

FIMET

ELECTRONICS

Short Version 13.11.2003

Jakelu:

- Jouni V.
- Antti L.
- Mika A.
- Jarmo N.
- Erik B.
- Jukka P.
- Vesa P.
- Janne O.
- Jani T.
- Tuukka H.
- Extra.

Sisällys luettelo:

Kaikki kortit

Pelikortti1

Pelikortti2

Tuoli:

- 71010 Tuolin pääkortti.
- 71021 Tuolin Jalkakytkin
- 71030 Tuolin Käsikytkin
- 72150 Unit Adapteri kortti
- 71050 Joystic adapteri kortti
- 71060 Joystic Donitsi
- 71040 Tuolin näyttö kortti
- 71090 Trendelenbourghin kortti
- 71080 Radiovastaanotto kortti (+tasaus sivu)

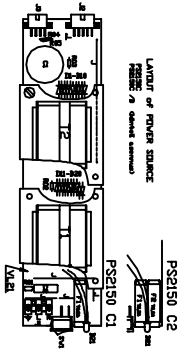
Unit:

- 72010 Instrumentti kortti
- 72050 Ledi kortti
- 72055 Kello kortti
- 72070 Unit apu kortti
- 72100 Painonappikortti
- 72040 Painonappikortti
- 72045 Painonappikortti
- 72370 SE Instrumentti kortti
- 72390 SE Handy Instrumenttikortti
- 72230 VK15 Venttiilikortti
- 72440 E Trad Venttiilikortti
- 72430 A Trad Venttiilikortti
- 72120 Relekortti
- 72380 Paineenpoistokortti
- 72160 Vedenlämmittinkortti (+tasaus sivu)
- 72020 Instrumenttivalokortti
- 72030 Valokovettajakortti
- 72111 Röntgen katselu kortti
- 72140 Valohakkurikortti
- 72330 Spectra ohjain kortti
- 72340 Spectra Virtalähdekortti
- 74020 Spectran kortti
- 72410 Multimedia virtalähde

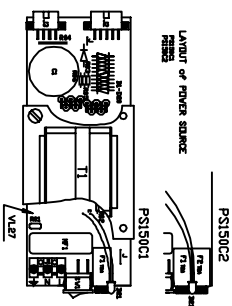
Sekalaiset:

- PS150 Lyhyt muuntaja
- PS2150 Pitkä muuntaja

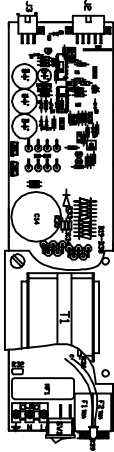
PS2150
Pitkännuunta-jankortti VL26



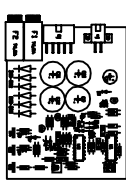
PS150
Lyyhennuunta-jankortti VL27



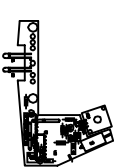
72340
Spectralight virtalähde SLVL 9/99



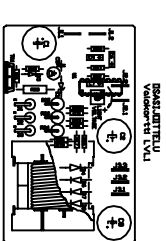
72330
Spectralight virtalähde TVALDI 10/98



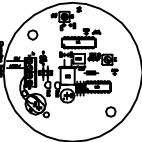
74020
Spectralight-kortti LYHTY 6/99



72140
Valohätkuri LVL1



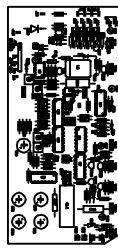
71080
Radiokortti RX2



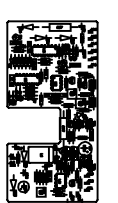
72070
Uapu kortti UAPUI 4/03



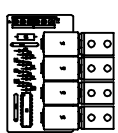
72370
Instrumenttikortti PPK3 2/98



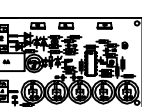
72390
Handy SE kortti PDRA2 1/98



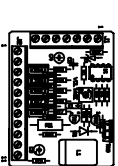
72430
Traditional venttikortti VKE3



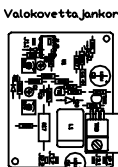
72410
Multimedia VL MVL5 10/03



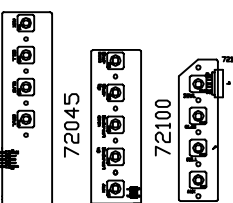
72020
Instrumentivalokortti IV1 1 94



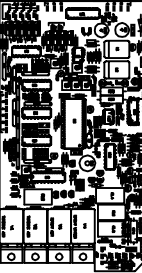
72030
Valokovetta-jankortti KVL2



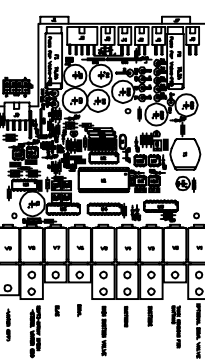
Näppäin-kortti PNK 10



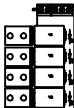
72010
Instrumenttikortti PPK3 2/98



72230
Venttikortti VKI5 versio 3 9/01



72440
Venttikortti VBE V1.1



72050
Led-kortti PHK10 10 94



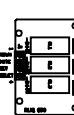
72055
Clock-PCB PNK15b 4/04



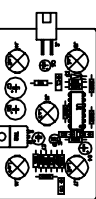
72160
Vedenlämmittin-kortti LI 3 94



72120
Relokortti RK2



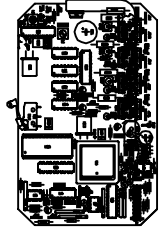
72111
Riingtenkatselukortti RV2



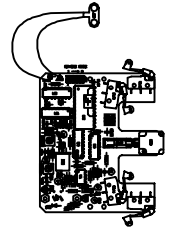
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Palneenpoistokortti MGV03 5/02



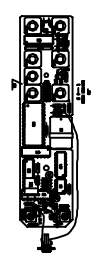
71010
Tuolin pötkö-kortti T5



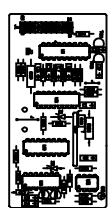
71021
Tuolin jalkakytö-kortti JK10 1/01



71030
Tuolin käsikytö-kortti K5 12/90



72150
Unitadaptee-kortti SKK4 5 93



71060
Joystick kortti J 22 02 96



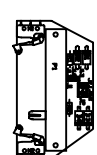
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Joystickadaptee-kortti JK3 7 95



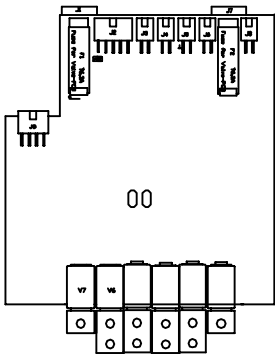
71040
Nlyttö-kortti 2 1 89



71090
Trendelenburghin kortti LA9 12.11.2002

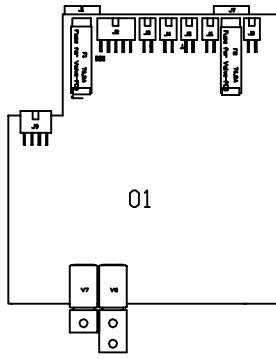


	Checked	Date
	Jouni	13.11.2003
Code	F1003-3193-1	Filename
Name	Kaikki kortit	Version
Order code		Scale Factor
Device	All	



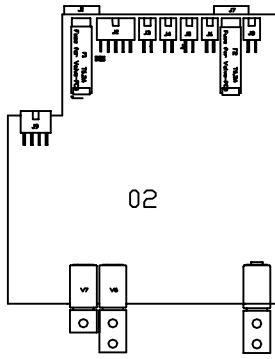
00

Timerised bowl rinse and cup filling
 Cattani rinsing
 Autoselective suction valves
 Central suction valve
 Version 72420 00



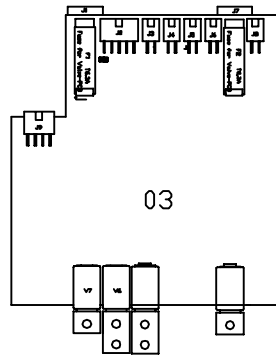
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Timerised bowl rinse and cup filling
 Version 72420 01



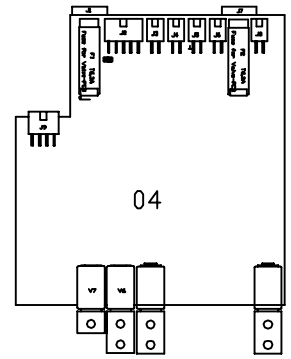
02

Timerised bowl rinse and cup filling
 Wetline with bowl valve
 Version 72420 02



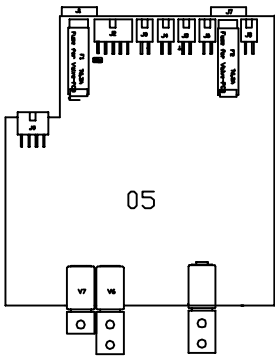
03

Timerised bowl rinse and cup filling
 Cattani rinsing
 central suction valve
 Version 72420 03



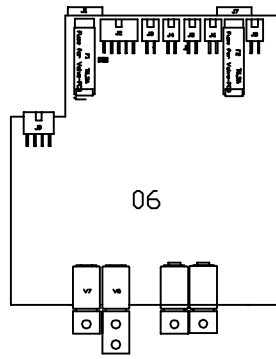
04

Timerised bowl rinse and cup filling
 Wetline with bowl valve
 Central suction valve
 Version 72420 04



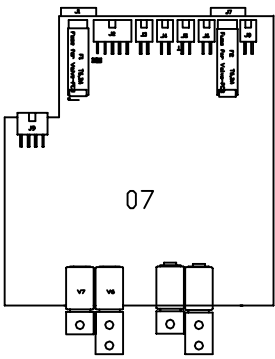
05

Timerised bowl rinse and cup filling
 Water venturi
 Version 72420 06



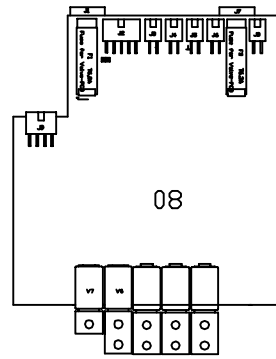
06

Timerised bowl rinse and cup filling
 Air venturi
 Version 72420 06



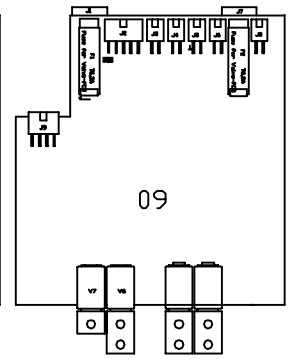
07

Timerised bowl rinse and cup filling
 Air venturi
 Water venturi
 Version 72420 07



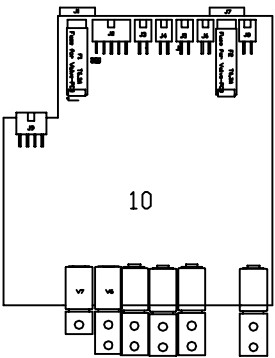
08

Timerised bowl rinse and cup filling
 Autoselective valves
 Central suction valve
 Version 72420 08



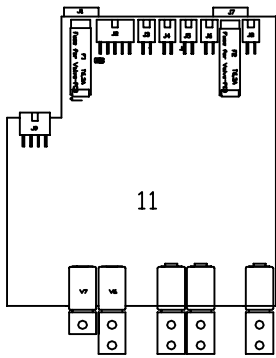
09

Timerised bowl rinse and cup filling
 Autoselective valves
 Version 72420 09



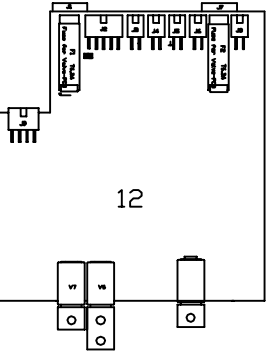
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Timerised bowl rinse and cup filling
 Wetline with bowl valve
 Autoselective suction valves
 Central suction valve
 Version 72420 10



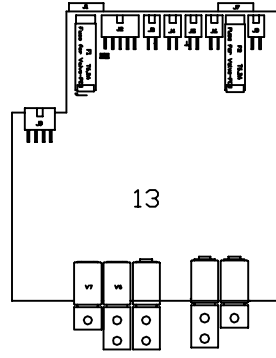
11

Timerised bowl rinse and cup filling
 Wetline with bowl valve
 Autoselective suction valves
 Version 72420 11



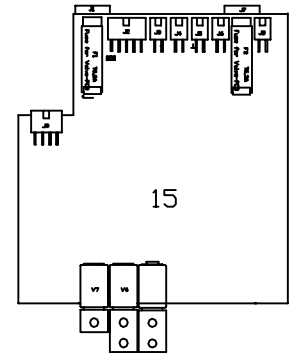
12

Timerised bowl rinse and cup filling
 Air venturi
 Version 72420 12



13

Timerised bowl rinse and cup filling
 Water venturi
 Cattani Rinsing
 Version 72420 13



