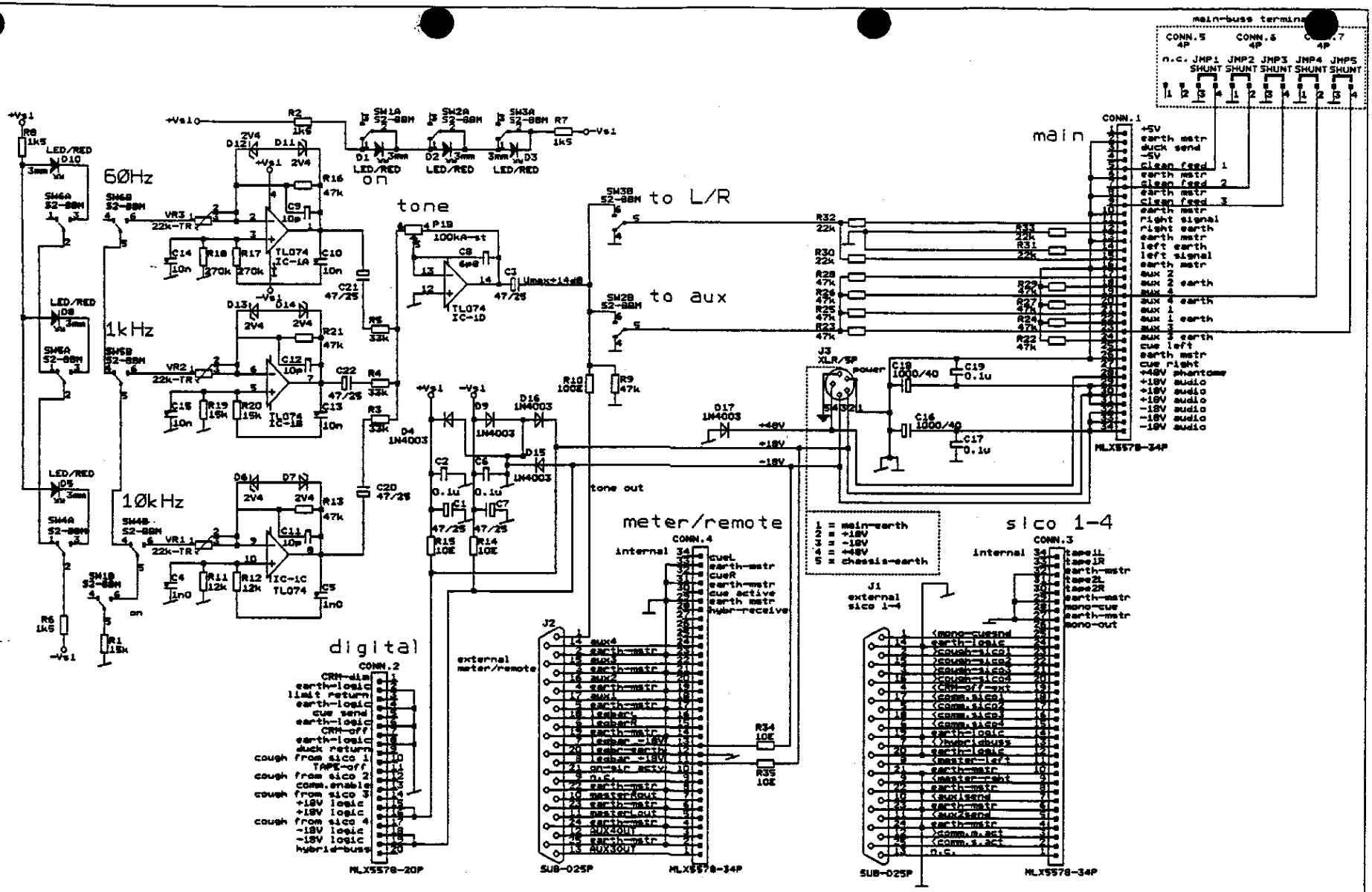

* when a telco-module (AIRTEQ-3 pcb) is connected to the main-buss, remove the jumpers JMP1, JMP2 and JMP3 from the main-buss terminator

when the AUX3 option is installed, remove JMP5 from the main-buss terminator
when the AUX4 option is installed, remove JMP4 from the main-buss terminator

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THIS DRAWING REPLACES PREVIOUS ONES

INDEX	a	a
MOD.BY	J. de Vries	J. de Vries
DATE	02-01-1989	08-06-89
DESIGN	D.de Rijk	
DRAWN	J.A.v.Hezik	J. de Vries

AIRTEQ MASTER MODULE

Size	Document Number	REV
B	AIRTEQ-4 tone (airteq4)	a

Date: June 25, 1989 Sheet 1 of 7

Quantity	Reference	Part	Sheetname	Sheet#	Filename
1	CONN.1	MLX5578-34P	<<<root>>>	1	AIRTEQ4A
1	CONN.2	MLX5578-20P	<<<root>>>	1	AIRTEQ4A
1	CONN.3	MLX5578-34P	<<<root>>>	1	AIRTEQ4A
1	CONN.4	MLX5578-34P	<<<root>>>	1	AIRTEQ4A
1	CONN.5	4P	<<<root>>>	1	AIRTEQ4A
1	CONN.6	4P	<<<root>>>	1	AIRTEQ4A
1	CONN.7	4P	<<<root>>>	1	AIRTEQ4A
1	C1	47/25	<<<root>>>	1	AIRTEQ4A
1	C2	0.1u	<<<root>>>	1	AIRTEQ4A
1	C3	47/25	<<<root>>>	1	AIRTEQ4A
1	C4	1n0	<<<root>>>	1	AIRTEQ4A
1	C5	1n0	<<<root>>>	1	AIRTEQ4A
1	C6	0.1u	<<<root>>>	1	AIRTEQ4A
1	C7	47/25	<<<root>>>	1	AIRTEQ4A
1	C8	6p8	<<<root>>>	1	AIRTEQ4A
1	C9	10p	<<<root>>>	1	AIRTEQ4A
1	C10	10n	<<<root>>>	1	AIRTEQ4A
1	C11	10p	<<<root>>>	1	AIRTEQ4A
1	C12	10p	<<<root>>>	1	AIRTEQ4A
1	C13	10n	<<<root>>>	1	AIRTEQ4A
1	C14	10n	<<<root>>>	1	AIRTEQ4A
1	C15	10n	<<<root>>>	1	AIRTEQ4A
1	C16	1000/40	<<<root>>>	1	AIRTEQ4A
1	C17	0.1u	<<<root>>>	1	AIRTEQ4A
1	C18	1000/40	<<<root>>>	1	AIRTEQ4A
1	C19	0.1u	<<<root>>>	1	AIRTEQ4A
1	C20	47/25	<<<root>>>	1	AIRTEQ4A
1	C21	47/25	<<<root>>>	1	AIRTEQ4A
1	C22	47/25	<<<root>>>	1	AIRTEQ4A
1	D1	LED/RED	<<<root>>>	1	AIRTEQ4A
1	D2	LED/RED	<<<root>>>	1	AIRTEQ4A
1	D3	LED/RED	<<<root>>>	1	AIRTEQ4A
1	D4	1N4003	<<<root>>>	1	AIRTEQ4A
1	D5	LED/RED	<<<root>>>	1	AIRTEQ4A
1	D6	2V4	<<<root>>>	1	AIRTEQ4A
1	D7	2V4	<<<root>>>	1	AIRTEQ4A
1	D8	LED/RED	<<<root>>>	1	AIRTEQ4A
1	D9	1N4003	<<<root>>>	1	AIRTEQ4A
1	D10	LED/RED	<<<root>>>	1	AIRTEQ4A
1	D11	2V4	<<<root>>>	1	AIRTEQ4A
1	D12	2V4	<<<root>>>	1	AIRTEQ4A
1	D13	2V4	<<<root>>>	1	AIRTEQ4A
1	D14	2V4	<<<root>>>	1	AIRTEQ4A
1	D15	1N4003	<<<root>>>	1	AIRTEQ4A
1	D16	1N4003	<<<root>>>	1	AIRTEQ4A
1	D17	1N4003	<<<root>>>	1	AIRTEQ4A
1	IC-1A	TL074	<<<root>>>	1	AIRTEQ4A
1	IC-1B	TL074	<<<root>>>	1	AIRTEQ4A
1	IC-1C	TL074	<<<root>>>	1	AIRTEQ4A
1	IC-1D	TL074	<<<root>>>	1	AIRTEQ4A
1	JMP1	SHUNT	<<<root>>>	1	AIRTEQ4A
1	JMP2	SHUNT	<<<root>>>	1	AIRTEQ4A
1	JMP3	SHUNT	<<<root>>>	1	AIRTEQ4A

AIRTEQ

5

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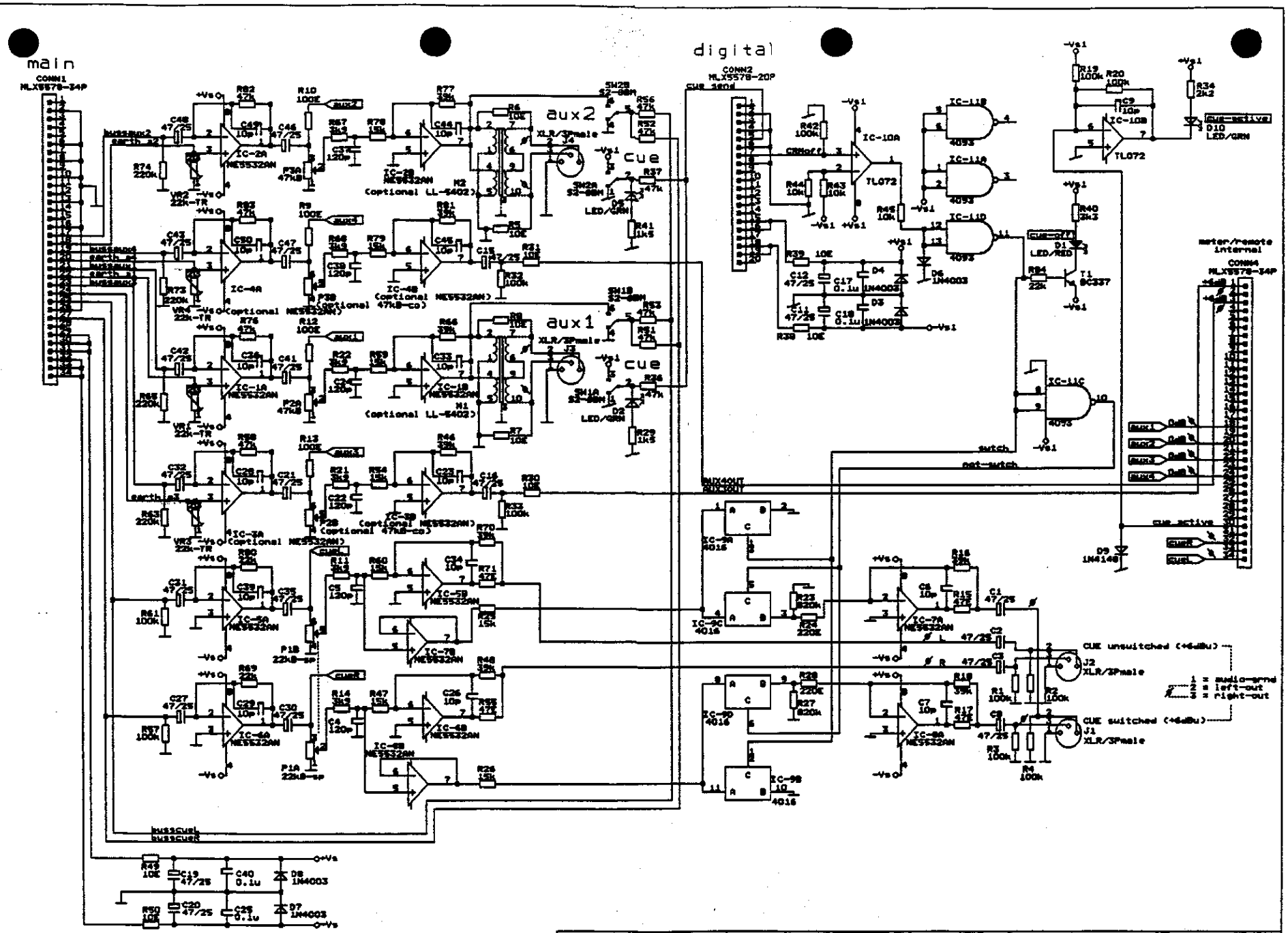


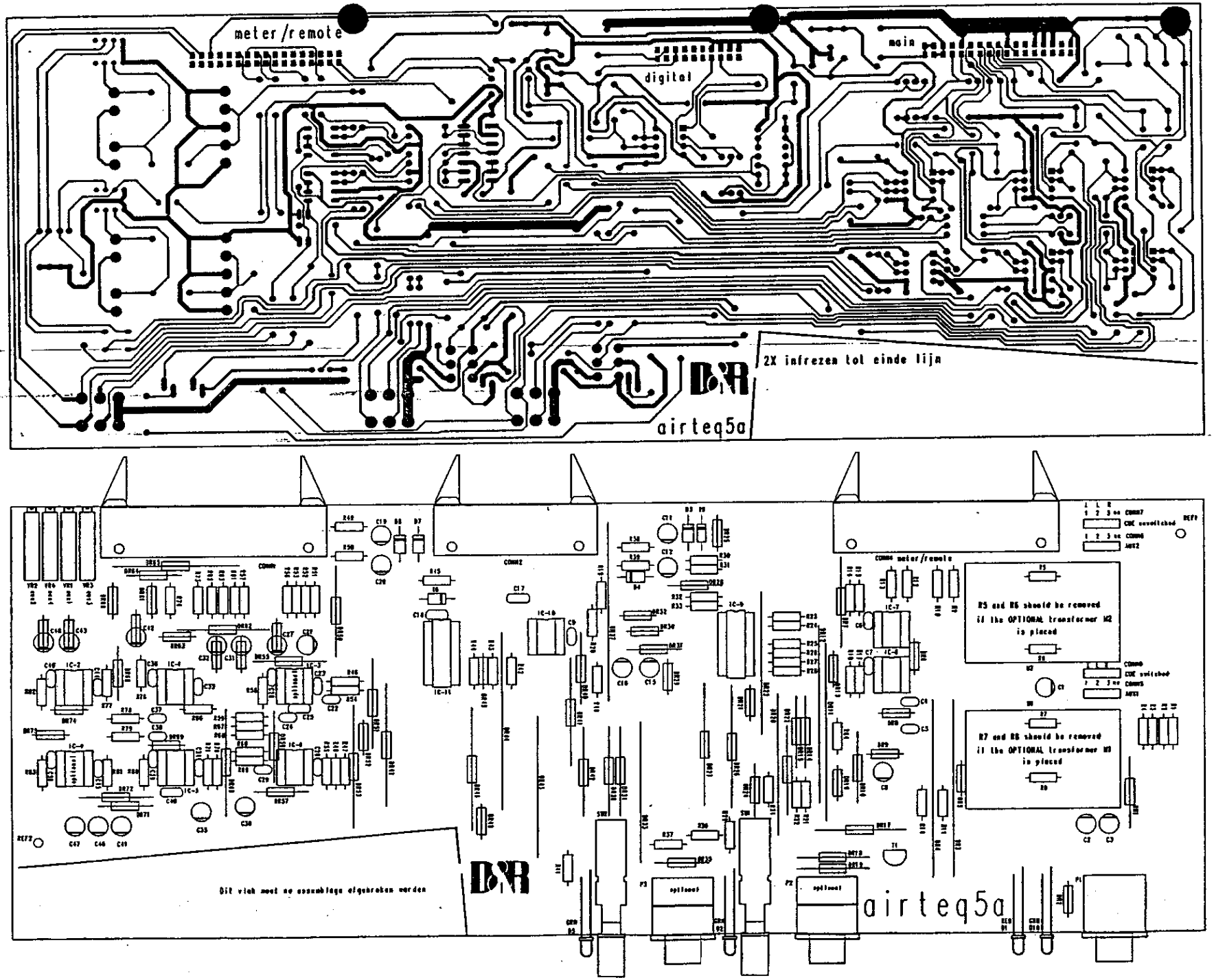
a IC-3 or IC-4 should ONLY be assembled, if the AUX3 or AUX4 option is installed
a Read 'PROCEDURE : AUX-ATTENUATION adjust procedure' for adjusting VR1..4
x if IC-3 is installed, make sure you REMOVED jumper AUX3 (JMP3) on the AIRTEQ-4 (tone) pcb
x if IC-4 is installed, make sure you REMOVED jumper AUX4 (JMP4) on the AIRTEQ-4 (tone) pcb