15

Timerised bowl rinse and cup filling
 central suction valve
 Version 72420 15



Checked
 Jouni

Date 13.11.2003
 Drawer Jouni

Code F1003-3194-1

Filename pelikortti.dwg

Name Vent. kortti mallit

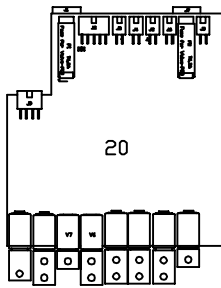
Version no. V1

Order code

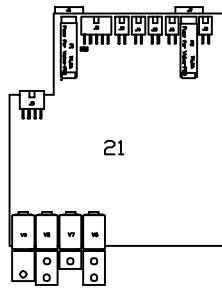
Scale Factor

Device All

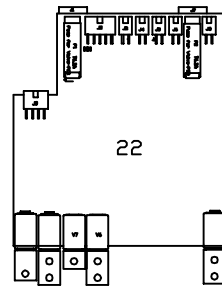
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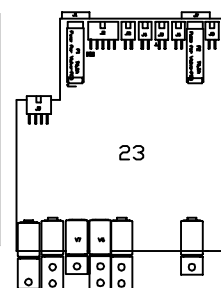
Therised bowl rinse and cup filling
Autoselective suction valves
Cottani rinsing
Cleanwater bottle
Central suction valve
Version 72420 20



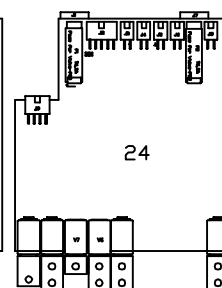
Therised bowl rinse and cup filling
Cleanwater bottle
x
x
x
Version 72420 21



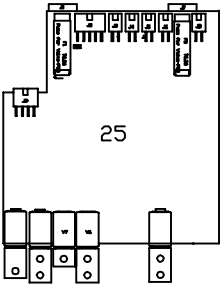
Therised bowl rinse and cup filling
Wetline with bowl valve
Cleanwater bottle
Version 72420 22



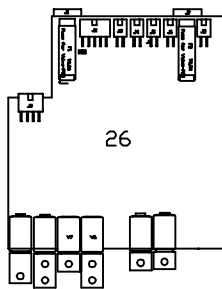
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Cottani rinsing
Cleanwater bottle
x
Central suction valve
Version 72420 23



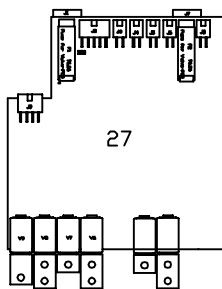
Therised bowl rinse and cup filling
Wetline with bowl valve
Cleanwater bottle
Central suction valve
Version 72420 24



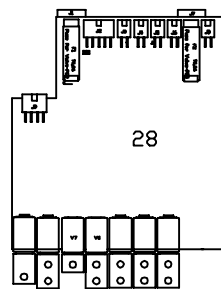
Therised bowl rinse and cup filling
Water venturi
Cleanwater bottle
Version 72420 25



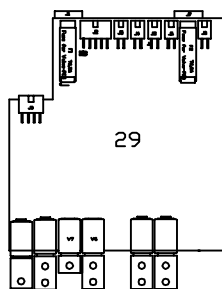
Therised bowl rinse and cup filling
Air-venturi
Air-venturi
Cleanwater bottle
Version 72420 26



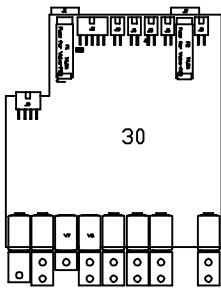
Therised bowl rinse and cup filling
Cleanwater bottle
Air-venturi
Water venturi
Version 72420 27



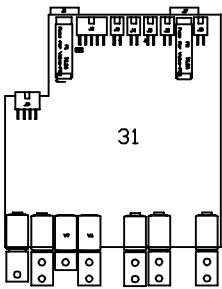
Therised bowl rinse and cup filling
Cleanwater bottle
Autoselective suction valves
Central suction valve
Version 72420 28



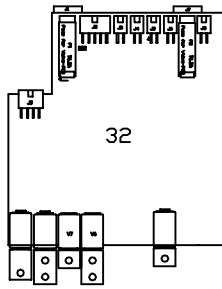
Therised bowl rinse and cup filling
x
Cleanwater bottle
Autoselective suction valves
x
Version 72420 29



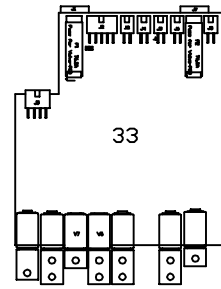
Therised bowl rinse and cup filling
Wetline with bowl valve
Cleanwater bottle
Autoselective suction valves
Central suction valve
Version 72420 30



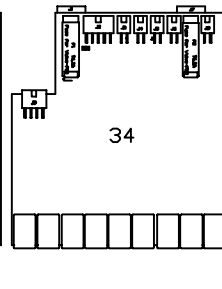
Therised bowl rinse and cup filling
Wetline with bowl valve
Cleanwater bottle
Autoselective suction valves
Version 72420 31



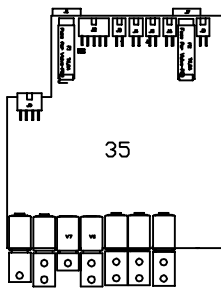
Therised bowl rinse and cup filling
Air-venturi
Cleanwater bottle
Version 72420 32



Therised bowl rinse and cup filling
Water venturi
Cottani rinsing
Cleanwater bottle
Version 72420 33



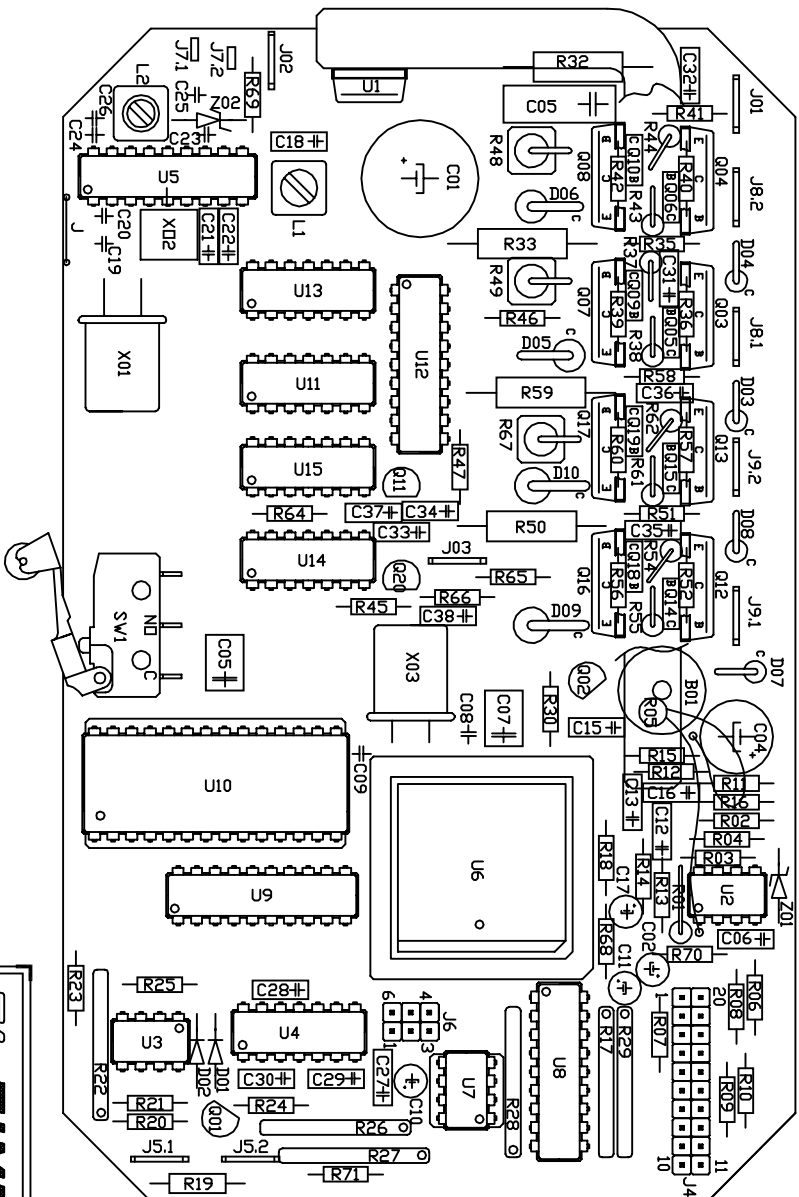
Version 72420 34



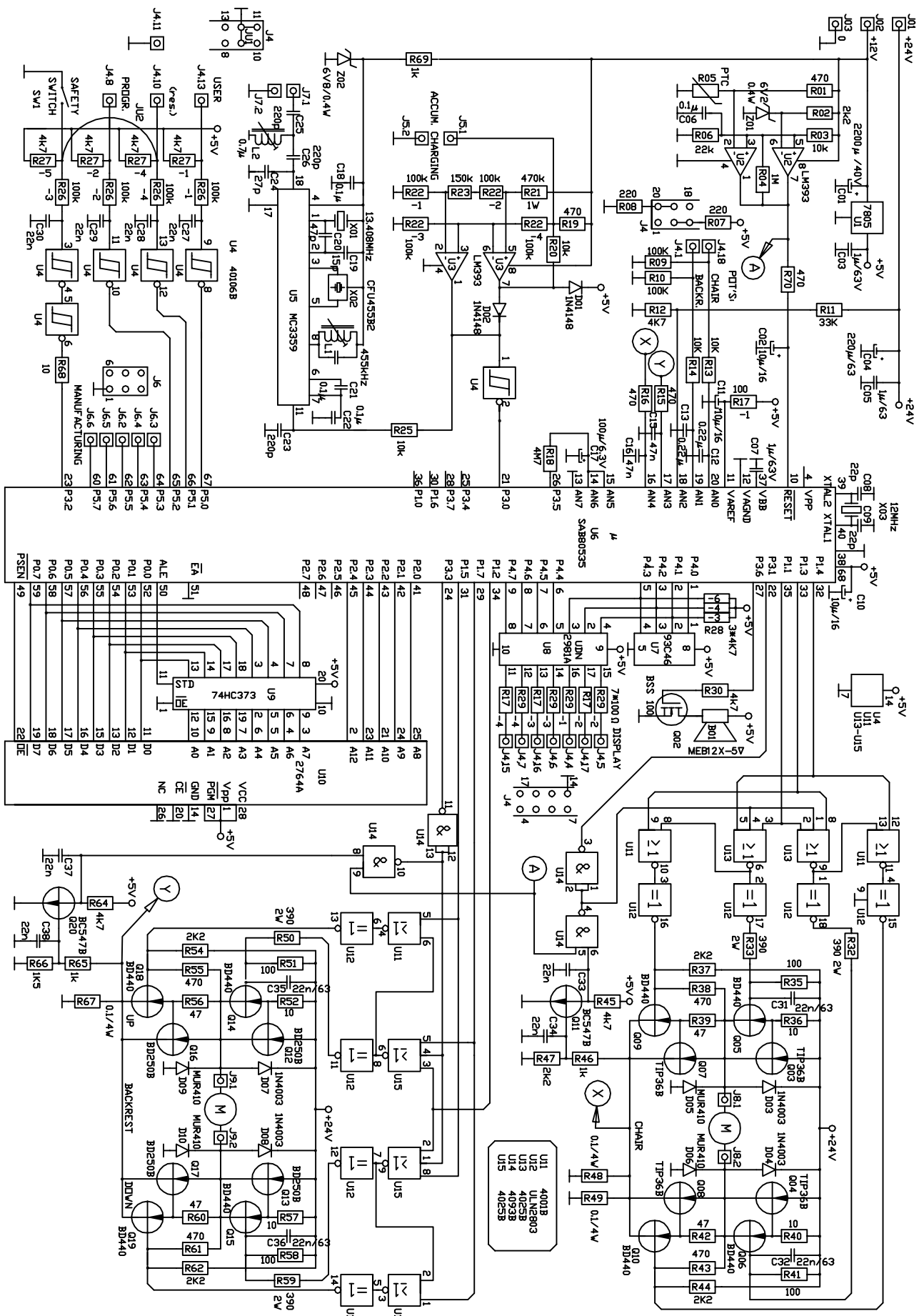
Therised bowl rinse and cup filling
Autoselective suction valves
Cleanwater bottle
Central suction valve
Version 72420 35

	Checked	Date
	Jouni	13.11.2003
Code	F1003-3195-1	Drawer
Name	Vent. kortti mallit	Jouni
Order code		File name
Device	All	petikortti2.dwg
		Version no.
		V1
		Scale Factor
		-