D&R
Rijnkade 15b
1382 GS WEESP
Tel: 02940-18014
Fax: 02940-16987
Electronics bv HOLLAND

THIS DRAWING REPLACES PREVIOUS ONES			
INDEX	a		a
MOD.BY	J.de Vries	J. de Vries	
DATE	21-04-1989	06-07-1989	
DESIGN	J.de Vries		
DRAWN	J.A.v.Mezik	J. de Vries	

AIRTEQ MASTER MODULE

Size	Document Number	REV
B	AIRTEQ-5 aux + cue (airteq5)	a
Date:	July 24, 1989 Sheet 2 of 7	


meter/remote
digital
main
2X infrezen tot einde lijn
D&R
airteq5a
R5 and R6 should be removed
if the OPTIONAL transformer M2
is placed
R7 and R8 should be removed
if the OPTIONAL transformer M3
is placed
Dit vlak moet na assemblage afgefreesd worden
optioneel
airteq5a

Quantity	Reference	Part	Sheetname	Sheet#	Filename
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1	C2	47/25	<<<root>>>	2	AIRTEQ5
1	C3	47/25	<<<root>>>	2	AIRTEQ5
1	C4	120p	<<<root>>>	2	AIRTEQ5
1	C5	120p	<<<root>>>	2	AIRTEQ5
1	C6	10p	<<<root>>>	2	AIRTEQ5
1	C7	10p	<<<root>>>	2	AIRTEQ5
1	C8	47/25	<<<root>>>	2	AIRTEQ5
1	C9	10p	<<<root>>>	2	AIRTEQ5
1	C11	47/25	<<<root>>>	2	AIRTEQ5
1	C12	47/25	<<<root>>>	2	AIRTEQ5
1	C15	47/25	<<<root>>>	2	AIRTEQ5
1	C16	47/25	<<<root>>>	2	AIRTEQ5
1	C17	0.1u	<<<root>>>	2	AIRTEQ5
1	C18	0.1u	<<<root>>>	2	AIRTEQ5
1	C19	47/25	<<<root>>>	2	AIRTEQ5
1	C20	47/25	<<<root>>>	2	AIRTEQ5
1	C21	47/25	<<<root>>>	2	AIRTEQ5
1	C22	120p	<<<root>>>	2	AIRTEQ5
1	C23	10p	<<<root>>>	2	AIRTEQ5
1	C24	120p	<<<root>>>	2	AIRTEQ5
1	C25	0.1u	<<<root>>>	2	AIRTEQ5
1	C26	10p	<<<root>>>	2	AIRTEQ5
1	C27	47/25	<<<root>>>	2	AIRTEQ5
1	C28	10p	<<<root>>>	2	AIRTEQ5
1	C29	10p	<<<root>>>	2	AIRTEQ5
1	C30	47/25	<<<root>>>	2	AIRTEQ5
1	C31	47/25	<<<root>>>	2	AIRTEQ5
1	C32	47/25	<<<root>>>	2	AIRTEQ5
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1	D9	1N4148	<<<root>>>	2	AIRTEQ5
1	D10	LED/GRN	<<<root>>>	2	AIRTEQ5
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1	IC-2A	NE5532AN	<<<root>>>	2	AIRTEQ5
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1	IC-3B	(optional NE5532AN)	<<<root>>>	2	AIRTEQ5
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1	IC-10A	TL072	<<<root>>>	2	AIRTEQ5
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1	IC-11D	4093	<<<root>>>	2	AIRTEQ5
1	J1	XLR/3Pmale	<<<root>>>	2	AIRTEQ5
1	J2	XLR/3Pmale	<<<root>>>	2	AIRTEQ5
1	J3	XLR/3Pmale	<<<root>>>	2	AIRTEQ5
1	J4	XLR/3Pmale	<<<root>>>	2	AIRTEQ5
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1	R15	47E	<<<root>>>	2	AIRTEQ5
1	R16	39k	<<<root>>>	2	AIRTEQ5
1	R17	47E	<<<root>>>	2	AIRTEQ5
1	R18	39k	<<<root>>>	2	AIRTEQ5
1	R19	100k	<<<root>>>	2	AIRTEQ5
1	R20	100k	<<<root>>>	2	AIRTEQ5
1	R21	3k9	<<<root>>>	2	AIRTEQ5
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1	R24	220E	<<<root>>>	2	AIRTEQ5
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1	R28	220E	<<<root>>>	2	AIRTEQ5
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Quantity	Reference	Part	Sheetname	Sheet#	Filename
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1	SW2A	S2-BBM	<<<root>>>	2	AIRTEQ5
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1	T1	BC337	<<<root>>>	2	AIRTEQ5
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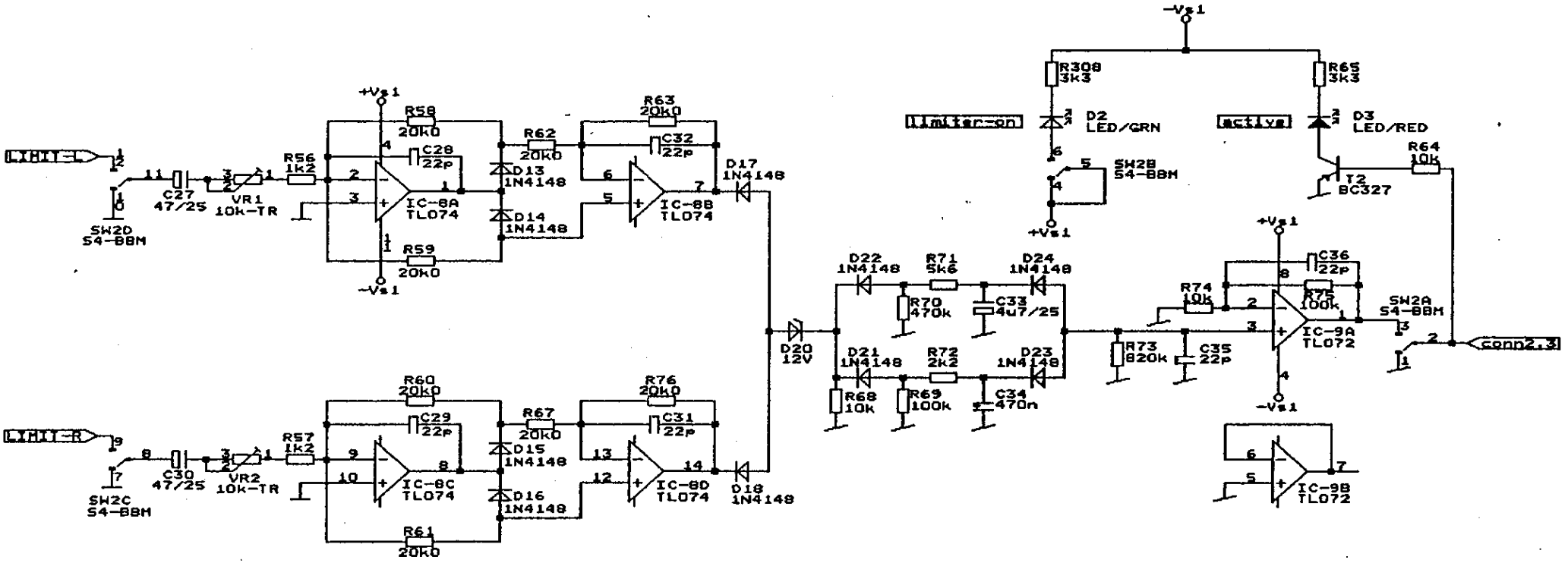
1	VR2	22k-TR	<<<root>>>	2	AIRTEQ5
1	VR3	22k-TR	<<<root>>>	2	AIRTEQ5
1	VR4	22k-TR	<<<root>>>	2	AIRTEQ5

AIRTEQ

6

FOR INTERNAL USE ONLY



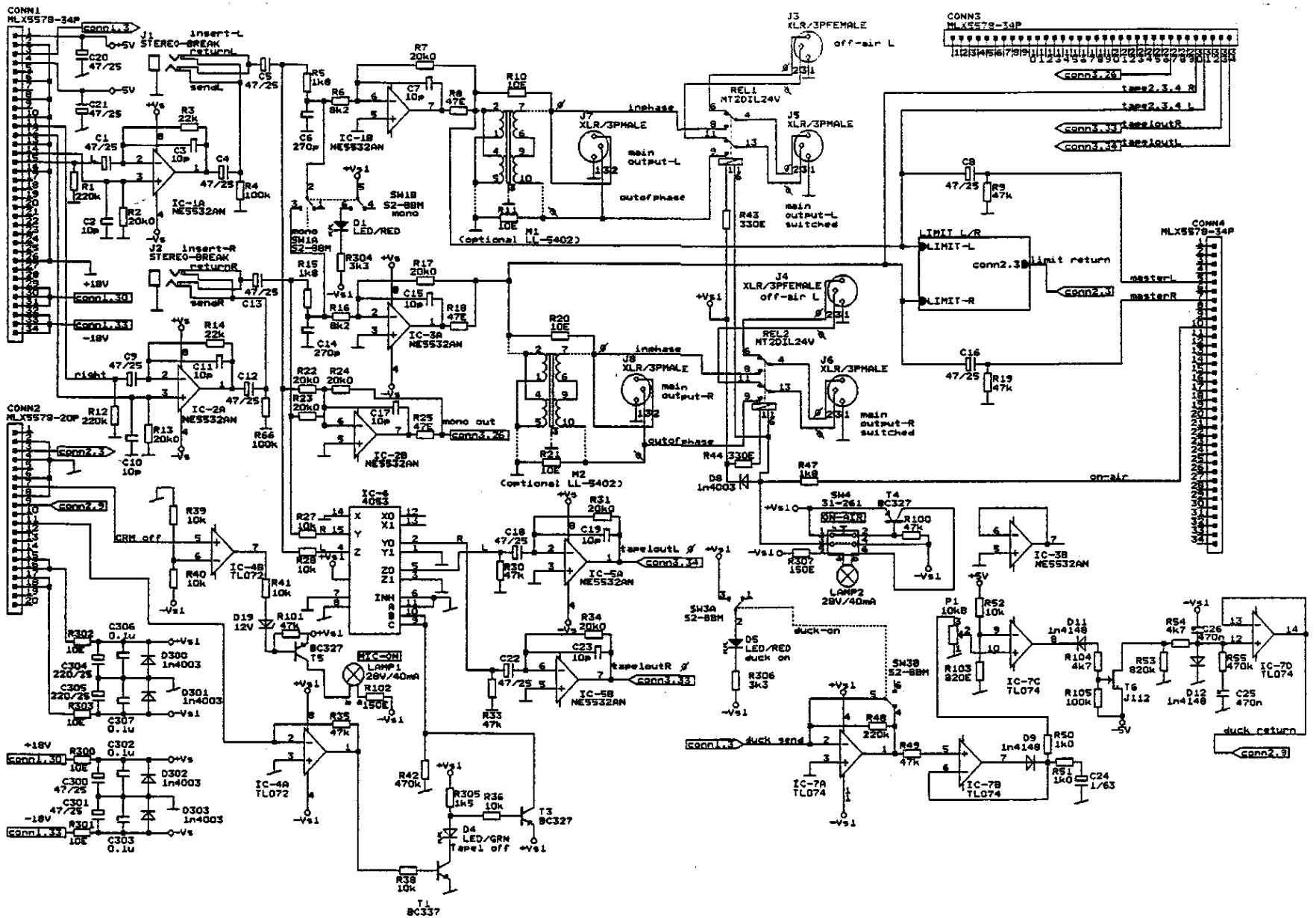
Rijnkade 15b
1382 GS WEESP
Tel: 02940-18014
Fax: 02940-16987
Tlx: 18503 dr nl
HOLLAND

THIS DRAWING REPLACES PREVIOUS ONES

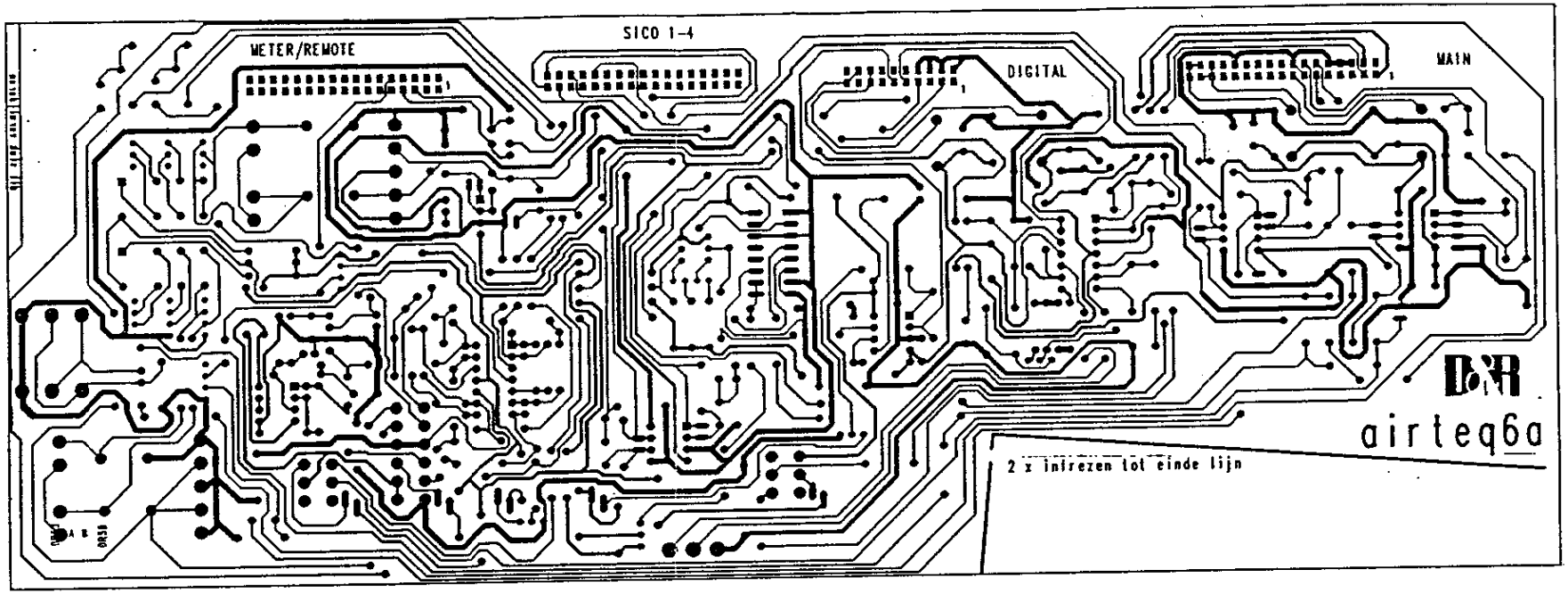
INDEX	a	a
MOD.BY	J.de Vries	J. de Vries
DATE	10-03-1989	06-07-1989
DESIGN		

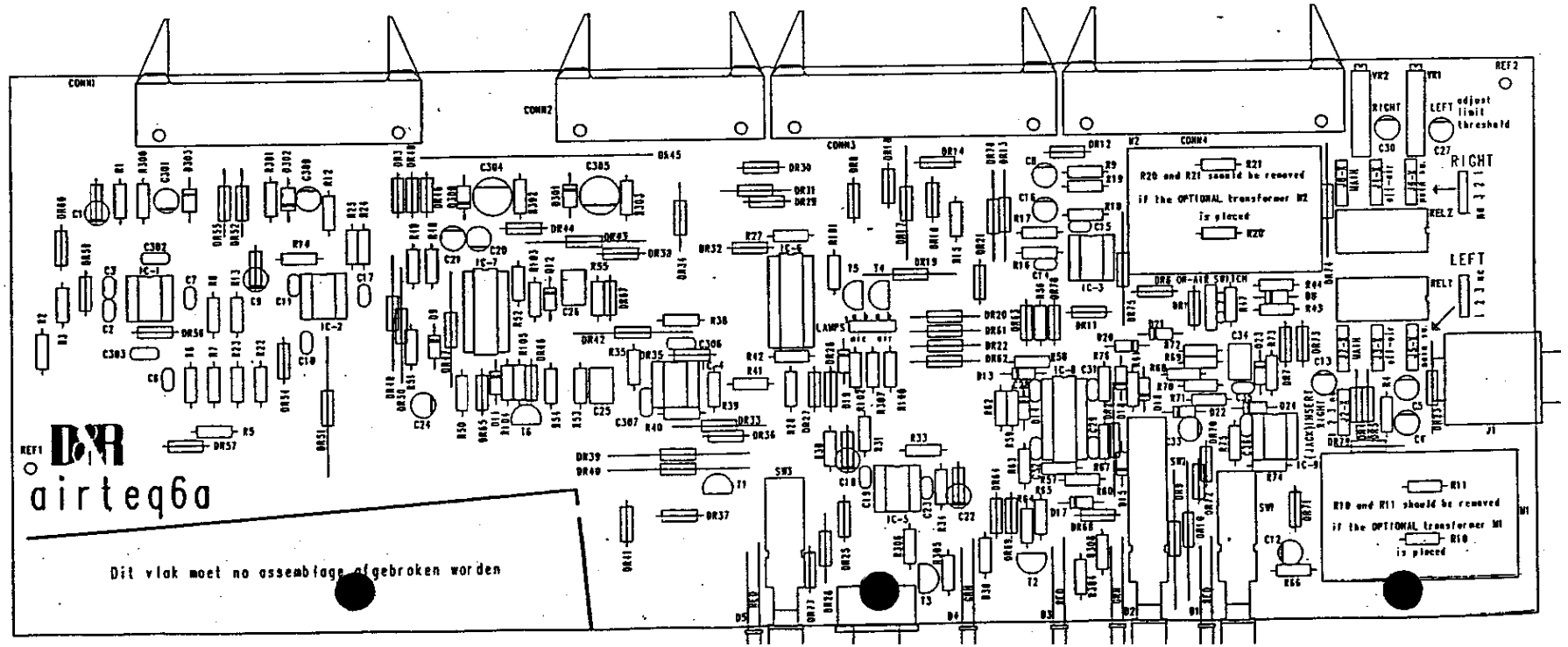
AIRTEQ MASTER MODULE

Size	Document Number	REV
A	AIRTEQ-6 limit (air-6limt)	a



D&R	Rijnkade 15b 1382 GS WEESP Tel: 02940-18014 Fax: 02940-16987 Tlx: 18503 dr nl Electronica bv HOLLAND	THIS DRAWING REPLACES PREVIOUS ONES INDEX a b MOD.BY J.de Vries J. de Vries DATE 06-12-1989 05-07-1989 DESIGN O.de Rijk DRAWN P.Hilcke J. de Vries	AIRTEQ MASTER MODULE Size Document Number REV B AIRTEQ-6 L+R ,limit (airteq6) a Date: July 20, 1989 Sheet 3 of 7


SICO 1-4
METER/REMOTE
DIGITAL
MAIN
airteq6a
2 x infrezen tot einde lijn


CONN1
CONN2
CONN3
CONN4
R20 and R21 should be removed
if the OPTIONAL transformer M2
is placed
R20
adjust
limit
threshold
RIGHT
LEFT
R11
R10 and R11 should be removed
if the OPTIONAL transformer M1
is placed
R10
airteq6a
Dit vlak moet na assemblage afgebroken worden

Quantity	Reference	Part	Sheetname	Sheet#	Filename
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1	CONN4	MLX5578-34P	<<<root>>>	3	AIRTEQ6
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1	C2	10p	<<<root>>>	3	AIRTEQ6
1	C3	10p	<<<root>>>	3	AIRTEQ6
1	C4	47/25	<<<root>>>	3	AIRTEQ6
1	C5	47/25	<<<root>>>	3	AIRTEQ6
1	C6	270p	<<<root>>>	3	AIRTEQ6
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1	C28	22p	LIMIT L/R	4	AIR6LIMT
1	C29	22p	LIMIT L/R	4	AIR6LIMT
1	C30	47/25	LIMIT L/R	4	AIR6LIMT
1	C31	22p	LIMIT L/R	4	AIR6LIMT
1	C32	22p	LIMIT L/R	4	AIR6LIMT
1	C33	4u7/25	LIMIT L/R	4	AIR6LIMT
1	C34	470n	LIMIT L/R	4	AIR6LIMT
1	C35	22p	LIMIT L/R	4	AIR6LIMT
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1	D15	1N4148	LIMIT L/R	4	AIR6LIMT
1	D16	1N4148	LIMIT L/R	4	AIR6LIMT
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1	D23	1N4148	LIMIT L/R	4	AIR6LIMT
1	D24	1N4148	LIMIT L/R	4	AIR6LIMT
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1	IC-7D	TL074	<<<root>>>	3	AIRTEQ6
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1	IC-8B	TL074	LIMIT L/R	4	AIR6LIMT
1	IC-8C	TL074	LIMIT L/R	4	AIR6LIMT
1	IC-8D	TL074	LIMIT L/R	4	AIR6LIMT
1	IC-9A	TL072	LIMIT L/R	4	AIR6LIMT
1	IC-9B	TL072	LIMIT L/R	4	AIR6LIMT
1	J1	STEREO-BREAK	<<<root>>>	3	AIRTEQ6
1	J2	STEREO-BREAK	<<<root>>>	3	AIRTEQ6
1	J3	XLR/3PFEMALE	<<<root>>>	3	AIRTEQ6
1	J4	XLR/3PFEMALE	<<<root>>>	3	AIRTEQ6
1	J5	XLR/3PMALE	<<<root>>>	3	AIRTEQ6
1	J6	XLR/3PMALE	<<<root>>>	3	AIRTEQ6
1	J7	XLR/3PMALE	<<<root>>>	3	AIRTEQ6
1	J8	XLR/3PMALE	<<<root>>>	3	AIRTEQ6
1	LAMP1	28V/40mA	<<<root>>>	3	AIRTEQ6
1	LAMP2	28V/40mA	<<<root>>>	3	AIRTEQ6
1	M1	(optional LL-5402)	<<<root>>>	3	AIRTEQ6
1	M2	(optional LL-5402)	<<<root>>>	3	AIRTEQ6

Quantity	Reference	Part	Sheetname	Sheet#	Filename
1	P1	10kB	<<<root>>>	3	AIRTEQ6
1	REL1	MT2DIL24V	<<<root>>>	3	AIRTEQ6
1	REL2	MT2DIL24V	<<<root>>>	3	AIRTEQ6
1	R1	220k	<<<root>>>	3	AIRTEQ6
1	R2	20k0	<<<root>>>	3	AIRTEQ6
1	R3	22k	<<<root>>>	3	AIRTEQ6
1	R4	100k	<<<root>>>	3	AIRTEQ6
1	R5	1k8	<<<root>>>	3	AIRTEQ6
1	R6	8k2	<<<root>>>	3	AIRTEQ6
1	R7	20k0	<<<root>>>	3	AIRTEQ6
1	R8	47E	<<<root>>>	3	AIRTEQ6
1	R9	47k	<<<root>>>	3	AIRTEQ6
1	R10	10E	<<<root>>>	3	AIRTEQ6
1	R11	10E	<<<root>>>	3	AIRTEQ6
1	R12	220k	<<<root>>>	3	AIRTEQ6
1	R13	20k0	<<<root>>>	3	AIRTEQ6
1	R14	22k	<<<root>>>	3	AIRTEQ6
1	R15	1k8	<<<root>>>	3	AIRTEQ6
1	R16	8k2	<<<root>>>	3	AIRTEQ6
1	R17	20k0	<<<root>>>	3	AIRTEQ6
1	R18	47E	<<<root>>>	3	AIRTEQ6
1	R19	47k	<<<root>>>	3	AIRTEQ6
1	R20	10E	<<<root>>>	3	AIRTEQ6
1	R21	10E	<<<root>>>	3	AIRTEQ6
1	R22	20k0	<<<root>>>	3	AIRTEQ6
1	R23	20k0	<<<root>>>	3	AIRTEQ6
1	R24	20k0	<<<root>>>	3	AIRTEQ6
1	R25	47E	<<<root>>>	3	AIRTEQ6
1	R27	10k	<<<root>>>	3	AIRTEQ6
1	R28	10k	<<<root>>>	3	AIRTEQ6
1	R30	47k	<<<root>>>	3	AIRTEQ6
1	R31	20k0	<<<root>>>	3	AIRTEQ6
1	R33	47k	<<<root>>>	3	AIRTEQ6
1	R34	20k0	<<<root>>>	3	AIRTEQ6
1	R35	47k	<<<root>>>	3	AIRTEQ6
1	R36	10k	<<<root>>>	3	AIRTEQ6
1	R38	10k	<<<root>>>	3	AIRTEQ6
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1	R40	10k	<<<root>>>	3	AIRTEQ6
1	R41	10k	<<<root>>>	3	AIRTEQ6
1	R42	470k	<<<root>>>	3	AIRTEQ6
1	R43	330E	<<<root>>>	3	AIRTEQ6
1	R44	330E	<<<root>>>	3	AIRTEQ6
1	R47	1k8	<<<root>>>	3	AIRTEQ6
1	R48	220k	<<<root>>>	3	AIRTEQ6
1	R49	47k	<<<root>>>	3	AIRTEQ6
1	R50	1k0	<<<root>>>	3	AIRTEQ6
1	R51	1k0	<<<root>>>	3	AIRTEQ6
1	R52	10k	<<<root>>>	3	AIRTEQ6
1	R53	820k	<<<root>>>	3	AIRTEQ6
1	R54	4k7	<<<root>>>	3	AIRTEQ6
1	R55	470k	<<<root>>>	3	AIRTEQ6
1	R56	1k2	LIMIT L/R	4	AIR6LIMT

Quantity	Reference	Part	Sheetname	Sheet#	Filename
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1	R58	20k0	LIMIT L/R	4	AIR6LIMT
1	R59	20k0	LIMIT L/R	4	AIR6LIMT
1	R60	20k0	LIMIT L/R	4	AIR6LIMT
1	R61	20k0	LIMIT L/R	4	AIR6LIMT
1	R62	20k0	LIMIT L/R	4	AIR6LIMT
1	R63	20k0	LIMIT L/R	4	AIR6LIMT
1	R64	10k	LIMIT L/R	4	AIR6LIMT
1	R65	3k3	LIMIT L/R	4	AIR6LIMT
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1	R67	20k0	LIMIT L/R	4	AIR6LIMT
1	R68	10k	LIMIT L/R	4	AIR6LIMT
1	R69	100k	LIMIT L/R	4	AIR6LIMT
1	R70	470k	LIMIT L/R	4	AIR6LIMT
1	R71	5k6	LIMIT L/R	4	AIR6LIMT
1	R72	2k2	LIMIT L/R	4	AIR6LIMT
1	R73	820k	LIMIT L/R	4	AIR6LIMT
1	R74	10k	LIMIT L/R	4	AIR6LIMT
1	R75	100k	LIMIT L/R	4	AIR6LIMT
1	R76	20k0	LIMIT L/R	4	AIR6LIMT
1	R100	47k	<<<root>>>	3	AIRTEQ6
1	R101	47k	<<<root>>>	3	AIRTEQ6
1	R102	150E	<<<root>>>	3	AIRTEQ6
1	R103	820E	<<<root>>>	3	AIRTEQ6
1	R104	4k7	<<<root>>>	3	AIRTEQ6
1	R105	100k	<<<root>>>	3	AIRTEQ6
1	R300	10E	<<<root>>>	3	AIRTEQ6
1	R301	10E	<<<root>>>	3	AIRTEQ6
1	R302	10E	<<<root>>>	3	AIRTEQ6
1	R303	10E	<<<root>>>	3	AIRTEQ6
1	R304	3k3	<<<root>>>	3	AIRTEQ6
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1	R306	3k3	<<<root>>>	3	AIRTEQ6
1	R307	150E	<<<root>>>	3	AIRTEQ6
1	R308	3k3	LIMIT L/R	4	AIR6LIMT
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1	SW1B	S2-BBM	<<<root>>>	3	AIRTEQ6
1	SW2A	S4-BBM	LIMIT L/R	4	AIR6LIMT
1	SW2B	S4-BBM	LIMIT L/R	4	AIR6LIMT
1	SW2C	S4-BBM	LIMIT L/R	4	AIR6LIMT
1	SW2D	S4-BBM	LIMIT L/R	4	AIR6LIMT
1	SW3A	S2-BBM	<<<root>>>	3	AIRTEQ6
1	SW3B	S2-BBM	<<<root>>>	3	AIRTEQ6
1	SW4	31-261	<<<root>>>	3	AIRTEQ6
1	T1	BC337	<<<root>>>	3	AIRTEQ6
1	T2	BC327	LIMIT L/R	4	AIR6LIMT
1	T3	BC327	<<<root>>>	3	AIRTEQ6
1	T4	BC327	<<<root>>>	3	AIRTEQ6
1	T5	BC327	<<<root>>>	3	AIRTEQ6
1	T6	J112	<<<root>>>	3	AIRTEQ6
1	VR1	10k-TR	LIMIT L/R	4	AIR6LIMT
1	VR2	10k-TR	LIMIT L/R	4	AIR6LIMT