OSASIJITTELU
Tuolin päakortti T5

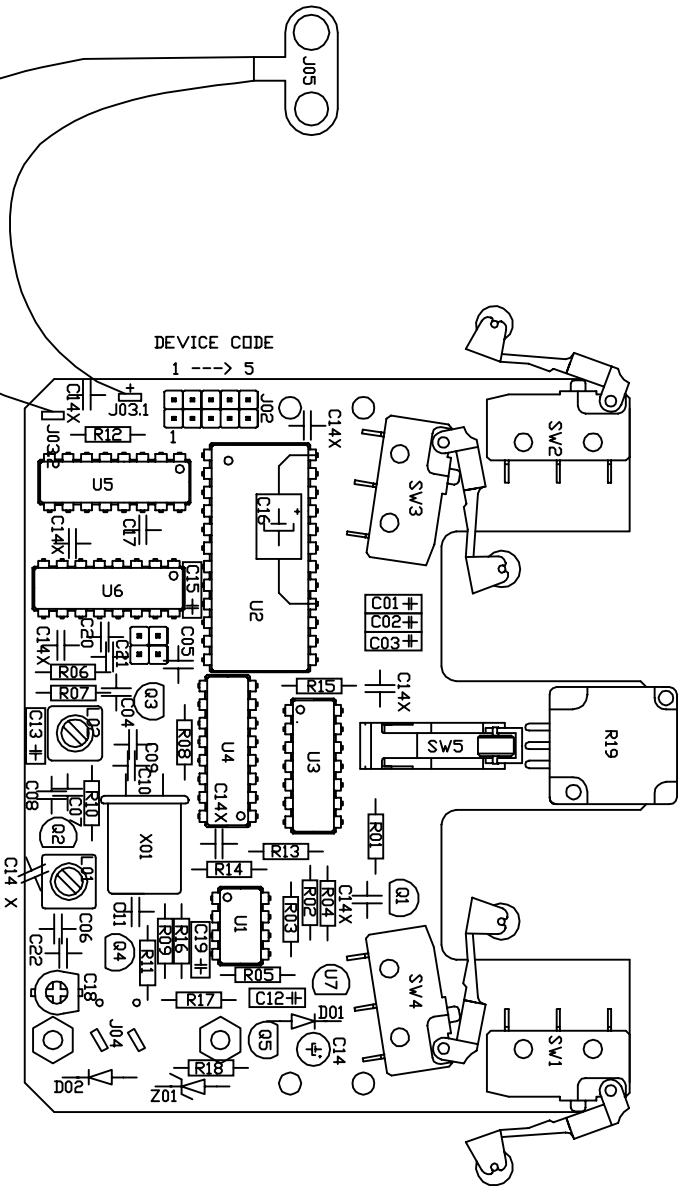



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Code T1003-8050-6		Jouni	12.11.2003
Name Chair main PCB		Drawer	Jouni
Order code T5 9.92		Filename	71010L.dwg
Device Chair		Replaces drawing no.	1
		Scale Factor	1:1

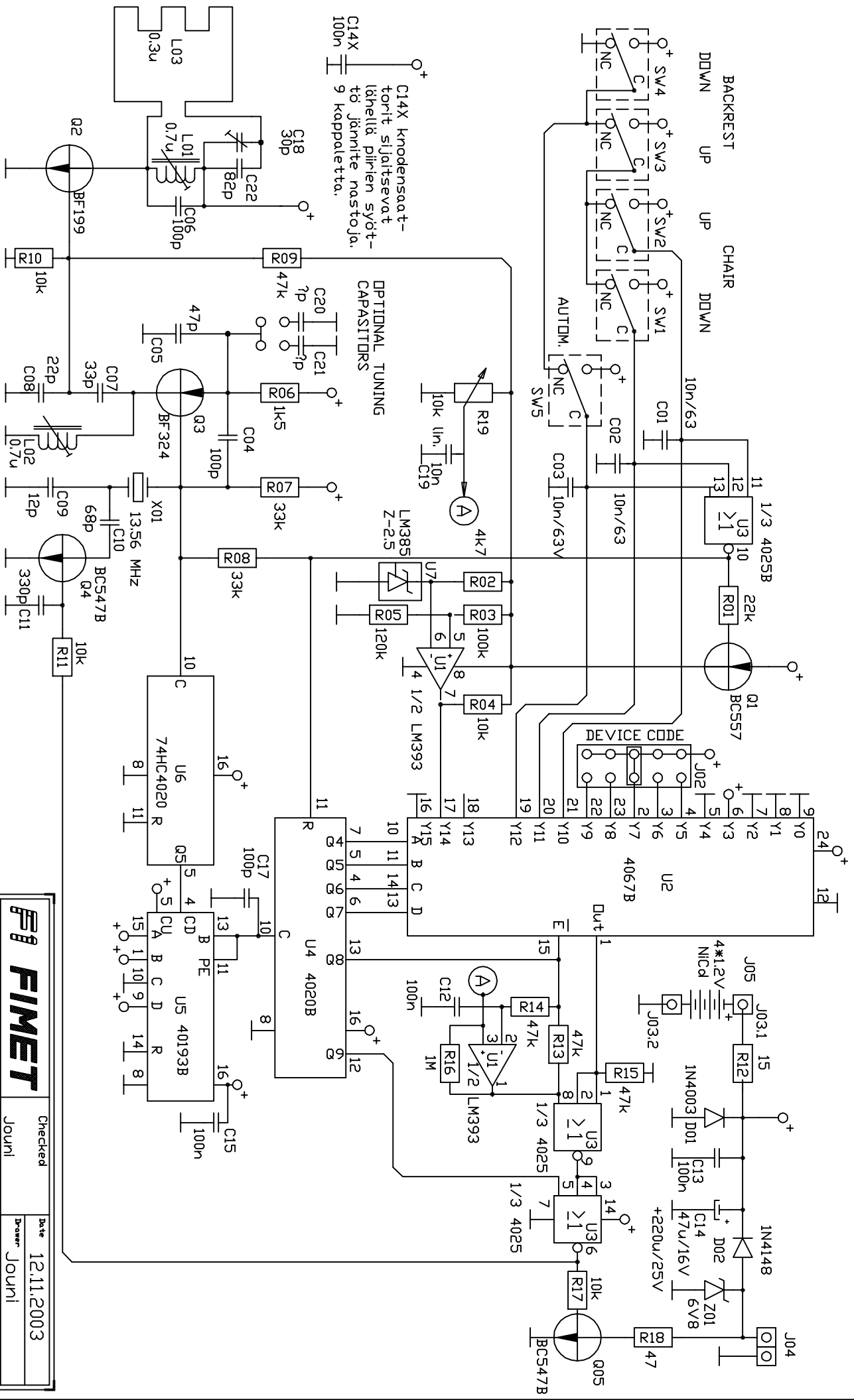


Checked	Date	12.11.2003
Jouni	Drawer	Jouni
Code	Filename	71010.dwg
Name	Version	1
Order code	Scale Factor	-
Device		Chair

Code T1003-8000-4
 Name Chair main PCB
 Order code T5 9.92
 Device Chair



		Checked	Date
		Jouni	12.11.2003
Code	T1003-3148	Drawer	Jouni
Name	Footcontrol PCB	Filename	71021L.dwg
Order code	JK10 1/01	Version no.	1
Device	Chair	Scale Factor	1:1



C14X knodensaattorin sijaitsevat lähellä pilvien syöttöä jännitte nosto- ja 9 kappaletta.