AIRTEQ

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FOR INTERNAL USE ONLY

Quantity	Reference	Part	Sheetname	Sheet#	Filename
1	CONN.1	MLX5578-34P	<<<root>>>	5	AIRTEQ7
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1	CONN.4	MLX5578-34P	<<<root>>>	5	AIRTEQ7
1	CONN.5	MLX90131-10P	<<<root>>>	5	AIRTEQ7
1	CONN.7	4p HDR	<<<root>>>	5	AIRTEQ7
1	CONN.8	4p HDR	<<<root>>>	5	AIRTEQ7
1	CONN.9	4p HDR	<<<root>>>	5	AIRTEQ7
1	CONN.10	4p HDR	<<<root>>>	5	AIRTEQ7
1	CONN.11	4p HDR	<<<root>>>	5	AIRTEQ7
1	CONN.12	MLX90131-10P	<<<root>>>	5	AIRTEQ7
1	C1	47/25	<<<root>>>	5	AIRTEQ7
1	C2	10n	<<<root>>>	5	AIRTEQ7
1	C3	4u7/63	<<<root>>>	5	AIRTEQ7
1	C4	22p	<<<root>>>	5	AIRTEQ7
1	C5	470n	<<<root>>>	5	AIRTEQ7
1	C6	10p	<<<root>>>	5	AIRTEQ7
1	C7	10p	<<<root>>>	5	AIRTEQ7
1	C8	47/25	<<<root>>>	5	AIRTEQ7
1	C10	10p	<<<root>>>	5	AIRTEQ7
1	C11	10p	<<<root>>>	5	AIRTEQ7
1	C12	47/25	<<<root>>>	5	AIRTEQ7
1	C13	47/25	<<<root>>>	5	AIRTEQ7
1	C14	47/25	<<<root>>>	5	AIRTEQ7
1	C15	47/25	<<<root>>>	5	AIRTEQ7
1	C16	47/25	<<<root>>>	5	AIRTEQ7
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1	C301	47/25	<<<root>>>	5	AIRTEQ7
1	C302	0.1u	<<<root>>>	5	AIRTEQ7
1	C303	0.1u	<<<root>>>	5	AIRTEQ7
1	C304	47/25	<<<root>>>	5	AIRTEQ7
1	C305	47/25	<<<root>>>	5	AIRTEQ7
1	C306	0.1u	<<<root>>>	5	AIRTEQ7
1	C307	0.1u	<<<root>>>	5	AIRTEQ7
1	C308	0.1u	<<<root>>>	5	AIRTEQ7
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1	C315	47/25	<<<root>>>	5	AIRTEQ7
1	C316	47/25	<<<root>>>	5	AIRTEQ7
1	C317	0.1u	<<<root>>>	5	AIRTEQ7
1	C318	0.1u	<<<root>>>	5	AIRTEQ7
1	D1	LED/GRN	<<<root>>>	5	AIRTEQ7
1	D2	LED/GRN	<<<root>>>	5	AIRTEQ7
1	D3	LED/GRN	<<<root>>>	5	AIRTEQ7
1	D4	LED/GRN	<<<root>>>	5	AIRTEQ7
1	D6	1N4148	<<<root>>>	5	AIRTEQ7
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1	D8	1n4148	<<<root>>>	5	AIRTEQ7
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1	D17	1n4148	<<<root>>>	5	AIRTEQ7
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1	D19	LED/GRN	<<<root>>>	5	AIRTEQ7
1	D20	1N4148	<<<root>>>	5	AIRTEQ7
1	D300	1N4003	<<<root>>>	5	AIRTEQ7
1	D301	1N4003	<<<root>>>	5	AIRTEQ7
1	D302	1N4003	<<<root>>>	5	AIRTEQ7
1	D303	1N4003	<<<root>>>	5	AIRTEQ7
1	D304	1N4003	<<<root>>>	5	AIRTEQ7
1	D305	1N4003	<<<root>>>	5	AIRTEQ7
1	IC-1A	NE5532AN	<<<root>>>	5	AIRTEQ7
1	IC-1B	NE5532AN	<<<root>>>	5	AIRTEQ7
1	IC-2A	TL072	<<<root>>>	5	AIRTEQ7
1	IC-2B	TL072	<<<root>>>	5	AIRTEQ7
1	IC-3A	4093	<<<root>>>	5	AIRTEQ7
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1	IC-8	7905	<<<root>>>	5	AIRTEQ7
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1	JMP4	SHUNT	<<<root>>>	5	AIRTEQ7
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1	M1	LL-5402	<<<root>>>	5	AIRTEQ7
1	P1	10KCB	<<<root>>>	5	AIRTEQ7
1	R1	3k9	<<<root>>>	5	AIRTEQ7
1	R2	47k	<<<root>>>	5	AIRTEQ7
1	R3	47k	<<<root>>>	5	AIRTEQ7
1	R4	22E	<<<root>>>	5	AIRTEQ7
1	R5	4k7	<<<root>>>	5	AIRTEQ7

Quantity	Reference	Part	Sheetname	Sheet#	Filename
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1	R7	22k	<<<root>>>	5	AIRTEQ7
1	R8	604E	<<<root>>>	5	AIRTEQ7
1	R9	22k	<<<root>>>	5	AIRTEQ7
1	R10	47k	<<<root>>>	5	AIRTEQ7
1	R12	22k	<<<root>>>	5	AIRTEQ7
1	R13	47k	<<<root>>>	5	AIRTEQ7
1	R14	47k	<<<root>>>	5	AIRTEQ7
1	R15	47k	<<<root>>>	5	AIRTEQ7
1	R16	47k	<<<root>>>	5	AIRTEQ7
1	R17	47k	<<<root>>>	5	AIRTEQ7
1	R18	47k	<<<root>>>	5	AIRTEQ7
1	R19	47k	<<<root>>>	5	AIRTEQ7
1	R20	47k	<<<root>>>	5	AIRTEQ7
1	R21	47k	<<<root>>>	5	AIRTEQ7
1	R22	10k	<<<root>>>	5	AIRTEQ7
1	R23	10k	<<<root>>>	5	AIRTEQ7
1	R24	100E	<<<root>>>	5	AIRTEQ7
1	R25	100E	<<<root>>>	5	AIRTEQ7
1	R26	2k7	<<<root>>>	5	AIRTEQ7
1	R27	2k7	<<<root>>>	5	AIRTEQ7
1	R28	2k7	<<<root>>>	5	AIRTEQ7
1	R29	2k7	<<<root>>>	5	AIRTEQ7
1	R30	2k7	<<<root>>>	5	AIRTEQ7
1	R31	10k	<<<root>>>	5	AIRTEQ7
1	R32	100k	<<<root>>>	5	AIRTEQ7
1	R33	100k	<<<root>>>	5	AIRTEQ7
1	R34	100k	<<<root>>>	5	AIRTEQ7
1	R35	100k	<<<root>>>	5	AIRTEQ7
1	R36	47k	<<<root>>>	5	AIRTEQ7
1	R37	10k	<<<root>>>	5	AIRTEQ7
1	R38	100E	<<<root>>>	5	AIRTEQ7
1	R39	20k0	<<<root>>>	5	AIRTEQ7
1	R40	20k0	<<<root>>>	5	AIRTEQ7
1	R41	1k5	<<<root>>>	5	AIRTEQ7
1	R42	680E	<<<root>>>	5	AIRTEQ7
1	R43	680E	<<<root>>>	5	AIRTEQ7
1	R44	680E	<<<root>>>	5	AIRTEQ7
1	R45	680E	<<<root>>>	5	AIRTEQ7
1	R46	680E	<<<root>>>	5	AIRTEQ7
1	R300	10E	<<<root>>>	5	AIRTEQ7
1	R301	10E	<<<root>>>	5	AIRTEQ7
1	R302	10E	<<<root>>>	5	AIRTEQ7
1	R303	10E	<<<root>>>	5	AIRTEQ7
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1	R305	1k	<<<root>>>	5	AIRTEQ7
1	SW1A	S2-BBM	<<<root>>>	5	AIRTEQ7
1	SW1B	S2-BBM	<<<root>>>	5	AIRTEQ7
1	SW2A	S2-BBM	<<<root>>>	5	AIRTEQ7
1	SW2B	S2-BBM	<<<root>>>	5	AIRTEQ7
1	SW3A	S2-BBM	<<<root>>>	5	AIRTEQ7
1	SW3B	S2-BBM	<<<root>>>	5	AIRTEQ7
1	SW4A	S2-BBM	<<<root>>>	5	AIRTEQ7

Quantity	Reference	Part	Sheetname	Sheet#	Filename
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1	SW5A	S2-BBM	<<<root>>>	5	AIRTEQ7
1	SW5B	S2-BBM	<<<root>>>	5	AIRTEQ7
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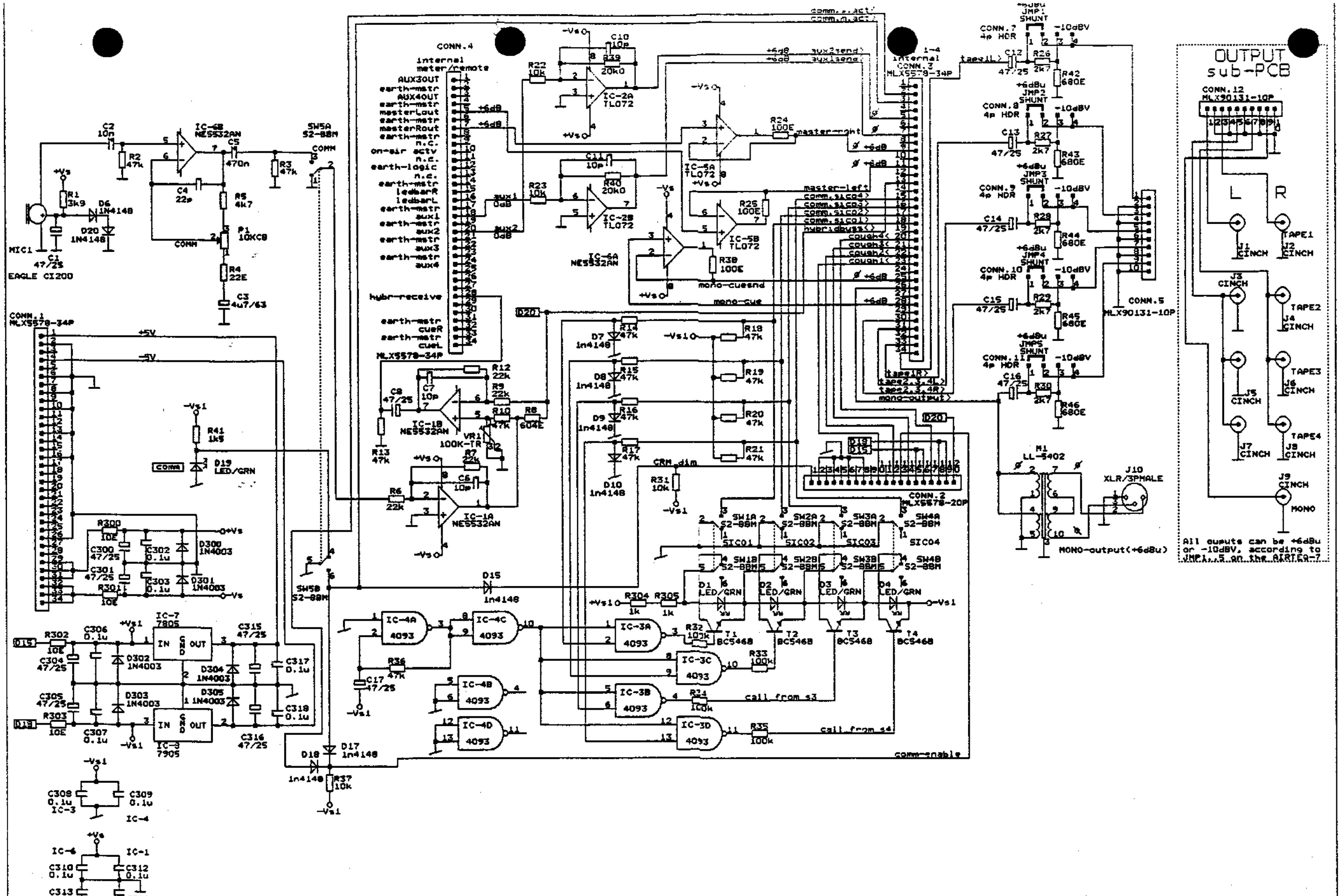
1	T2	BC546B	<<<root>>>	5	AIRTEQ7
1	T3	BC546B	<<<root>>>	5	AIRTEQ7
1	T4	BC546B	<<<root>>>	5	AIRTEQ7
1	VR1	100K-TR	<<<root>>>	5	AIRTEQ7



Rijnkade 15b 1382 GS WEESP Tel: 02940-18014 Fax: 02940-16987 Tlx: 18503 dr nl	THIS DRAWING REPLACES PREVIOUS ONES			AIRTEQ MASTER MODULE
	INDEX	o	a	Size B Document Number AIRTEQ-7 communication (airteq7) REV a
	MOD.BY		J. de Vries	
	DATE	07-02-89	05-07-89	
	DESIGN	J. de Vries		
Electronica bv HOLLAND	DRAWN	P. Hilcke	J. de Vries	Date: July 19, 1989 Sheet 5 of 7

AIRTEQ

AIRTEQ UPDATES.

Date: februari 1991

Removes current through faders to improve long term reliability of channel faders.

Airteq 1A:

Remove R92 (1K0) from PCB.
Remove C70/C71 (1u/63v) from PCB.
Change R94 (1K0) into 100KOhm.
Change R107 from 487E into 88E7.
Change R160 from 487E into 88E7.
Remove R103 (8K25) from PCB and replace by network of Zenerdiode 4V3, 2x 1n4148 diodes and resistors 22K and 2K7, see enclosed circuit diagram.

Airteq 2A

Remove R101 (1K0) from PCB
Remove C103/C104 (1u/63V) from PCB.
Change R103 (1K0) into 100KOhm.
Change R210 from 487E into 88E7.
Change R116 from 487E into 88E7.
Remove R 112/R135 (8k25) from PCB and replace by network of Zenerdiode 4V3, 2x 1n4148 diodes and resistors 22K and 2K7, see enclosed circuit diagram.

Airteq 3A

Remove R214 (1k0) from PCB.
Remove C103 (1u/63v) from PCB.
Change R 155 (487E) into 88E7.
Change R 218 (487E) into 88E7.
Remove R149 (8k25) from PCB and replace by network of Zenerdiode 4V3, 2x 1n4148 diodes and resistors 22K and 2K7, see enclosed circuit diagram.

D&R

MEMO

ATTN. AIRTEQ users

ANSWER.

FROM. R&D

O yes O no

SUBJECT. AIRTEQ-1a (mono-channel) pcb

DATE: 24 apr 1990

Number of corrections : 3

Date : 18 jan 1990
Purpose : Increase stability of the VCA (SHOULD ALWAYS BE CARRIED OUT!)
Number : 1
Correction : Add a polystyrene capacitor C42 with a value of 100nF

Date : 24 jan 1990
Purpose : Mic-on indicator, on the master-section and on the sico-buss, will lite if any MICROPHONE-channel is on, instead of only when the CRM-off button is pressed in a mic-channel.
Remark: for this correction to work, see also the correction on the AIRTEQ-6a (master) pcb !
Number : 2
Correction : Add a 12V (400mW) zenerdiode from the junction of R112 and S2 (CRM-off switch) to pin 3 of IC-13A.
The kathode of the zenerdiode should be connected to junction R112 and S2

Date : 24 apr 1990
Purpose : Apparently 'cracking' faders will behave normal again (SHOULD ALWAYS BE CARRIED OUT!)
Number : 16
Correction : Change R106 from 2k43 to 2k00
Change R107 from 162E to 487E
Change R108 from 48k7 to 24k3

Change R158 from 48k7 to 24k3
Change R159 from 2k43 to 2k00
Change R160 from 162E to 487E

D&R

MEMO

ATTN. AIRTEQ users

ANSWER.