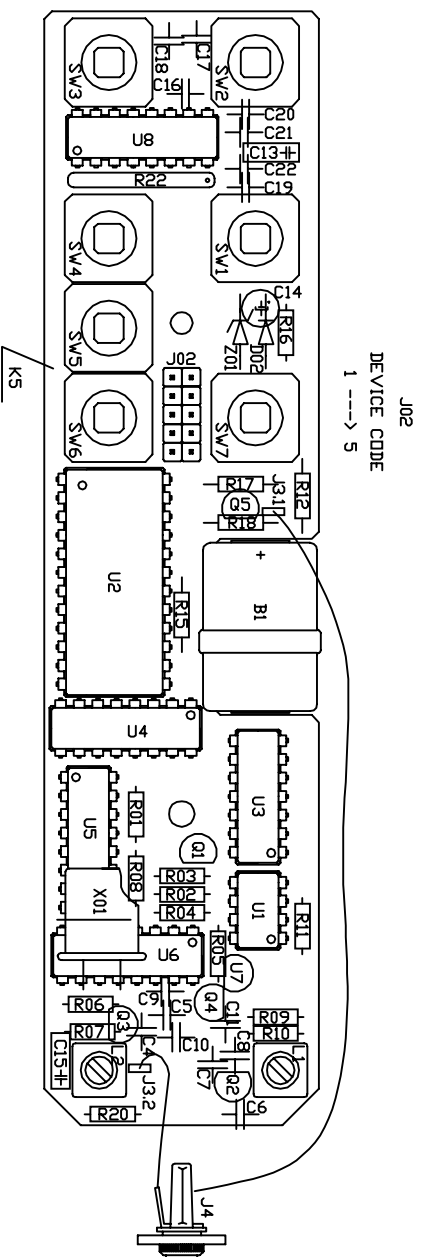
OPTIONAL TUNING CAPACITORS

DEVICE CODE

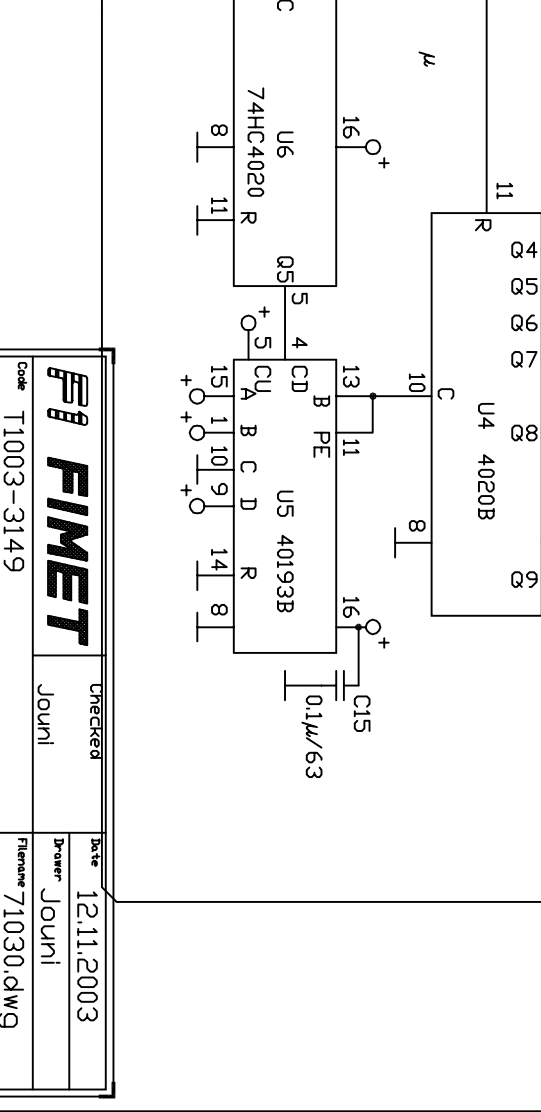
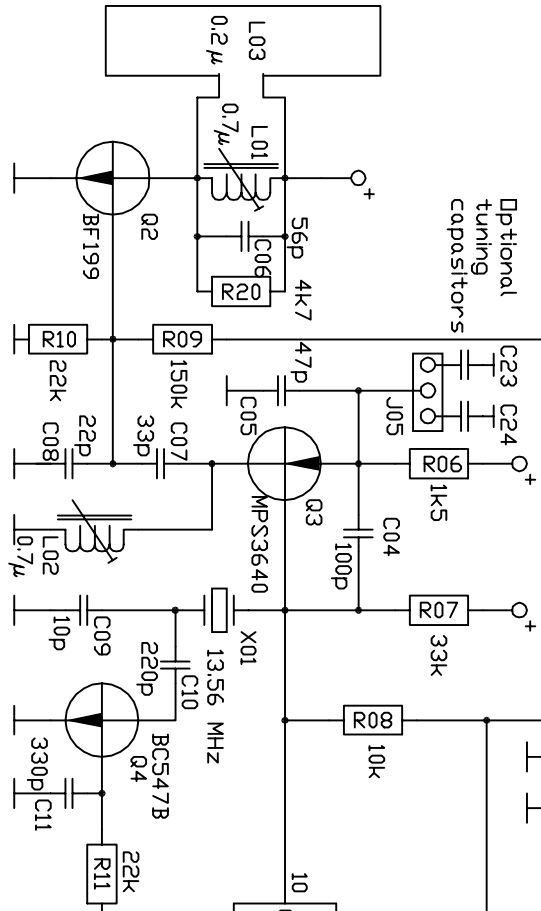
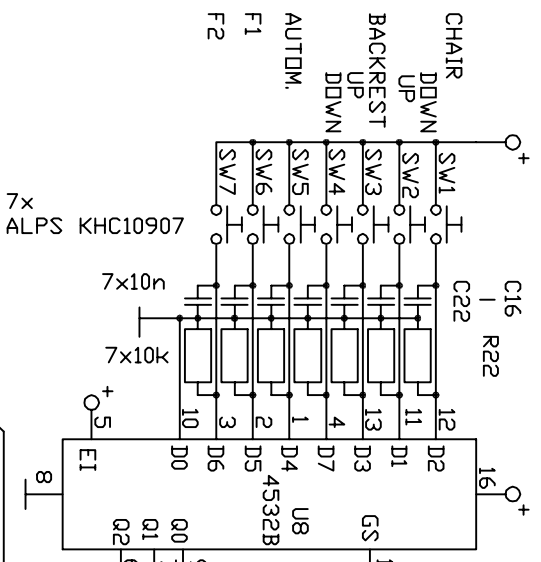
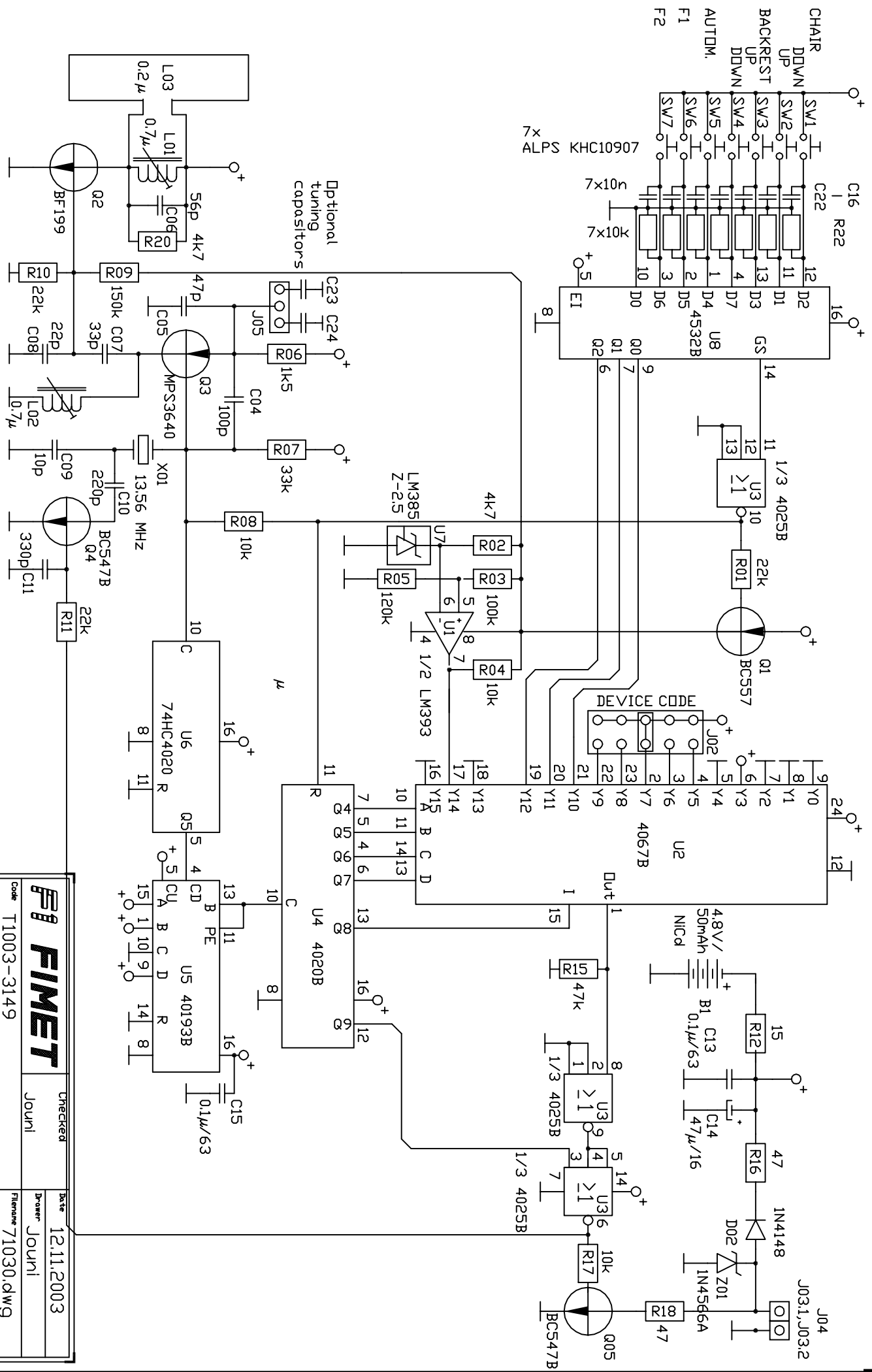
		Checked	Date
Code: T1003-3147		Jouni	12.11.2003
Name: Footcontroller		Drawn	Jouni
Order code: JK10 1/01		Filename	71021.dwg
Device: Chair		Version no.	1
		Scale Factor	1:1

OSASIJUUTTILU

Käsikytöksen kortti K5



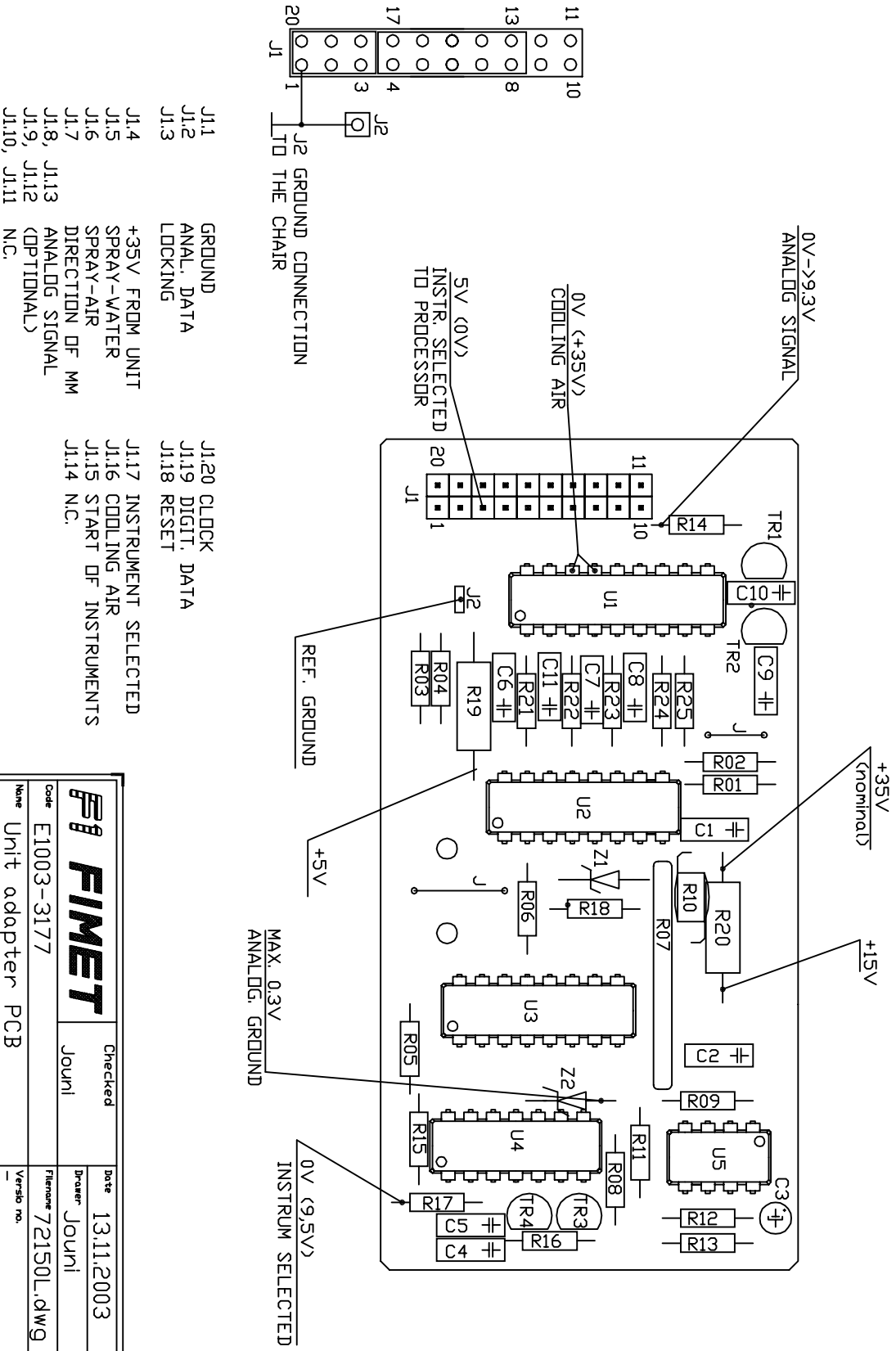
		Checked	Date
Code T1003-3150		Jouni	12.11.2003
Name Handcontroller PCB		Drawer	Jouni
Order code K5 1290		Filename	71030.dwg
Device Chair		Version no.	-
		Scale Factor	1:1



		Checked	Date
Name: Handcontroller PCB		Journal	12.11.2003
Code: T1003-3149		Drawn	Journal
Order code: K5 1290		Filename	71030.dwg
Device: Chair		Version no.	1
		Scale Factor	1:1

DSASIJDIITTELU Adapterikor tti SKK4

J1.1-J1.3 J1.18-J1.20 J1.4-J1.8 J1.13-J1.17
6-WIRE FLAT CABLE TO CHAIR 10-WIRE FLAT CABLE TO UNIT



- | | | | |
|--------------|--------------------------|-------|----------------------|
| J1.1 | GROUND | J1.20 | CLOCK |
| J1.2 | ANAL. DATA | J1.19 | DIGIT. DATA |
| J1.3 | LOCKING | J1.18 | RESET |
| J1.4 | +35V FROM UNIT | J1.17 | INSTRUMENT SELECTED |
| J1.5 | SPRAY-WATER | J1.16 | COOLING AIR |
| J1.6 | SPRAY-AIR | J1.15 | START OF INSTRUMENTS |
| J1.7 | DIRECTION OF MM | J1.14 | N.C. |
| J1.8, J1.13 | ANALOG SIGNAL (OPTIONAL) | | |
| J1.9, J1.12 | | | |
| J1.10, J1.11 | N.C. | | |

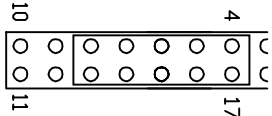
DIGITAL SIGNALS ARE ACTIVE LOW

		Checked	Date
Code E1003-3177		Jouni	13.11.2003
Name	Unit adapter PCB	Drawer	Jouni
Order code	SKK4 5 93	Filename	72150L.dwg
Version		Scale Factor	1:1
Device	Unit		

J1.1-J1.3 J1.18-J1.20
6-WIRE FLAT CABLE TO CHAIR

J2 GROUND CONNECTION
TO THE CHAIR

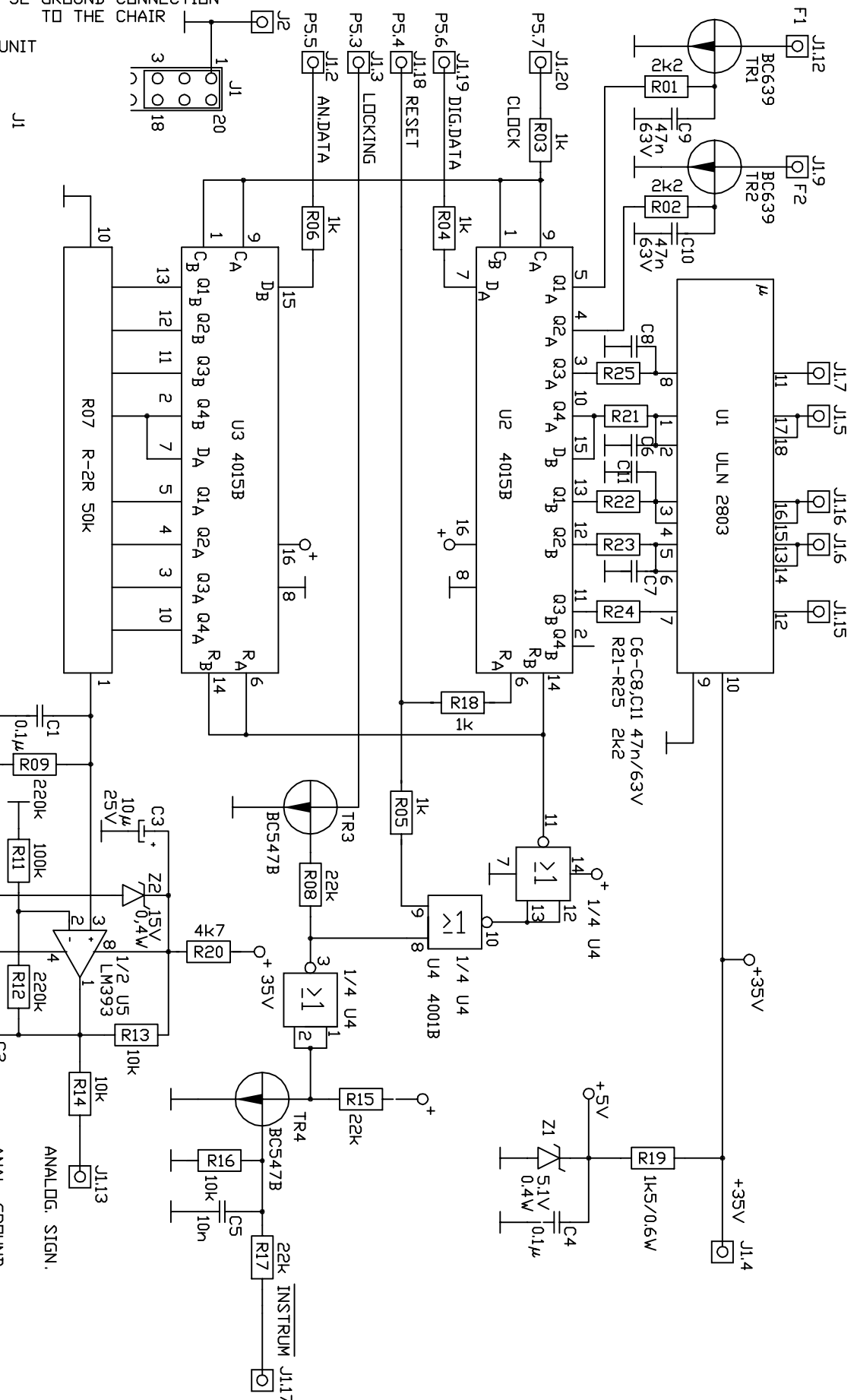
J1.4-J1.8 J1.13-J1.17
10-WIRE FLAT CABLE TO UNIT