FROM. R&D

O yes O no

SUBJECT. AIRTEQ-2a (stereo-channel) pcb

DATE: 24 apr 1990

Number of corrections : 3

Date : 18 jan 1990
Purpose : Increase stability of the VCA's (SHOULD ALWAYS BE CARRIED OUT!)
Number : 3
Correction : Add a polystyrene capacitor C82 with a value of 100nF
Add a polysterene capacitor C92 with a value of 100nF

Date : 18 jan 1990
Purpose : Increase stability of the VCA's
Number : 4
Correction : Change the 0 ohm resistor 51 DR by a resistor of 10k
Change the 0 ohm resistor 25 DR by a resistor of 10k

Date : 24 apr 1990
Purpose : Apparently 'cracking' faders will behave normal again
(SHOULD ALWAYS BE CARRIED OUT!)
Number : 17
Correction : Change R115 from 2k43 to 2k00
Change R116 from 162E to 487E
Change R117 from 48k7 to 24k3

Change R210 from 162E to 487E
Change R211 from 2k43 to 2k00
Change R212 from 48k7 to 24k3

B&R

MEMO

ATTN. AIRTEQ users

ANSWER.

FROM. R&D

O yes O no

SUBJECT. AIRTEQ-3a (telco-channel) pcb

DATE: 24 apr 1990

Number of corrections : 3

Date : 18 jan 1990
Purpose : Increase caller-level on the communication buss
Number : 5
Correction : Change R108 from 10k to 27k

Date : 24 jan 1990
Purpose : Reduce current through AFL-led (28mA -> 10mA)
Number : 6
Correction : Change R181 from 1k2 to 3k3

Date : 24 apr 1990
Purpose : Apparently 'cracking' faders will behave normal again
(SHOULD ALWAYS BE CARRIED OUT!)
Number : 18
Correction : Change R155 from 162E to 487E
Change R156 from 2k43 to 2k00
Change R157 from 48k7 to 24k3

Change R218 from 162E to 487E
Change R219 from 2k43 to 2k00
Change R220 from 48k7 to 24k3

D&R

MEMO

ATTN. AIRTEQ users

ANSWER.

FROM. R&D

O yes O no

SUBJECT. AIRTEQ-4a (master-oscillator) pcb

DATE: 27 feb 1990

Number of corrections : 0

Date : -- --- ----
Purpose :
Number : --
Correction :

B&R

MEMO

ATTN. AIRTEQ users

ANSWER.

FROM. R&D

O yes O no

SUBJECT. AIRTEQ-5a (master-cue/aux) pcb

DATE: 27 feb 1990

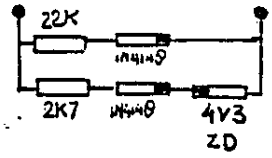
Number of corrections : 1

Date : 18 jan 1990
Purpose : The COMM. switch will mute the 'switched cue' output, during communication
Number : 7
Correction :
- Remove C18
- Disconnect pin 1 and pin 2 of IC-11A from the -Vs1
- Connect pin 1 of CONN.2 (digital connector) with pin1 and pin 2 of IC11-A
- Connect pin 3 of IC11-A to the kathode of a 1n4148 diode Connect the anode of this diode to pin 12 and pin 13 of IC11-D (and R45)

MEMO

AAN: TEST-PROD.-PB.
VAN: R&D
DAT. 12 FEB. 1991

MODIFICATIES

	UITGEVOERD			
	BESTUKBOEK	ORCAD	PADS	INKOOPCOMP
AIRTEQ 1a	X	X	X	
R 94 = 1K WORDT 100K				
C 70 = 1/63 VERVALLEN				
R 92 = 1K "				
R 160 = 487E 88E7				
R 107 = 487E 88E7				
C 71 = 1/63 VERVALLEN				
R103 = 8K25 "				
I.P.V. 8K25 WORDT ONDERSTAAND NETWERK GEPLAATST.				
 DIODEN WIJZEN NAAR ACHTERKANT PRINT				
AIRTEQ-2a	X	X	X	
R 101 = 1K WORDT VERVALLEN				
C103 = 1/63 "				
C104 = 1/63 "				
R103 = 1K 100K				
R210 = 487E 88E7				
R116 = 487E 88E7				
R112 = 8K25 VERVALLEN				
R135 = 8K25 "				
I.P.V. R112 en R135 WORDEN 2 NETWERKEN GEPLAATST. ZIE AIRTEQ 1A				
DE WEERSTANDEN WORDEN NAAR DE ACHTERKANT VAN DE PRINT GEPLAATST.				
AIRTEQ-3b	X	X	X	
R 214 = 1K WORDT VERVALLEN				
C103 = 1/63 "				
R155 = 487E 88E7				
R218 = 487E 88E7				
R149 = 8K25 VERVALLEN				
I.P.V. R149 NETWERK PLAATSEN				
DE DIODEN WIJZEN NAAR ACHTEKANT PRINT				

D&R MEMO

ATTN. AIRTEQ users — ANSWER.

FROM. R&D — O yes O no

SUBJECT. AIRTEQ-6a (master-duck/lim) pcb DATE: 27 feb 1990

Number of corrections : 2

Date : 18 jan 1990
Purpose : Increase the reliability of the MAIN-outputs
IC-3 may break down, at the time the powersupply is switched on
Remark: output-noise and/or distorsion will NOT be increased!
Number : 8
Correction : Change IC-3 from a NE5532-AP to a TL072-CP

Date : 24 jan 1990
Purpose : Mic-on indicator, on the master-section and on the sico-buss, will lite if any MICROPHONE-channel is on, instead of only when the CRM-off button is pressed in a mic-channel.
Remark: for this correction to work, see also the correction on the AIRTEQ-1a (mono-channel) pcb !
Number : 9
Correction : - Change R40 from 10k to 82k (Vpin6 of IC-4b will become -2 V)
- Connect a 100 ohm resistor to pin 19 of CONN.3
The other side of the 100 ohm resistor should be connected to pin 7 of IC-4B, by means of a wire.

D&R

MEMO

ATTN. AIRTEQ users

ANSWER.

FROM. R&D

O yes O no

SUBJECT. AIRTEQ-7a (master-communic) pcb DATE: 24 apr 1990

Number of corrections : 4

Date : 18 jan 1990
Purpose : Increase the communication microphone gain by 20dB
Number : 11b
Correction : Change R7 from 22k to 220k

Date : 18 jan 1990
Purpose : Make communication-switch 'momentary' instead of 'latching'
Number : 10
Correction : Remove the spring from switch SW5 (communication switch). Changing the whole switch is easier, then removing the spring only !

Date : 24 jan 1990
Purpose : The SICO-BOX can now select the TELCO-channel by a separate telco-button, instead of by the communication button.
Number : 15
Correction : Remove the pcb-track from pin 2 of CONN.3
Connect this track further to pin 1 of CONN3.
Now pin 2 of CONN.3 will be 'not connected' and pin 1 of CONN.3 will be connected to the anode of diode D18

Date : 24 apr 1990
Purpose : If ,on the SICO-box, the mixer/sico-communication-switch is activated, the possibility to communicate from the console to one of the TELCO-modules is disabled. This to avoid situations where 'speaker to microphone' feedback may occur.
Remark: for this correction to work, you should first make correction 15
Number : 19
Correction :
- Pin 5 and 6 from IC-4(B) should be disconnected from the logic-earth.
- Pin 5 and 6 should be connected to a resistor of 100k The other side of the 100k resistor should be connect to pin 7 (-Vs1) of IC-4(B).
- Connect pin 5 and 6 of IC-4(B) also to pin 2 of CONN.3
- Add a resistor of 47k, is series with pin 13 of CONN.2 and the junction of D18(cathode), D17(cathode) and R37.
- Add a diode (1n4148) with the cathode connected to pin 4 of IC-4(B) and the anode to pin 13 of CONN.2

B&R

MEMO

ATTN. AIRTEQ users

ANSWER.

FROM. R&D

O yes O no

SUBJECT. AIRTEQ-8a (master-crm) pcb

DATE: 27 feb 1990

Number of corrections : 4

Date : 18 jan 1990
Purpose : DIM the CRM-right output when communication takes place
Number : 11a
Correction : Change R99 and R100 from 39k to 680k

Date : 18 jan 1990
Purpose : keeps the 'dim-active led' working properly, when 3 TELCO-channels are connected to the digital buss.
Number : 12
Correction : Change transistor T7 from a BC327 to a BC516
Change transistor T9 from a BC337 to a BC517

Date : 18 jan 1990
Purpose : The CRM-right output will be dimmed, during communication, once (about 20dB), instead of twice (40dB).
Number : 13
Correction : - Disconnect pin 9 of IC11
- Connect pin 9 of IC11 with the collector of T7 and the anode of diode D27.
- Add a resistor of 47k between pin 9 of IC11 and the logic-ground (!)

Date : 24 jan 1990
Purpose : The control line to activate the mic-on lamp on the sico-box will now be controlled from the AIRTEQ-6a pcb.
Number : 14
Correction : Remove R45 (100 ohm)

ALIGNMENT TELCO MODULE

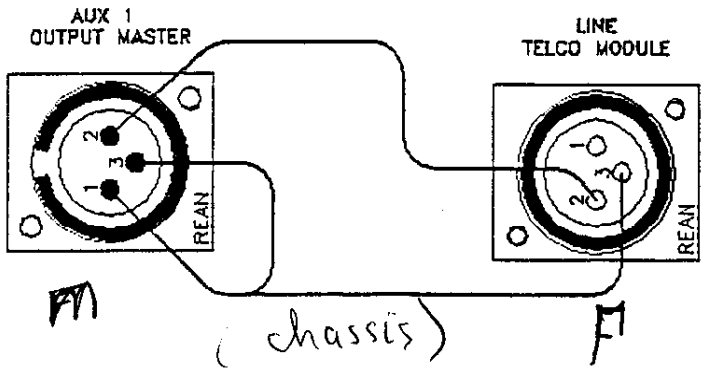
ALIGNMENT COMM.

All controlls of the Airteq console has to be set as described below:

- Panpots centre position
- Faders down
- Equalizers centre position
- All switches up position
- Hi/lo filter in Telco module to 30Hz and 20kHz.
- All other controls fully counterclockwise.
- No led is lit on the whole Airteq.

Now a step by step procedure has to be carried out.

- "TONE ON" on mastersection has to be activated.
- "TO AUX" on mastersection has to be activated.
- "1 KHZ" on mastersection has to be activated.
- "CUE AUX1" on mastersection has to be activated.
- "MASTER AUX1" control fully clockwise.
- "AUTO CUE" on mastersection has to be activated.
- The signal has to be set to -10dB on the left ledbar by adjusting the "tone" control to the one o'clock position.
- Release the "CUE AUX1" switch on the master section.
- Now connect the Aux master output to the line input of one of the Telco modules (See connection in the manual).



- Activate "CONNECT" switch on the Telco module.
- Activate "COMM" switch on the master section.
- Activate "COMM" switch on the Telco module.
  (The Comm volume control has to be set fully counterclockwise)

- Activate "AFL" switch on the Telco module.

- The "Telco Send" volume control has to be set fully clockwise.

- The left ledbar indicates now the signal full scale.

- Adjust the "COMM" trimpot on the backpanel of the Telco module (above the R-bal trimpot) so that no indication is seen on the ledbar. (This has to be done very carefully).

NOTE: Do not be misleaded by the ledbar still indicating some level. The reason lies in the internal electret microphone giving signal to the output, even when its volume control is set fully counterclockwise.

ALIGNMENT ON THE MASTER MODULE

ALIGNMENT COMM.

Adjust the "comm.imp.adj." on the back of the master-section, by using a headphone (connected to the phones output).

- The "CRM-phones" control should be set at 3 o'clock.

- The "COMM" control should be set fully clockwise.

- Press the COMM. switch and start talking into the electret microphone.

- Now adjust the "comm.imp.adj" trimpot (above the tape ouputs) in such a way, that you reduce the level (of yourself) you'll hear to a minimum.

* Due to the fact that every connected Telco module and SiCo box influences the alignment you must connect all purchased Telco modules and SiCo boxes. When anything changes in the number of connected SiCo boxes and Telco modules, the alignment procedure has to be done from scratch.

ALIGNMENT OF AIRTEQ TELCO MODULE

date: 18 jan '90
doc.: TELCO

Before you can start aligning the Telco module, you must remove the cleanfeed jumpers CF1, CF2 and CF3 from masterprint 4. Masterprint 4 is the printed circuit board mounted beneath the tone generator.

The cleanfeed jumpers on the Telco modules (this could be a maximum of 3) have to be set accordingly the number of modules installed.

One Telco module

	Hybrid send conn 8	Hybrid receive conn 9
CF 1		*
CF 2	*	
CF 3	*	-

Two Telco modules

	Hybrid send conn 8	Hybrid receive conn 9
CF 1	*	
CF 2		*
CF 3	*	

Three Telco modules

	Hybrid send conn 8	Hybrid receive conn 9
CF 1	*	
CF 2	*	
CF 3		*

* indicates place of jumper

Due to the fact that every connected Telco module and SiCo box influences the alignment you must connect all purchased Telco modules and SiCo boxes. When anything changes in the number of connected SiCo boxes and Telco modules, the alignment procedure has to be done from scratch.

NOTE: During initial set up no telephone sets must be connected to the Telco module.

If more than one Telco module has to be trimmed only one connect switch should be activated at the time.

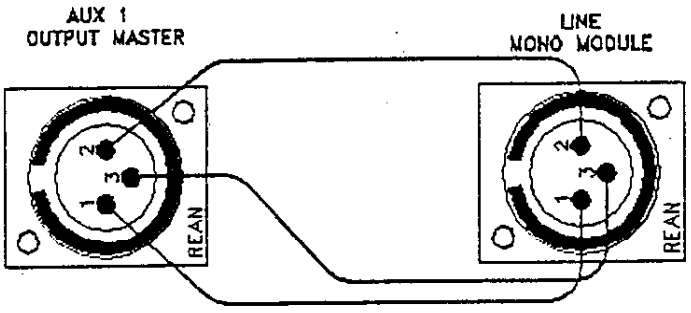
ALIGNMENT TELCO MODULE

ADJUSTMENT OF R AND C BALANCE

- Set all controls in the neutral position as described above in the "Alignment Telco Module" procedure.

Now the alignment is described step by step.

- Activate "TONE ON" on master section.
- Activate "TO AUX" on master section.
- Activate "1KZH" on master section.
- Activate "CUE AUX1" on master section.
- Turn the Aux 1 master control fully clockwise.
- Activate the "AUTOCUE" on the master section.
- Now adjust the "TONE" control untill the ledbar gives a 0dB reading on it's scale. (Tone control around the 3 o'clock position).
- De-activate the "CUE AUX1" on the master section.
- Now connect the AUX 1 output on the master section to the line input of a microphone/line channel.