10	J1.10, J1.11	N.C.
9	J1.9, J1.12	
8	J1.8, J1.13	ANALOG SIGNAL
7	J1.7	DIRECTION OF MM
6	J1.6	SPRAY-AIR
5	J1.5	SPRAY-WATER
4	J1.4	+35V FROM UNIT

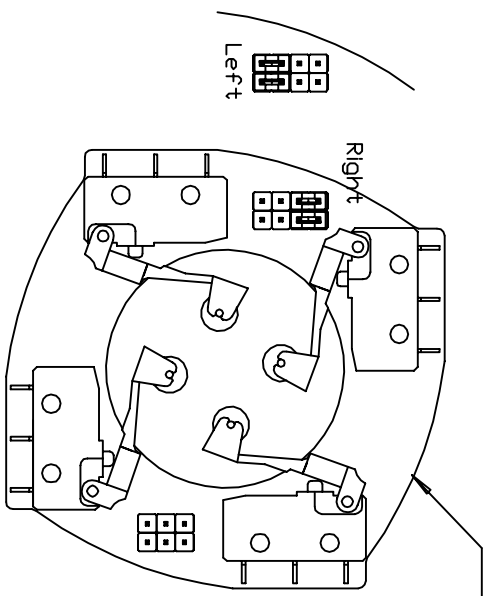
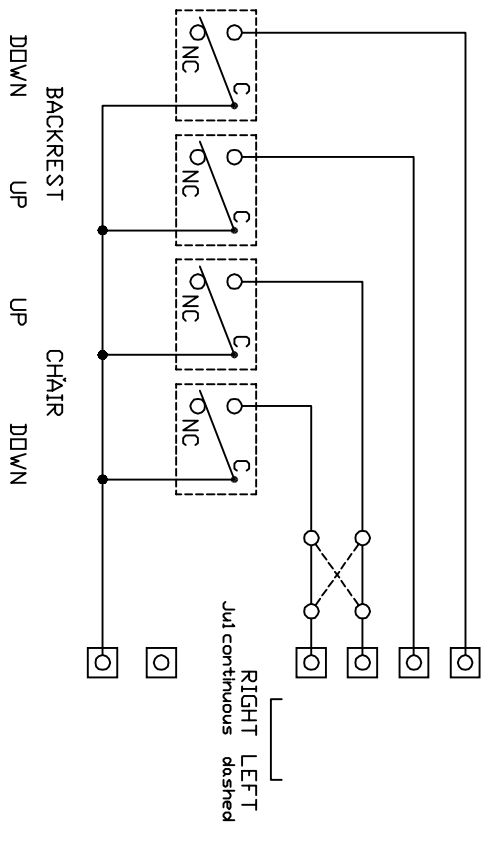
1	J1.17	INSTRUMENT SELECTED
2	J1.16	COOLING AIR
3	J1.15	START OF INSTRUMENTS
4	J1.14	N.C.

PTC SIEMENS
B59880-C120-A70



FIMET		Checked	Date
Code	T1003-3176	Journal	13.11.2003
Name	Unit adapter PCB	Drawn	Journal
Order Code	SKK4 5 93	Filename	72150.dwg
Device	Chair	Version no.	-
		Scale Factor	-

Joystick J 220296 / Adapter JA4

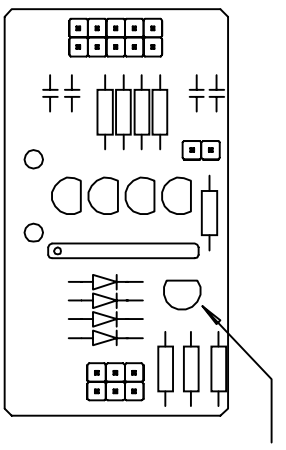
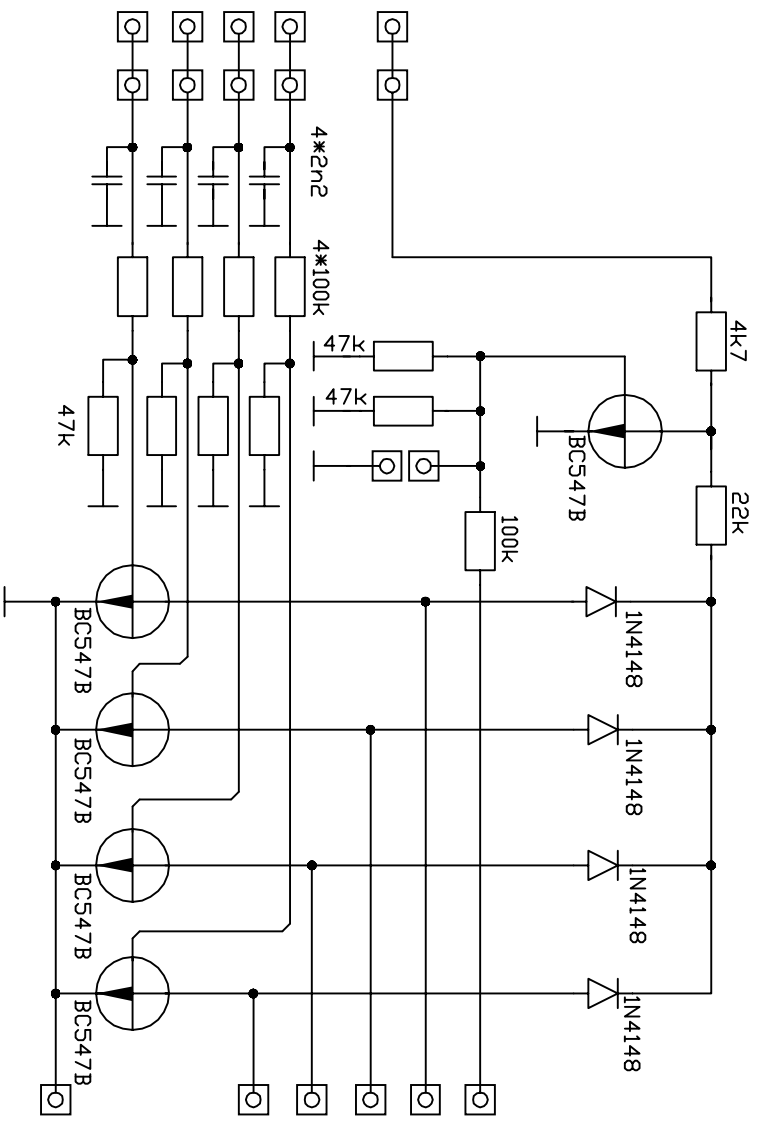


Switches SW1-SW4
CHERRY DB3G-DGAA («RIGHT»)

71060

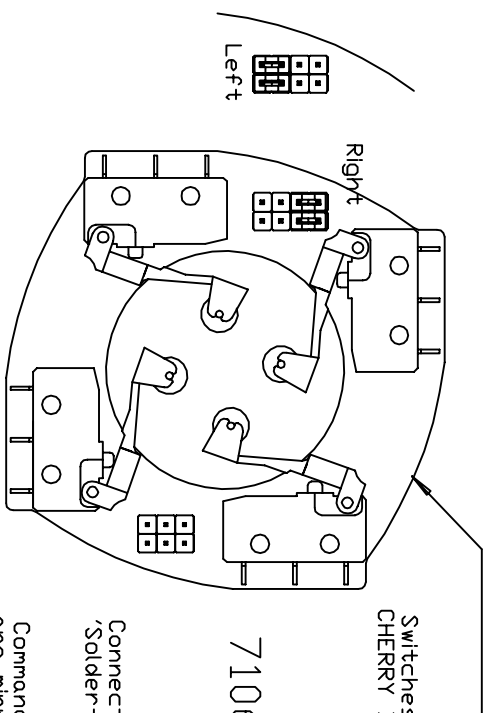
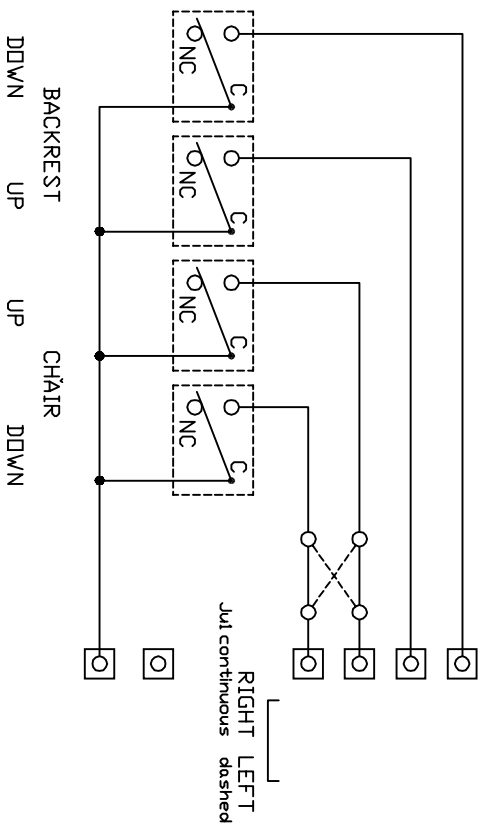
Connector Y1 and Jumpers J1 are on
'Solder-side' of the PCB

Commands Chair down and up
are mirrored on left and right sides of the chair
with Jumpers on the Block J1.



FIMET		Checked	Date
Code	T1003-3153	Jouni	12.11.2003
Name	Joystick adapter PCB	Drawn	Jouni
Order code	JK3 7 95	Filename	71050.dwg
Device	Chair	Version no.	-
		Scale Factor	1:1

Joystick J 220296 / Adapter J44

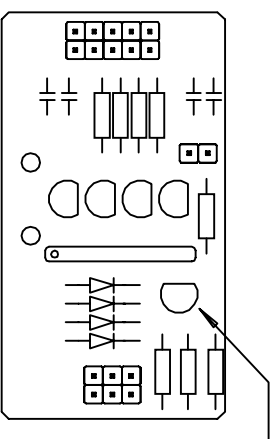
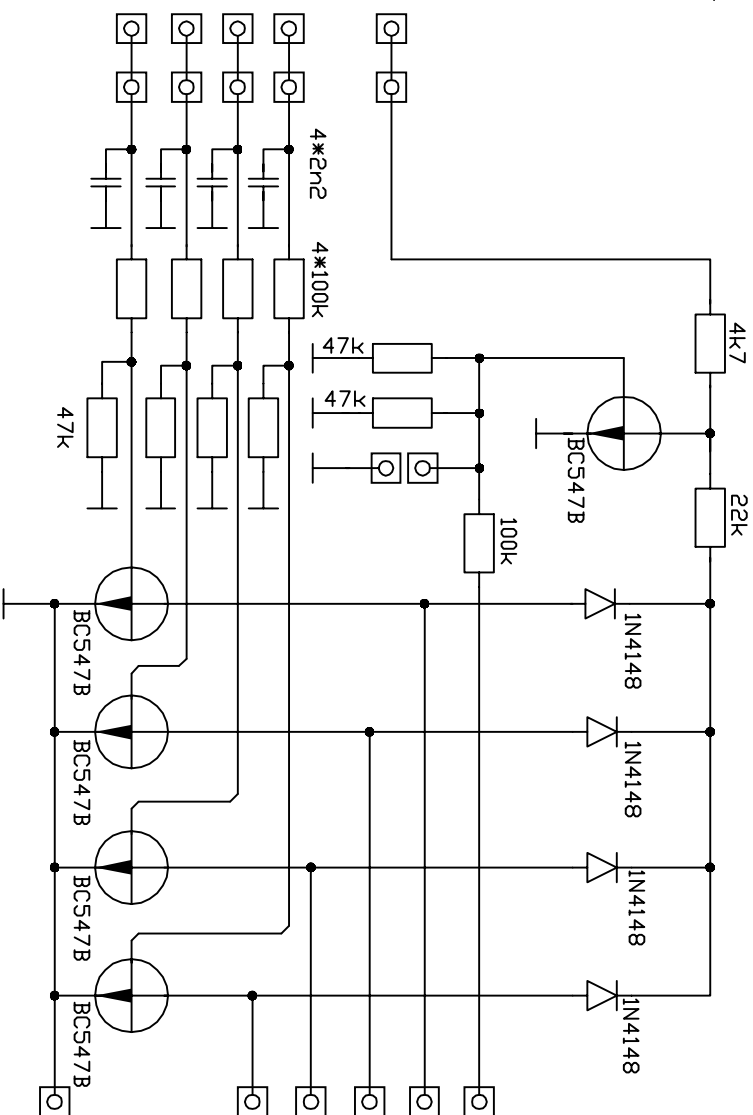


Switches SW1-SW4
CHERRY DB3G-DGAA ('RIGHT')

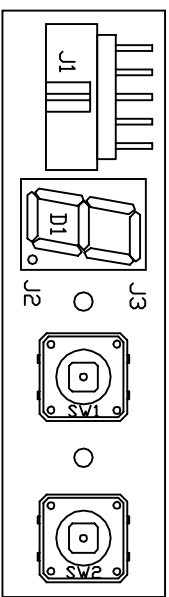
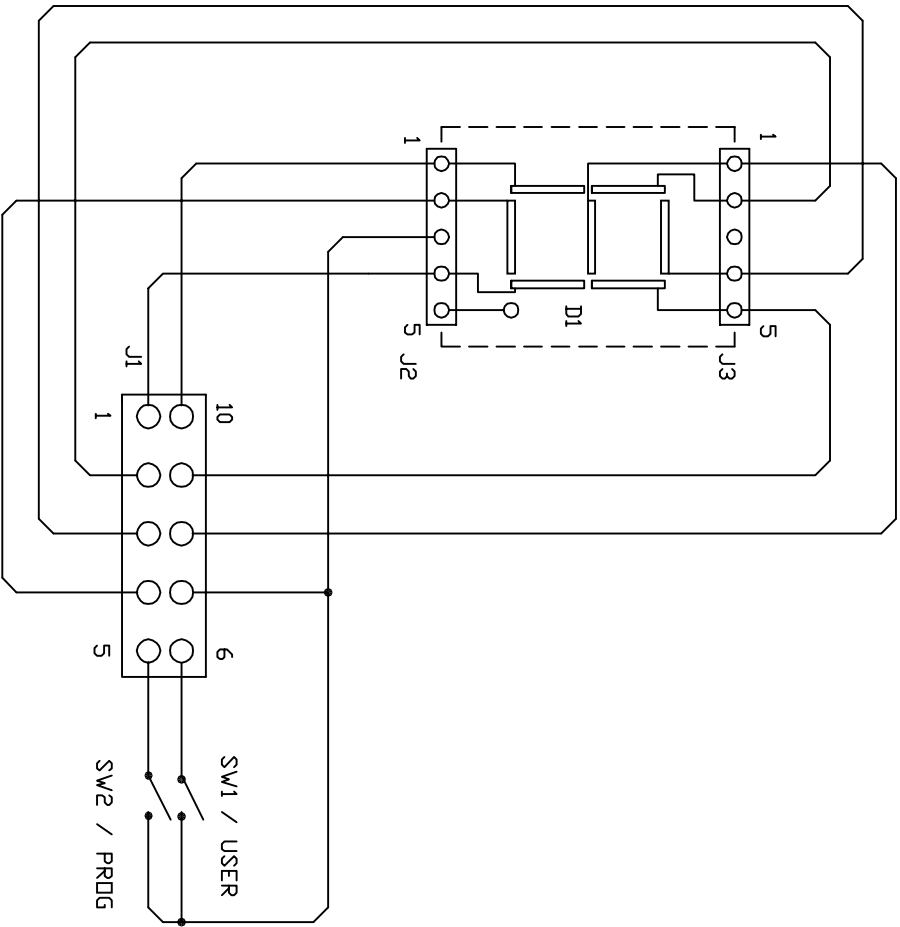
71060


Connector Y1 and Jumpers J41 are on
'Soldier-side' of the PCB

Commands Chair down and up
are mirrored on left and right sides of the chair
with Jumpers on the Block J41.

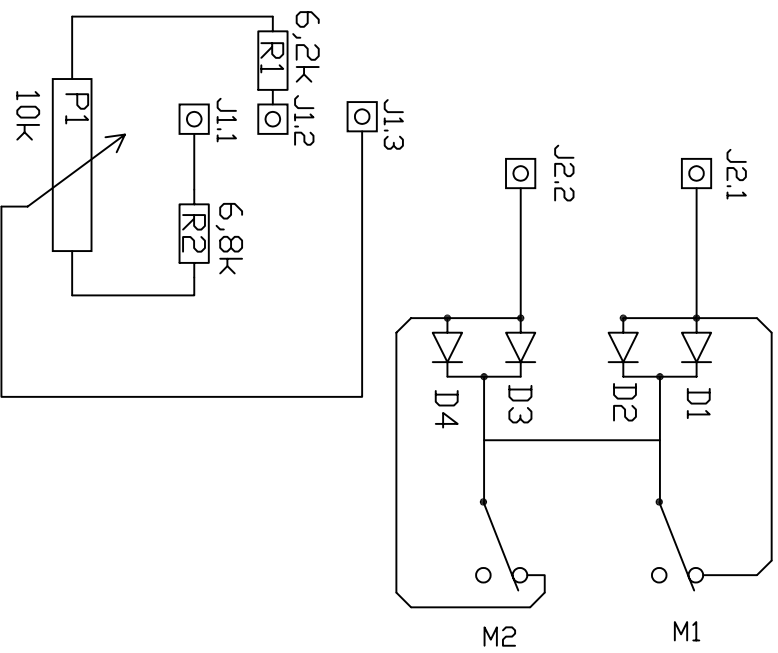
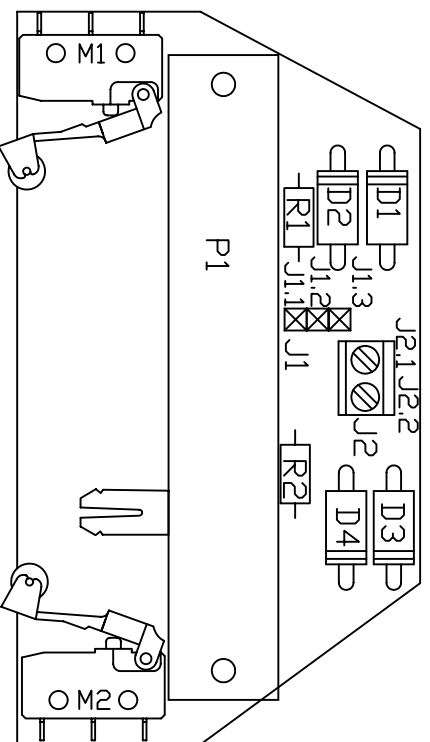


FIMET		Checked	Date
Code T1003-3154		Jouni	12.11.2003
Name Joystic Donits PCB		Drawn	Jouni
Order code J 22 02 96		Filename	71060.dwg
Device Chair		Version	1
		Scale Factor	1:1



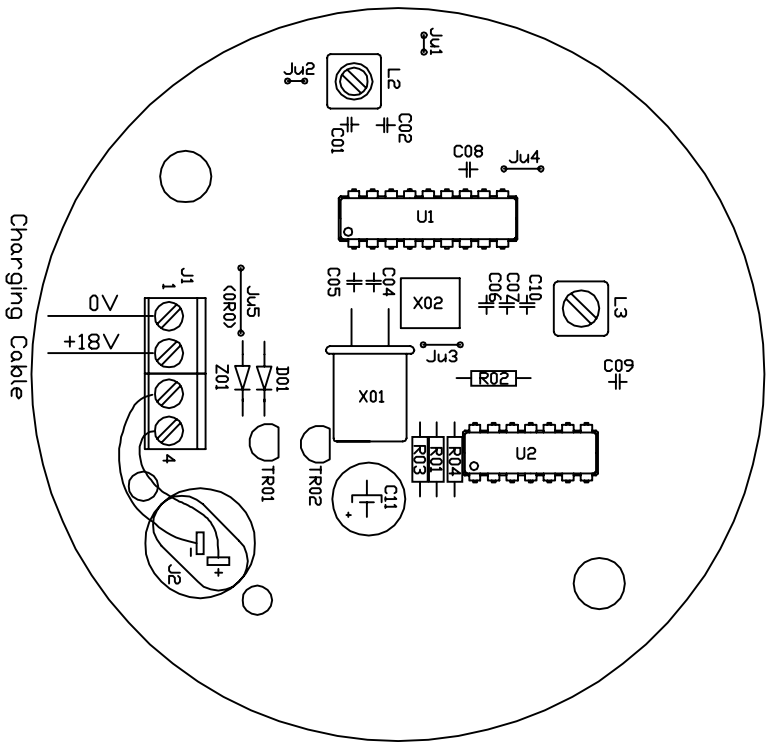
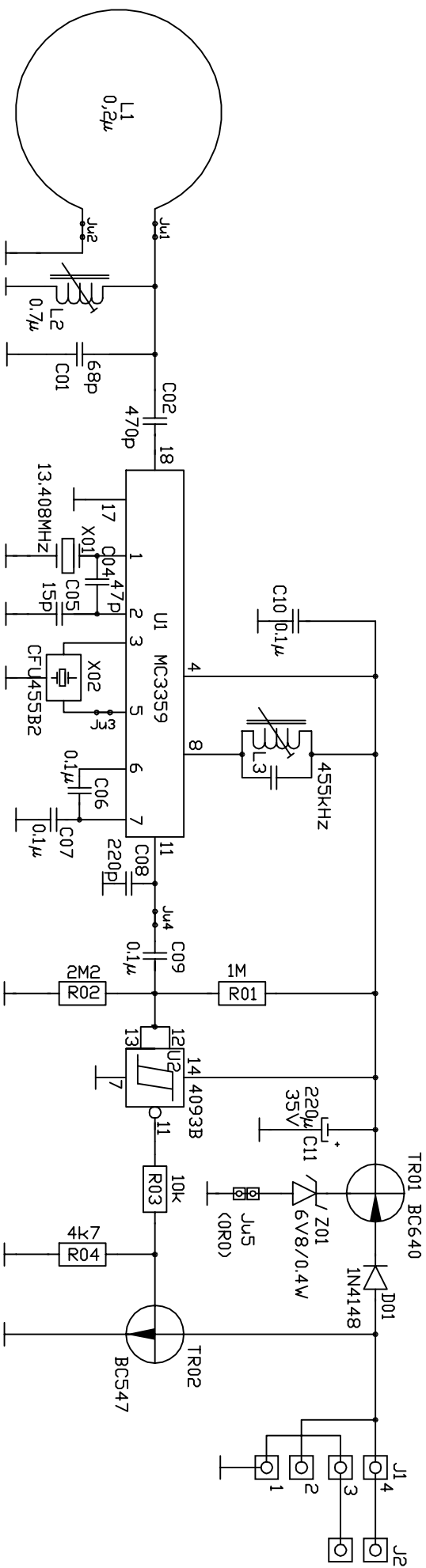
		Checked	Date
		Jouni	12.11.2003
Code	T1003-3151	Drawn	Jouni
Name	Display PCB	Filename	71040.dwg
Order Code	2189	Version no.	-
Device	Chailin	Scale Factor	1:1