Settings of mono mic/line channel

- Activate "CUE" switch.
- Fader fully down.
- Activate line switch.
- Adjust gain control untill a 0dB reading is seen on the left ledbar.
- Activate "ON" switch on mic/line channel.
- Adjust fader so a reading of 0dB is seen on the right ledbar.
- Now connect the telephone set and the telephone line to the Telco module.
- Now call up a caller with the telephone set.
- Activate "CONNECT" after the caller has picked up his phone.
- Activate the "AFL" switch.
- Adjust the "Telco Send" control so, a reading of 0dB is seen on the left ledbar.
- Release the "AFL" switch on the Telco module.
- Activate the "CUE" switch on the Telco module.
- Now turn the gain control of the Telco module fully clockwise.
- Now adjust the "R-bal" trimmer on the back of the Telco module, so a minimum reading on the left ledbar is achieved (-10dB).

NOTE: During these adjustments no conversation has to be taken place. It is not possible to fully attenuate the signal, only 20dB to 25dB is possible, because of complex varying impedances, dependant upon frequencies and inductances.

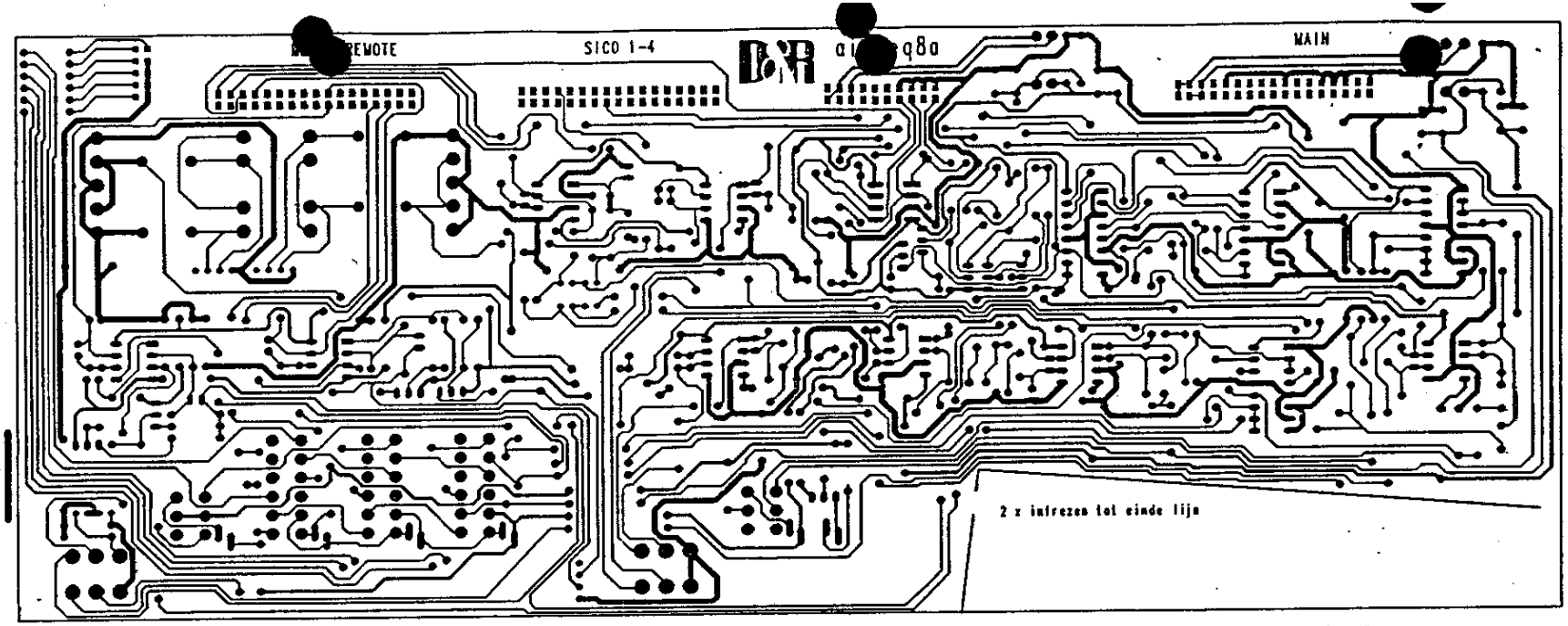
If the "R-bal" (means balance) can not be aligned properly, change the jumper setting of the "C-bal" on the Telco Module (connector 3). This connector is positioned beneath the "Telco-Send" control. After this new setting of, you can again adjust the ledbar reading to its minimum. This adjustment has to be performed once!

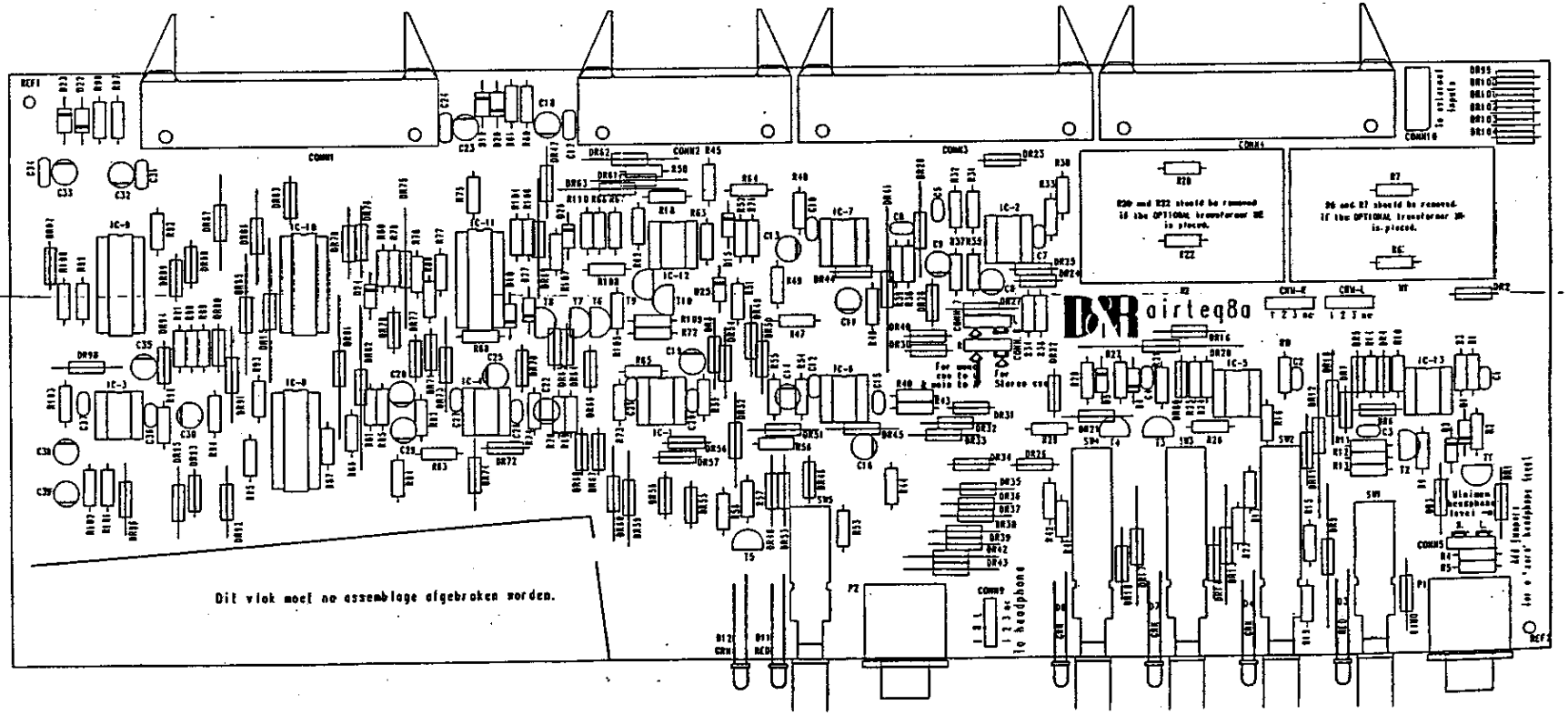
D & R Electronica b.v.
Rijnkade 15b
1382 GS WEESP HOLLAND
tel 02940-18014
fax 02940-16987

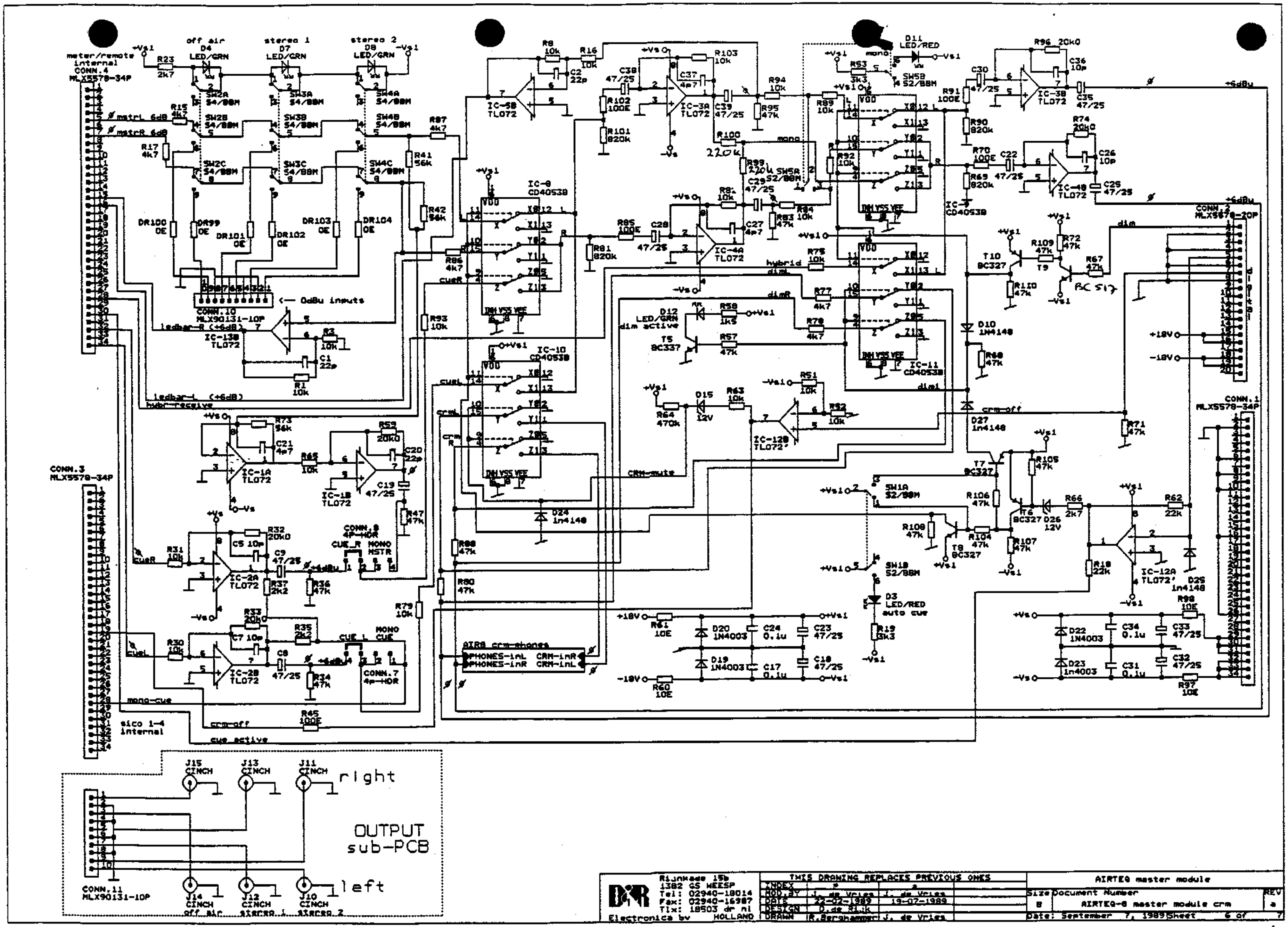
AIRTEQ

8

FOR INTERNAL USE ONLY

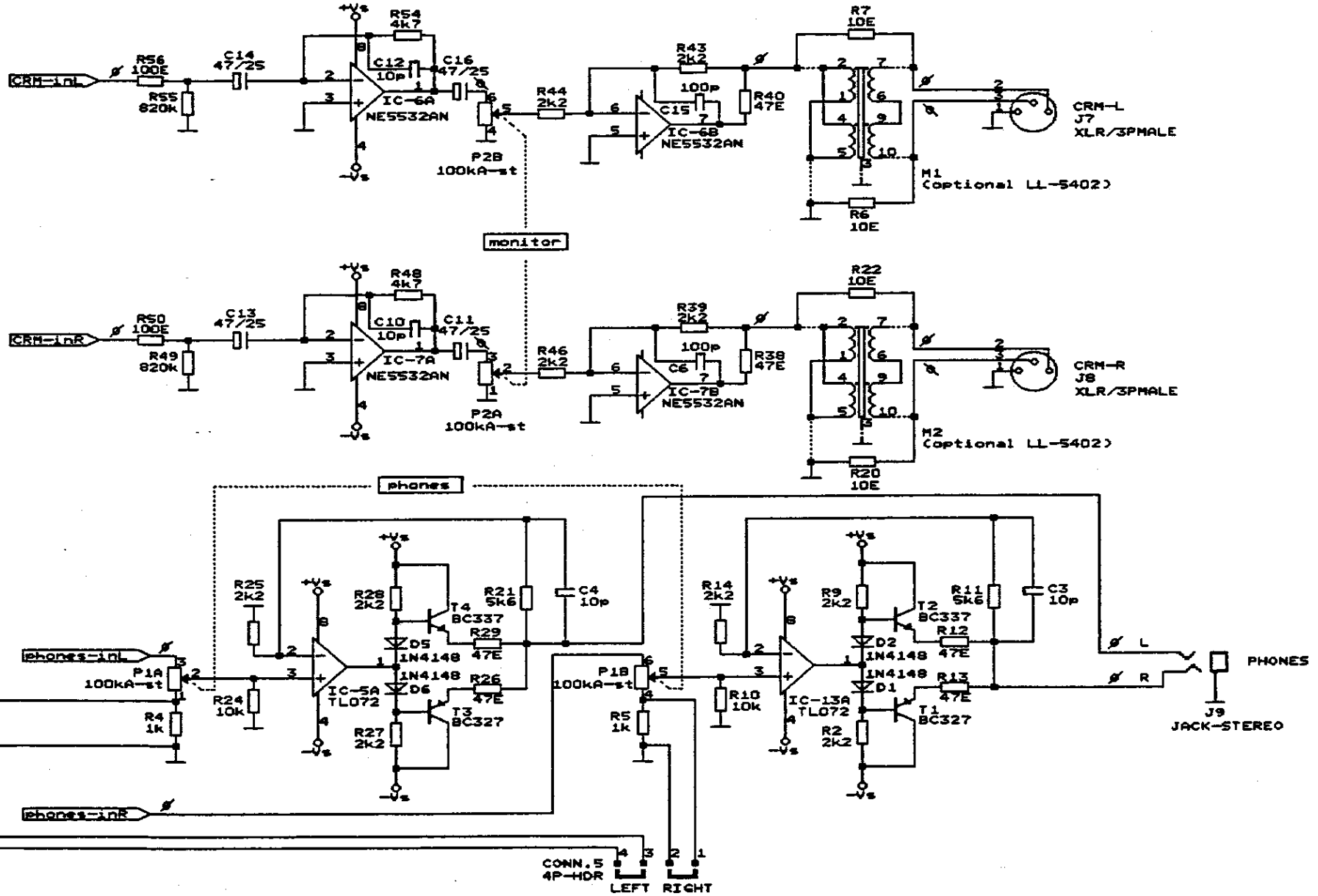

REMOTE
SICO 1-4
MAIN
2 x infrezen tot einde lijn


Dit vlak moet na assemblage afgebroken worden.



Rijnkade 15b 1382 GS WEESP Tel: 02940-18014 Fax: 02940-16987 Tlx: 18503 dr nl	THIS DRAWING REPLACES PREVIOUS ONES			
	INDEX	P	a	
	MOD.BY	J. de Vries	J. de Vries	
	DATE	22-02-1989	19-07-1989	
	DESIGN	D.de Rijk		
Electronica bv HOLLAND	DRAWN	R.Berghammer	J. de Vries	

AIRTEQ master module		
Size	Document Number	REV
B	AIRTEQ-8 master module crm	a
Date: September 7, 1989	Sheet 6 of 7	



Rijnkade 15b
1382 GS WEESP
Tel: 02940-18014
Fax: 02940-16987
Electronica by HOLLAND

THIS DRAWING REPLACES PREVIOUS ONES		
INDEX	a	a
MOD.BY	J. de vries	J. de vries
DATE	28-02-1989	19-07-1089
DESIGN	D. de Rijk	
DRAWN	R.Berghammer	J. de vries

AIRTEQ master module

Size	Document Number	REV
A	AIRTEQ-8 CRM/PHONES	a

Date: July 25, 1989 Sheet 7 of 7

Quantity	Reference	Part	Sheetname	Sheet#	Filename
1	CONN.1	MLX5578-34P	<<<root>>>	6	AIRTEQ8
1	CONN.2	MLX5578-20P	<<<root>>>	6	AIRTEQ8
1	CONN.3	MLX5578-34P	<<<root>>>	6	AIRTEQ8
1	CONN.4	MLX5578-34P	<<<root>>>	6	AIRTEQ8
1	CONN.5	4P-HDR	AIR8 crm-phones	7	AIR8-CRM
1	CONN.7	4p-HDR	<<<root>>>	6	AIRTEQ8
1	CONN.8	4P-HDR	<<<root>>>	6	AIRTEQ8
1	CONN.10	MLX90131-10P	<<<root>>>	6	AIRTEQ8
1	C1	22p	<<<root>>>	6	AIRTEQ8
1	C2	22p	<<<root>>>	6	AIRTEQ8
1	C3	10p	AIR8 crm-phones	7	AIR8-CRM
1	C4	10p	AIR8 crm-phones	7	AIR8-CRM
1	C5	10p	<<<root>>>	6	AIRTEQ8
1	C6	100p	AIR8 crm-phones	7	AIR8-CRM
1	C7	10p	<<<root>>>	6	AIRTEQ8
1	C8	47/25	<<<root>>>	6	AIRTEQ8
1	C9	47/25	<<<root>>>	6	AIRTEQ8
1	C10	10p	AIR8 crm-phones	7	AIR8-CRM
1	C11	47/25	AIR8 crm-phones	7	AIR8-CRM
1	C12	10p	AIR8 crm-phones	7	AIR8-CRM
1	C13	47/25	AIR8 crm-phones	7	AIR8-CRM
1	C14	47/25	AIR8 crm-phones	7	AIR8-CRM
1	C15	100p	AIR8 crm-phones	7	AIR8-CRM
1	C16	47/25	AIR8 crm-phones	7	AIR8-CRM
1	C17	0.1u	<<<root>>>	6	AIRTEQ8
1	C18	47/25	<<<root>>>	6	AIRTEQ8
1	C19	47/25	<<<root>>>	6	AIRTEQ8
1	C20	22p	<<<root>>>	6	AIRTEQ8
1	C21	4p7	<<<root>>>	6	AIRTEQ8
1	C22	47/25	<<<root>>>	6	AIRTEQ8
1	C23	47/25	<<<root>>>	6	AIRTEQ8
1	C24	0.1u	<<<root>>>	6	AIRTEQ8
1	C25	47/25	<<<root>>>	6	AIRTEQ8
1	C26	10p	<<<root>>>	6	AIRTEQ8
1	C27	4p7	<<<root>>>	6	AIRTEQ8
1	C28	47/25	<<<root>>>	6	AIRTEQ8
1	C29	47/25	<<<root>>>	6	AIRTEQ8
1	C30	47/25	<<<root>>>	6	AIRTEQ8
1	C31	0.1u	<<<root>>>	6	AIRTEQ8
1	C32	47/25	<<<root>>>	6	AIRTEQ8
1	C33	47/25	<<<root>>>	6	AIRTEQ8
1	C34	0.1u	<<<root>>>	6	AIRTEQ8
1	C35	47/25	<<<root>>>	6	AIRTEQ8
1	C36	10p	<<<root>>>	6	AIRTEQ8
1	C37	4p7	<<<root>>>	6	AIRTEQ8
1	C38	47/25	<<<root>>>	6	AIRTEQ8
1	C39	47/25	<<<root>>>	6	AIRTEQ8
1	DR99	0E	<<<root>>>	6	AIRTEQ8
1	DR100	0E	<<<root>>>	6	AIRTEQ8
1	DR101	0E	<<<root>>>	6	AIRTEQ8
1	DR102	0E	<<<root>>>	6	AIRTEQ8
1	DR103	0E	<<<root>>>	6	AIRTEQ8
1	DR104	0E	<<<root>>>	6	AIRTEQ8

AIRTEQ

9

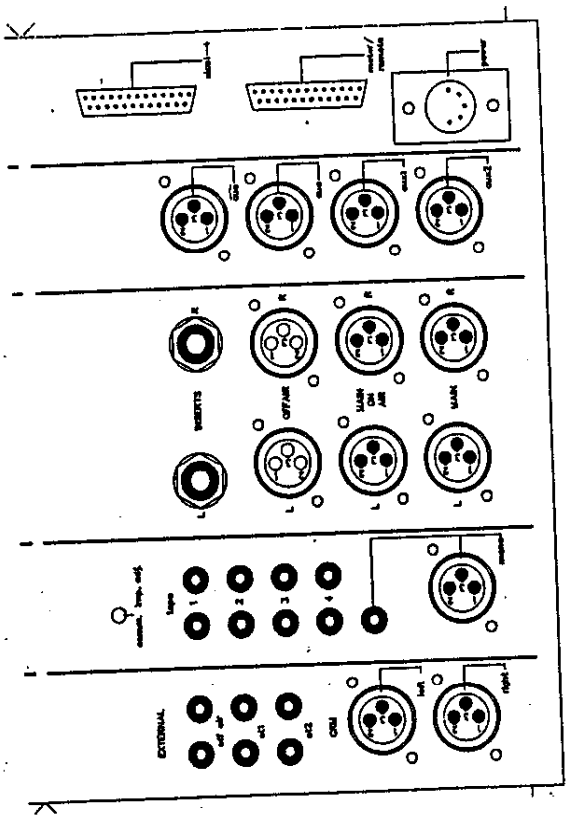
FOR INTERNAL USE ONLY

Quantity	Reference	Part	Sheetname	Sheet#	Filename
1	D1	1N4148	AIR8 crm-phones	7	AIR8-CRM
1	D2	1N4148	AIR8 crm-phones	7	AIR8-CRM
1	D3	LED/RED	<<<root>>>	6	AIRTEQ8
1	D4	LED/GRN	<<<root>>>	6	AIRTEQ8
1	D5	1N4148	AIR8 crm-phones	7	AIR8-CRM
1	D6	1N4148	AIR8 crm-phones	7	AIR8-CRM
1	D7	LED/GRN	<<<root>>>	6	AIRTEQ8
1	D8	LED/GRN	<<<root>>>	6	AIRTEQ8
1	D10	1N4148	<<<root>>>	6	AIRTEQ8
1	D11	LED/RED	<<<root>>>	6	AIRTEQ8
1	D12	LED/GRN	<<<root>>>	6	AIRTEQ8
1	D15	12V	<<<root>>>	6	AIRTEQ8
1	D19	1N4003	<<<root>>>	6	AIRTEQ8
1	D20	1N4003	<<<root>>>	6	AIRTEQ8
1	D22	1N4003	<<<root>>>	6	AIRTEQ8
1	D23	1n4003	<<<root>>>	6	AIRTEQ8
1	D24	1n4148	<<<root>>>	6	AIRTEQ8
1	D25	1n4148	<<<root>>>	6	AIRTEQ8
1	D26	12V	<<<root>>>	6	AIRTEQ8
1	D27	1n4148	<<<root>>>	6	AIRTEQ8
1	IC-1A	TL072	<<<root>>>	6	AIRTEQ8
1	IC-1B	TL072	<<<root>>>	6	AIRTEQ8
1	IC-2A	TL072	<<<root>>>	6	AIRTEQ8
1	IC-2B	TL072	<<<root>>>	6	AIRTEQ8
1	IC-3A	TL072	<<<root>>>	6	AIRTEQ8
1	IC-3B	TL072	<<<root>>>	6	AIRTEQ8
1	IC-4A	TL072	<<<root>>>	6	AIRTEQ8
1	IC-4B	TL072	<<<root>>>	6	AIRTEQ8
1	IC-5A	TL072	AIR8 crm-phones	7	AIR8-CRM
1	IC-5B	TL072	<<<root>>>	6	AIRTEQ8
1	IC-6A	NE5532AN	AIR8 crm-phones	7	AIR8-CRM
1	IC-6B	NE5532AN	AIR8 crm-phones	7	AIR8-CRM
1	IC-7A	NE5532AN	AIR8 crm-phones	7	AIR8-CRM
1	IC-7B	NE5532AN	AIR8 crm-phones	7	AIR8-CRM
1	IC-8	CD4053B	<<<root>>>	6	AIRTEQ8
1	IC-9	CD4053B	<<<root>>>	6	AIRTEQ8
1	IC-10	CD4053B	<<<root>>>	6	AIRTEQ8
1	IC-11	CD4053B	<<<root>>>	6	AIRTEQ8
1	IC-12A	TL072'	<<<root>>>	6	AIRTEQ8
1	IC-12B	TL072'	<<<root>>>	6	AIRTEQ8
1	IC-13A	TL072	AIR8 crm-phones	7	AIR8-CRM
1	IC-13B	TL072	<<<root>>>	6	AIRTEQ8
1	J7	XLR/3PMALE	AIR8 crm-phones	7	AIR8-CRM
1	J8	XLR/3PMALE	AIR8 crm-phones	7	AIR8-CRM
1	J9	JACK-STEREO	AIR8 crm-phones	7	AIR8-CRM
1	M1	(optional LL-5402)	AIR8 crm-phones	7	AIR8-CRM
1	M2	(optional LL-5402)	AIR8 crm-phones	7	AIR8-CRM
1	P1A	100kA-st	AIR8 crm-phones	7	AIR8-CRM
1	P1B	100kA-st	AIR8 crm-phones	7	AIR8-CRM
1	P2A	100kA-st	AIR8 crm-phones	7	AIR8-CRM
1	P2B	100kA-st	AIR8 crm-phones	7	AIR8-CRM
1	R1	10k	<<<root>>>	6	AIRTEQ8
1	R2	2k2	AIR8 crm-phones	7	AIR8-CRM

Quantity	Reference	Part	Sheetname	Sheet#	Filename
1	R3	10k	<<<root>>>	6	AIRTEQ8
1	R4	1k	AIR8 crm-phones	7	AIR8-CRM
1	R5	1k	AIR8 crm-phones	7	AIR8-CRM
1	R6	10E	AIR8 crm-phones	7	AIR8-CRM
1	R7	10E	AIR8 crm-phones	7	AIR8-CRM
1	R8	10k	<<<root>>>	6	AIRTEQ8
1	R9	2k2	AIR8 crm-phones	7	AIR8-CRM
1	R10	10k	AIR8 crm-phones	7	AIR8-CRM
1	R11	5k6	AIR8 crm-phones	7	AIR8-CRM
1	R12	47E	AIR8 crm-phones	7	AIR8-CRM
1	R13	47E	AIR8 crm-phones	7	AIR8-CRM
1	R14	2k2	AIR8 crm-phones	7	AIR8-CRM
1	R15	4k7	<<<root>>>	6	AIRTEQ8
1	R16	10k	<<<root>>>	6	AIRTEQ8
1	R17	4k7	<<<root>>>	6	AIRTEQ8
1	R18	22k	<<<root>>>	6	AIRTEQ8
1	R19	3k3	<<<root>>>	6	AIRTEQ8
1	R20	10E	AIR8 crm-phones	7	AIR8-CRM
1	R21	5k6	AIR8 crm-phones	7	AIR8-CRM
1	R22	10E	AIR8 crm-phones	7	AIR8-CRM
1	R23	2k7	<<<root>>>	6	AIRTEQ8
1	R24	10k	AIR8 crm-phones	7	AIR8-CRM
1	R25	2k2	AIR8 crm-phones	7	AIR8-CRM
1	R26	47E	AIR8 crm-phones	7	AIR8-CRM
1	R27	2k2	AIR8 crm-phones	7	AIR8-CRM
1	R28	2k2	AIR8 crm-phones	7	AIR8-CRM
1	R29	47E	AIR8 crm-phones	7	AIR8-CRM
1	R30	10k	<<<root>>>	6	AIRTEQ8
1	R31	10k	<<<root>>>	6	AIRTEQ8
1	R32	20k0	<<<root>>>	6	AIRTEQ8
1	R33	20k0	<<<root>>>	6	AIRTEQ8
1	R34	47k	<<<root>>>	6	AIRTEQ8
1	R35	2k2	<<<root>>>	6	AIRTEQ8
1	R36	47k	<<<root>>>	6	AIRTEQ8
1	R37	2k2	<<<root>>>	6	AIRTEQ8
1	R38	47E	AIR8 crm-phones	7	AIR8-CRM
1	R39	2k2	AIR8 crm-phones	7	AIR8-CRM
1	R40	47E	AIR8 crm-phones	7	AIR8-CRM
1	R41	56k	<<<root>>>	6	AIRTEQ8
1	R42	56k	<<<root>>>	6	AIRTEQ8
1	R43	2k2	AIR8 crm-phones	7	AIR8-CRM
1	R44	2k2	AIR8 crm-phones	7	AIR8-CRM
1	R45	100E	<<<root>>>	6	AIRTEQ8
1	R46	2k2	AIR8 crm-phones	7	AIR8-CRM
1	R47	47k	<<<root>>>	6	AIRTEQ8
1	R48	4k7	AIR8 crm-phones	7	AIR8-CRM
1	R49	820k	AIR8 crm-phones	7	AIR8-CRM
1	R50	100E	AIR8 crm-phones	7	AIR8-CRM
1	R51	10k	<<<root>>>	6	AIRTEQ8
1	R52	10k	<<<root>>>	6	AIRTEQ8
1	R53	3k3	<<<root>>>	6	AIRTEQ8
1	R54	4k7	AIR8 crm-phones	7	AIR8-CRM
1	R55	820k	AIR8 crm-phones	7	AIR8-CRM