Trendelenburgh moottorin ohjainkortti Liu3 12.11.2002

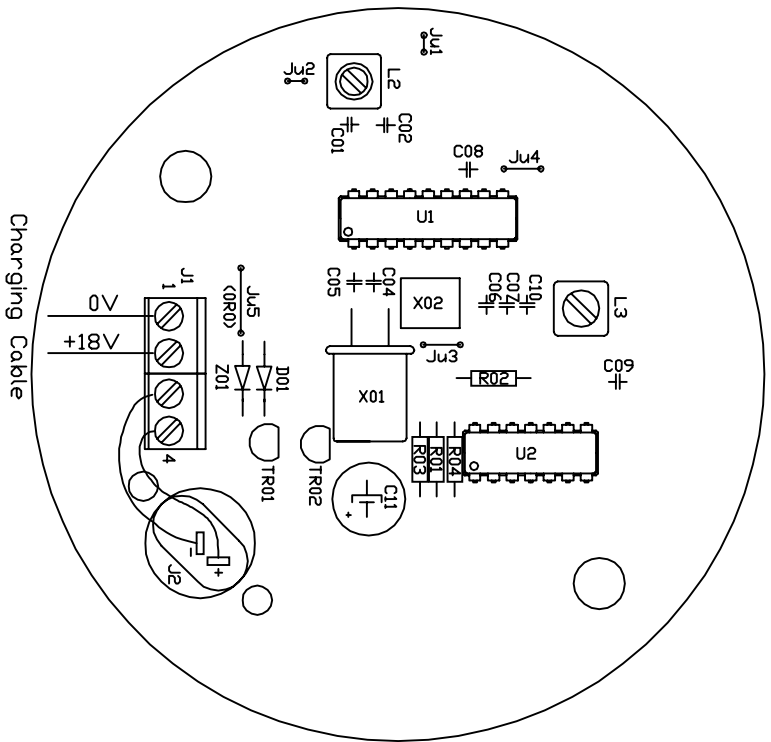
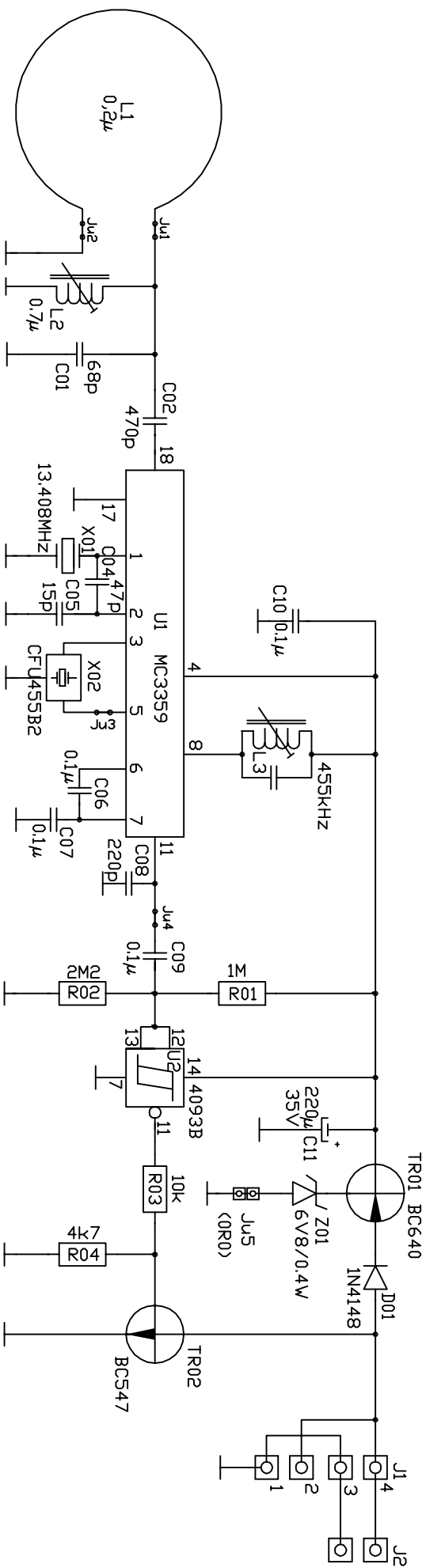


4 x 1N5404

	Checked	Date
	Jouni	12.11.2003
Code	T1003-3156	Drawn
Name	Trendelenburgh PCB	Jouni
Drawing code	Liu3 12.11.2002	Version no.
Device	Chair	Scale Factor



		Checked	Date
Code E1003-3155		Jouni	12.11.2003
Name Radio receiver PCB		Drawn	Jouni
Order Code RX2 10 00		Filename	71080.dwg
Device Prime +Cart		Version no.	1
		Scale Factor	-

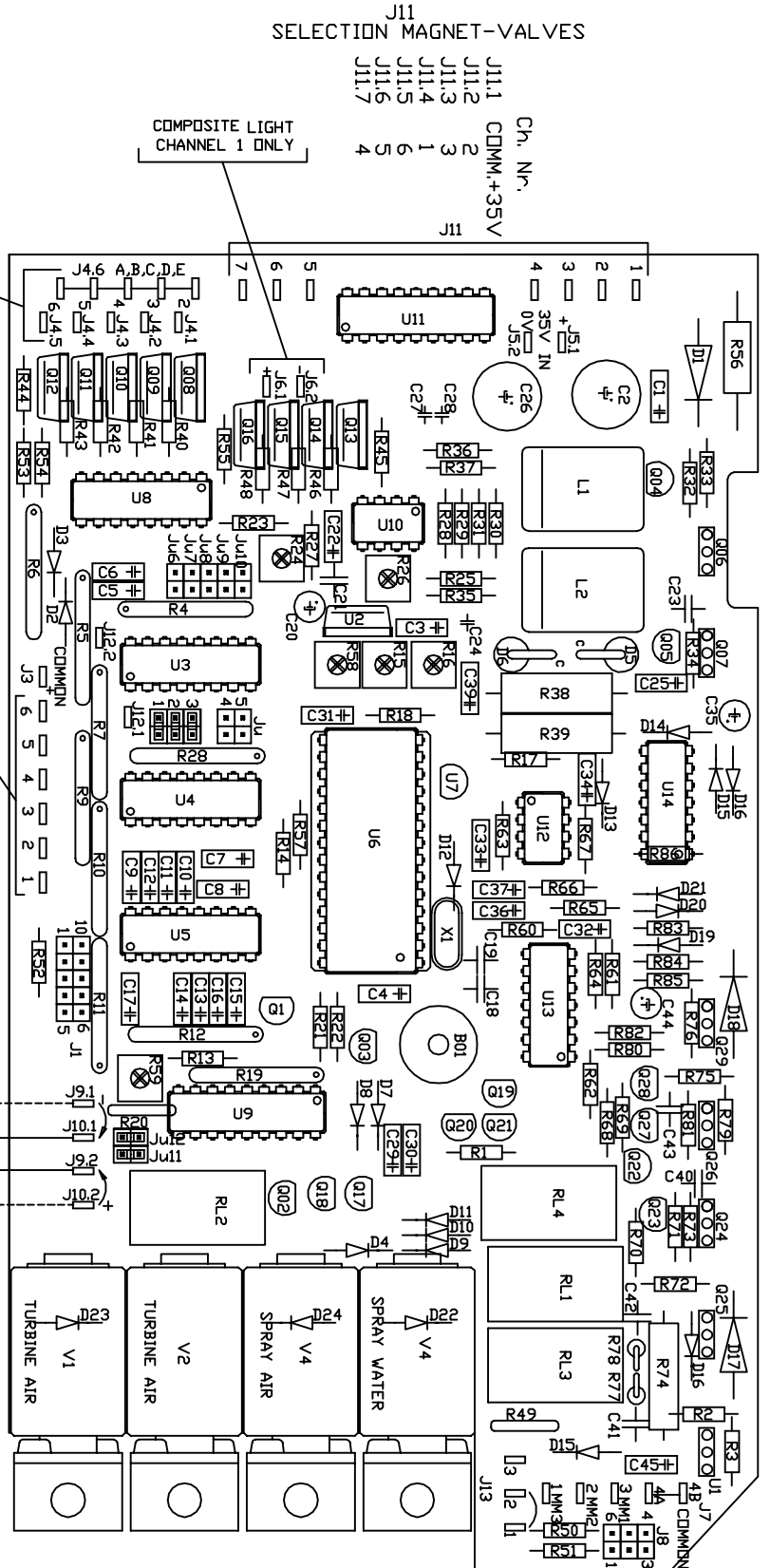


Charging Cable

		Checked	Date
E1003-3155		Jouni	12.11.2003
Name: Radio receiver PCB		Drawn	Jouni
Code: E1003-3155		Filename	71080.dwg
Order Code: RX2 10 00		Version no.	1
Device: Prime +Cart		Scale Factor	-

LAYOUT of Instrument PCB PPK3

RESISTORS R56,R86 AND DIODES D17,D18,D22,D24,D23 ARE ON SOLDER SIDE OF PCB



FOR MICROMOTORS
 CHANNEL 5
 CHANNEL 6
 CHANNEL 4

FLAT-CABLE TO PUSHBUTTON-PCB
 J8.1 SPRAYAIR LED
 J8.2 +12V
 J8.3 GND
 J8.4 DIRECTION LED

JUMPERS
 J1 Electr. reg. turbine on/off (0/1)
 J2 Cooling sequence for ch. 6
 J3 Cooling seq. for ch. 5
 J4 Cooling seq. for ch. 4
 J5 Cooling seq. for ch. 3
 J6 Buzzer on/off
 J7 Electr. reg. turbine on ch. 4
 J8 No water on channel 2
 J9 Spray air on channel 2
 J10 Reserved

ALL TRIMMERS ARE ON THE SOLDER SIDE OF THE BOARD

FLAT-CABLE TO CHAIR

INSTRUMENT LIGHTS FOR CHANNELS 2-6

SELECTION MICROSWITCHES FOR INSTRUMENT CHANNELS

J21-J26

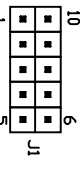
WITHOUT JUMPERS J11 AND J12
 AUXILIARY EQUIPMENT CONNECTED BY RELAY RL2
 CHANNEL 2 ONLY

WITH J11 AND J12
 RELAY RL2 IS CONNECTING +35VDC TO J9.2 AND GROUND TO J10.1
 CHANNEL 2 ONLY

J1.1 ANALOG VALUE
 J1.2 N.C.
 J1.3 START OF INSTRUMENT
 J1.4 TURBINE AIR
 J1.5 INSTRUMENT SELECTED

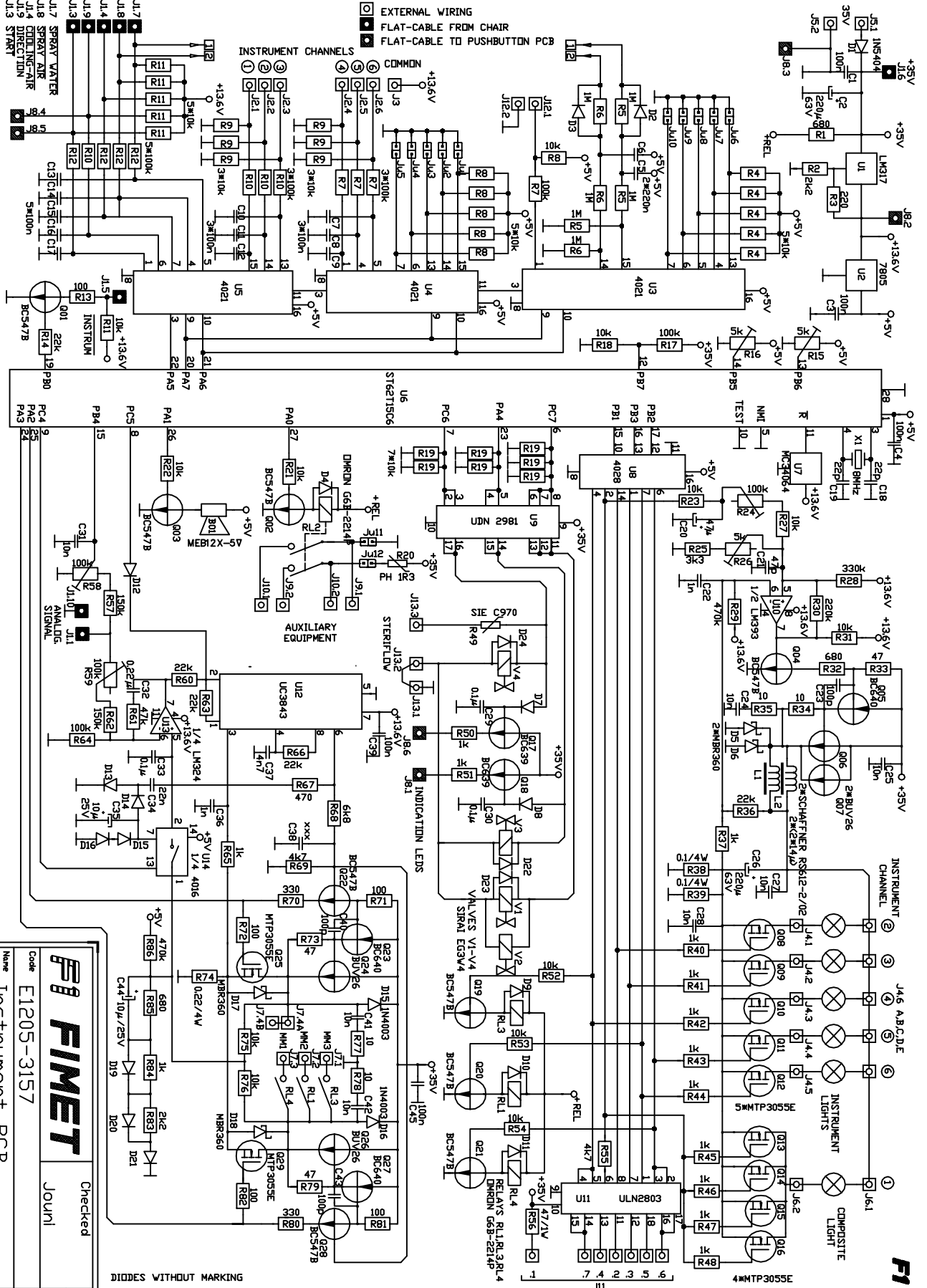
J1.6 +35V TO CHAIR-ADAPTER
 J1.7 SPRAY WATER
 J1.8 SPRAY AIR
 J1.9 DIRECTION OF MM
 J1.10 ANALOG GROUND