Quantity	Reference	Part	Sheetname	Sheet#	Filename
1	R56	100E	AIR8 crm-phones	7	AIR8-CRM
1	R57	47k	<<<root>>>	6	AIRTEQ8
1	R58	1k5	<<<root>>>	6	AIRTEQ8
1	R59	20k0	<<<root>>>	6	AIRTEQ8
1	R60	10E	<<<root>>>	6	AIRTEQ8
1	R61	10E	<<<root>>>	6	AIRTEQ8
1	R62	22k	<<<root>>>	6	AIRTEQ8
1	R63	10k	<<<root>>>	6	AIRTEQ8
1	R64	470k	<<<root>>>	6	AIRTEQ8
1	R65	10k	<<<root>>>	6	AIRTEQ8
1	R66	2k7	<<<root>>>	6	AIRTEQ8
1	R67	47k	<<<root>>>	6	AIRTEQ8
1	R68	47k	<<<root>>>	6	AIRTEQ8
1	R69	820k	<<<root>>>	6	AIRTEQ8
1	R70	100E	<<<root>>>	6	AIRTEQ8
1	R71	47k	<<<root>>>	6	AIRTEQ8
1	R72	47k	<<<root>>>	6	AIRTEQ8
1	R73	56k	<<<root>>>	6	AIRTEQ8
1	R74	20k0	<<<root>>>	6	AIRTEQ8
1	R75	10k	<<<root>>>	6	AIRTEQ8
1	R77	4k7	<<<root>>>	6	AIRTEQ8
1	R78	4k7	<<<root>>>	6	AIRTEQ8
1	R79	10k	<<<root>>>	6	AIRTEQ8
1	R80	47k	<<<root>>>	6	AIRTEQ8
1	R81	820k	<<<root>>>	6	AIRTEQ8
1	R82	10k	<<<root>>>	6	AIRTEQ8
1	R83	47k	<<<root>>>	6	AIRTEQ8
1	R84	10k	<<<root>>>	6	AIRTEQ8
1	R85	100E	<<<root>>>	6	AIRTEQ8
1	R86	4k7	<<<root>>>	6	AIRTEQ8
1	R87	4k7	<<<root>>>	6	AIRTEQ8
1	R88	47k	<<<root>>>	6	AIRTEQ8
1	R89	10k	<<<root>>>	6	AIRTEQ8
1	R90	820k	<<<root>>>	6	AIRTEQ8
1	R91	100E	<<<root>>>	6	AIRTEQ8
1	R92	10k	<<<root>>>	6	AIRTEQ8
1	R93	10k	<<<root>>>	6	AIRTEQ8
1	R94	10k	<<<root>>>	6	AIRTEQ8
1	R95	47k	<<<root>>>	6	AIRTEQ8
1	R96	20k0	<<<root>>>	6	AIRTEQ8
1	R97	10E	<<<root>>>	6	AIRTEQ8
1	R98	10E	<<<root>>>	6	AIRTEQ8
1	R99	39k	<<<root>>>	6	AIRTEQ8
1	R100	39k	<<<root>>>	6	AIRTEQ8
1	R101	820k	<<<root>>>	6	AIRTEQ8
1	R102	100E	<<<root>>>	6	AIRTEQ8
1	R103	10k	<<<root>>>	6	AIRTEQ8
1	R104	47k	<<<root>>>	6	AIRTEQ8
1	R105	47k	<<<root>>>	6	AIRTEQ8
1	R106	47k	<<<root>>>	6	AIRTEQ8
1	R107	47k	<<<root>>>	6	AIRTEQ8
1	R108	47k	<<<root>>>	6	AIRTEQ8
1	R109	47k	<<<root>>>	6	AIRTEQ8

Quantity	Reference	Part	Sheetname	Sheet#	Filename
1	R110	47k	<<<root>>>	6	AIRTEQ8
1	SW1A	S2/BBM	<<<root>>>	6	AIRTEQ8
1	SW1B	S2/BBM	<<<root>>>	6	AIRTEQ8
1	SW2A	S4/BBM	<<<root>>>	6	AIRTEQ8
1	SW2B	S4/BBM	<<<root>>>	6	AIRTEQ8
1	SW2C	S4/BBM	<<<root>>>	6	AIRTEQ8
1	SW3A	S4/BBM	<<<root>>>	6	AIRTEQ8
1	SW3B	S4/BBM	<<<root>>>	6	AIRTEQ8
1	SW3C	S4/BBM	<<<root>>>	6	AIRTEQ8
1	SW4A	S4/BBM	<<<root>>>	6	AIRTEQ8
1	SW4B	S4/BBM	<<<root>>>	6	AIRTEQ8
1	SW4C	S4/BBM	<<<root>>>	6	AIRTEQ8
1	SW5A	S2/BBM	<<<root>>>	6	AIRTEQ8
1	SW5B	S2/BBM	<<<root>>>	6	AIRTEQ8
1	T1	BC327	AIR8 crm-phones	7	AIR8-CRM
1	T2	BC337	AIR8 crm-phones	7	AIR8-CRM
1	T3	BC327	AIR8 crm-phones	7	AIR8-CRM
1	T4	BC337	AIR8 crm-phones	7	AIR8-CRM
1	T5	BC337	<<<root>>>	6	AIRTEQ8
1	T6	BC327	<<<root>>>	6	AIRTEQ8
1	T7	BC327	<<<root>>>	6	AIRTEQ8
1	T8	BC327	<<<root>>>	6	AIRTEQ8
1	T9	BC337	<<<root>>>	6	AIRTEQ8
1	T10	BC327	<<<root>>>	6	AIRTEQ8



AIRTEQ MASTERMODULE
BACKVIEW

JACK
SLEEVE=EARTH
RING=OUTPUT (SEND)
TIP =INPUT (RECEIVE)

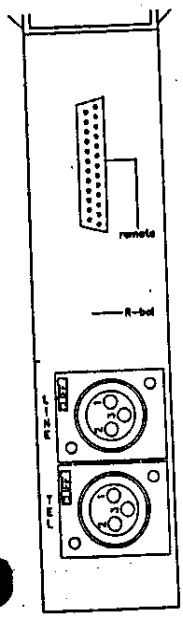
XLR FEMALE (INPUT)
1=EARTH
2=IN-PHASE
3=OUT-PHASE

XLR MALE (OUTPUT)
1=EARTH
2=IN-PHASE
3=OUT-PHASE

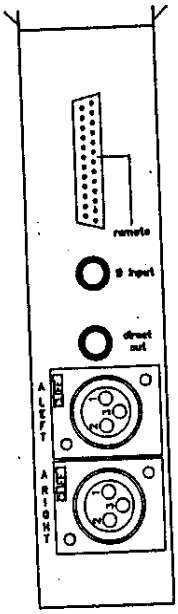
CUE/CUE
1=EARTH
2=LEFT-IN-PHASE
3=RIGHT-IN-PHASE

CINCH
TAPE 1/2/3/4 = OUTPUT
OFFAIR/ST1/ST2= INPUT

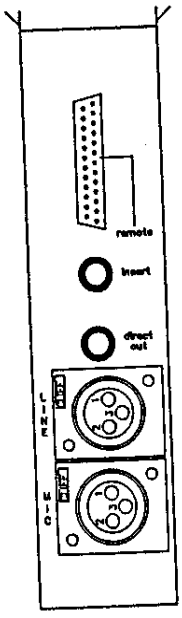
AIRTEQ
TELCO MODULE

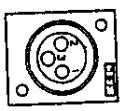


AIRTEQ
STEREO MODULE



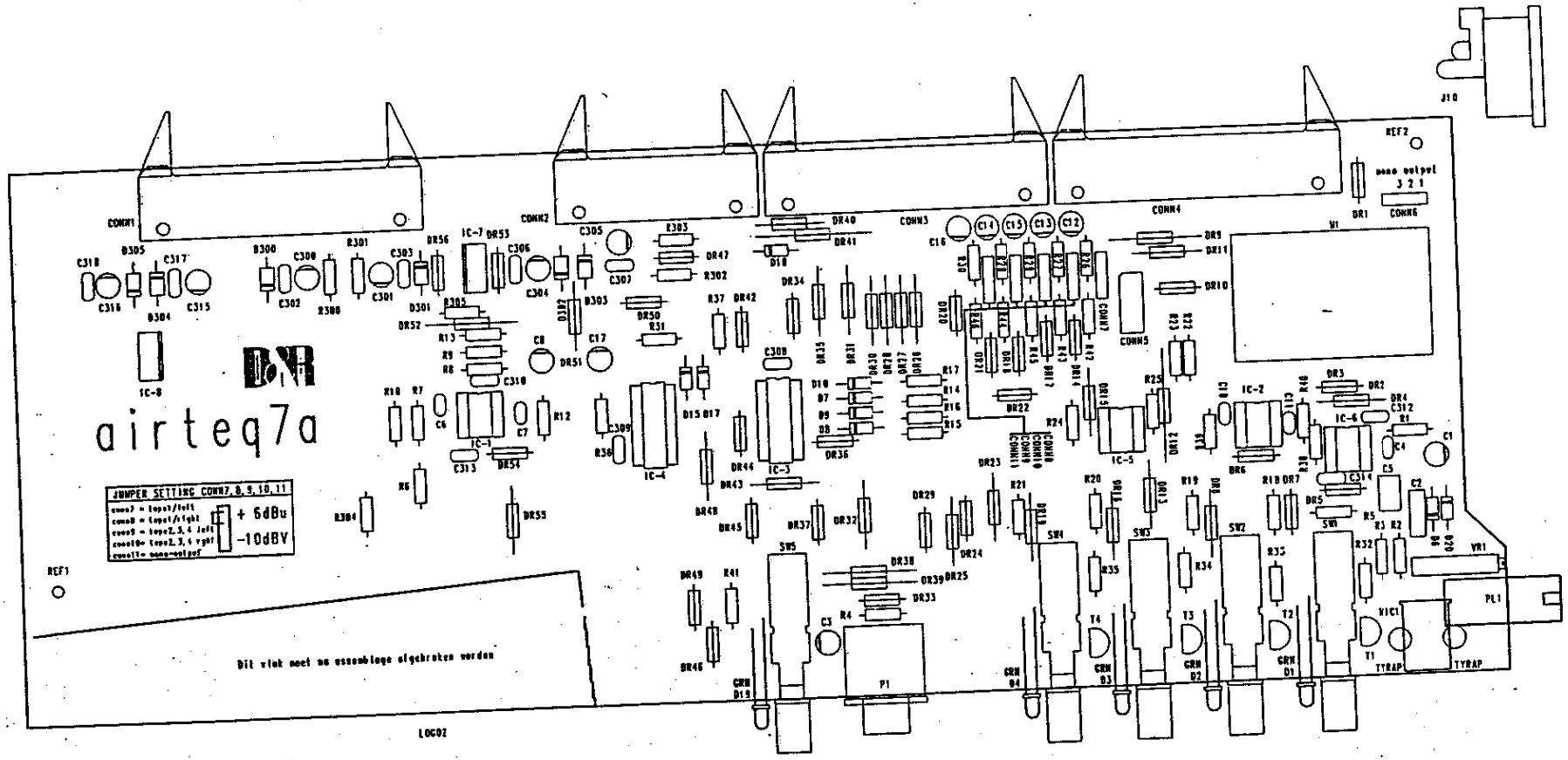
AIRTEQ
MONO MODULE

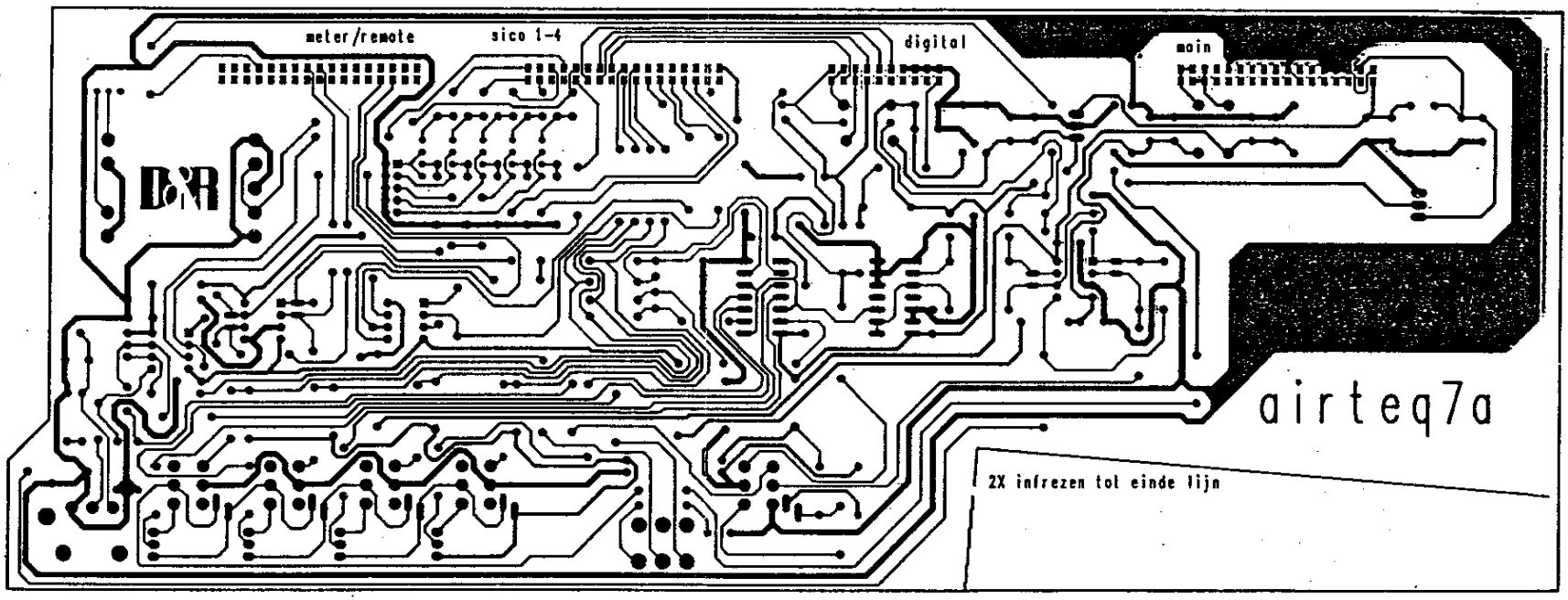




XLR FEMALE (INPUT)
1=EARTH
2=IN-PHASE
3=OUT-PHASE

JACK
SLEEVE=EARTH
RING=OUTPUT (SEND)
TIP =INPUT (RECEIVE)


airteq7a
JUMPER SETTING CONN7,8,9,10,11
+ 6dBu
-10dBV
Dit vlak moet na assemblage afgeschuurd worden
LOGO2
REF1
REF2
mono output
3 2 1
CONN1
CONN2
CONN3
CONN4
CONN5
CONN6
J10
IC-1
IC-2
IC-3
IC-4
IC-5
IC-6
IC-7
IC-8
SW1
SW2
SW3
SW4
SW5
P1
PL1
VR1
TYRAP
TYRAP


meter/remote
sico 1-4
digital
main
D&R
airteq7a
2X infrezen tot einde lijn