DIGITAL SIGNALS ARE ACTIVE LOW



FIMET		Checked	Date
Code	E1205-3158	Jouni	21.11.2003
Name	Instrument PCB	Drawn	Jouni
Order Code	PNK3 2/98	File no.	72010L.dwg
Device	Unit	Scale Factor	-

COMPOSITE LIGHT MICROMOTOR 1 MICROMOTOR 2



DIODES WITHOUT MARKING

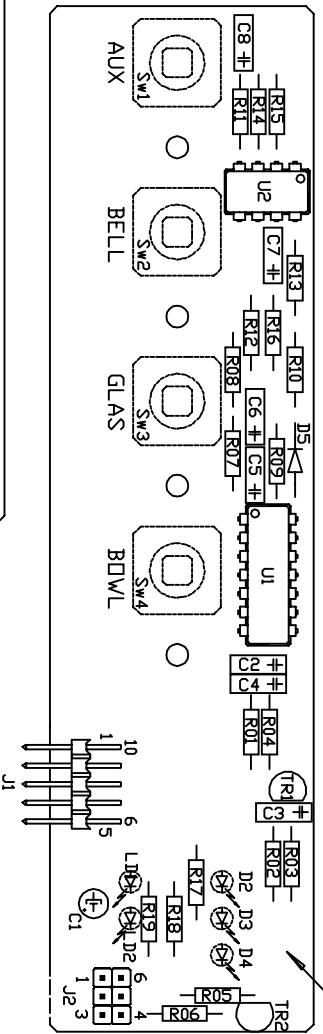


FIMET		Checked	Date
Code E1205-3157		Jouni	12.11.2003
Name Instrument PCB		Drawn	Jouni
Order Code PNK3 2/98		Filename	72010.dwg
Device Unit		Scale Factor	-

OSASIJUUTTETTU

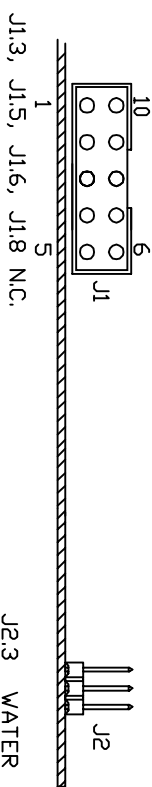
Painonappikoritti PNK10 1094/PNK9

Switches Sw1-Sw4, Leds D1-D4 and Lamp La1 are on the 'solder-side' of the PCB.



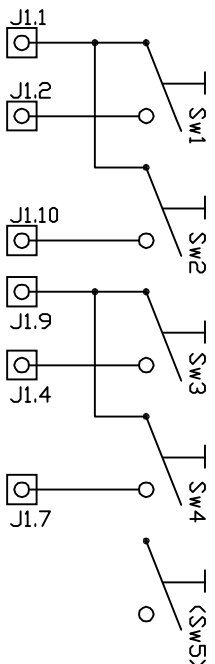
Some versions have only switches Sw1-Sw4 and connector J1 assembled.

10-WIRE FLAT CABLE TO VALVE-PCB 6-WIRE FLAT CABLE TO INSTRUMENT-PCB



J1.3, J1.5, J1.6, J1.8 N.C.

AUX BELL GLAS BDWL (1/0 not used)



J1.1 GND J1.9 +12V

J2.3 WATER J2.4 AIR
 J2.2 START J2.5 +12V
 J2.1 DIRECTION J2.6 GND

START AND DIRECTION (of microm.) ARE ROUTED VIA INSTRUMENT-PCB TO ADAPTER-PCB IN THE CHAIR.

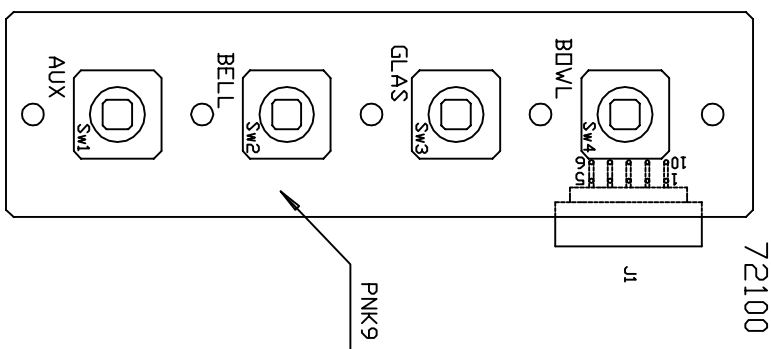
PNK9 993

SPEED SCALE INDICATION
 D2-D4 YELLOW
 INSTRUMENT COOLING INDICATORS
 LD1 WATER GREEN
 LD2 AIR BLUE

Connector J1 is on the other side of PCB than switches.

10-WIRE FLAT CABLE TO VALVE-PCB

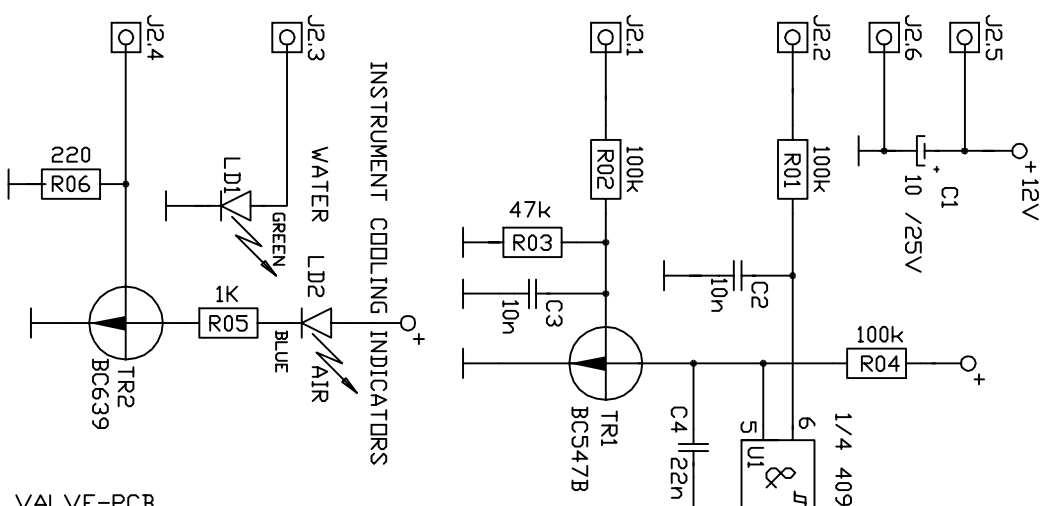
Pin-numbering and functions of connector J1 are identical on PNK9 to those of PNK9 993



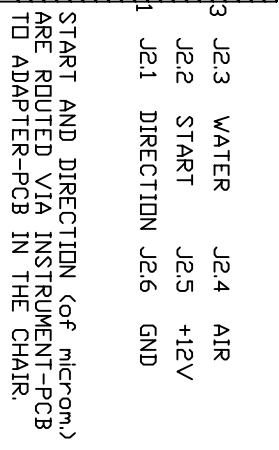
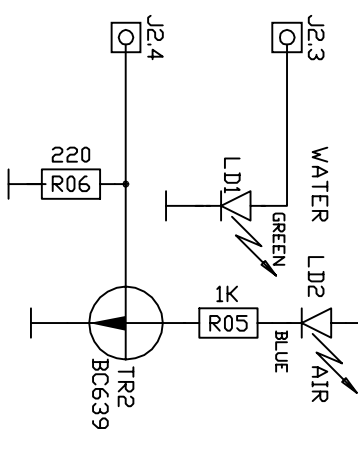
PNK9

FIMET		Checked	Date
Code E1005-3166		Jouni	12.11.2003
Name Led PCB		Drawn	Jouni
Order code PNK3 10 94		Filename	72050L.dwg
Device Unit		Version no.	-
		Scale Factor	-

6-WIRE FLAT CABLE TO INSTRUMENT-PCB

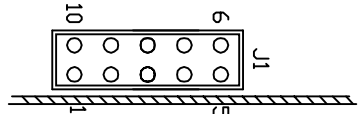


INSTRUMENT COOLING INDICATORS

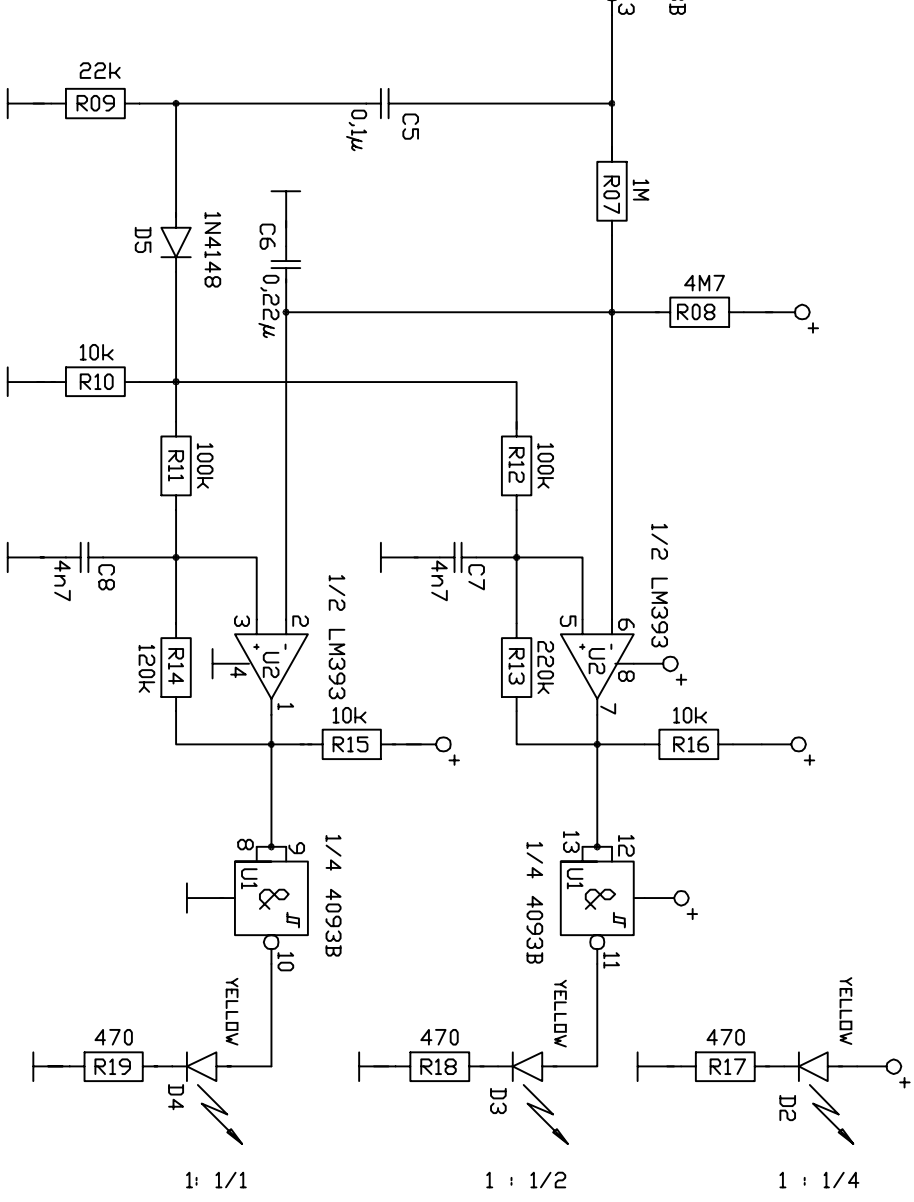
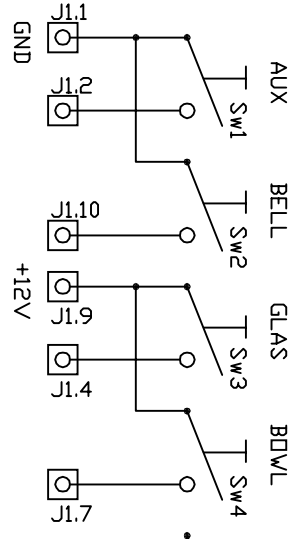


START AND DIRECTION (of microm.) ARE ROUTED VIA INSTRUMENT-PCB TO ADAPTER-PCB IN THE CHAIR.

10-WIRE FLAT CABLE TO VALVE-PCB



J1.3, J1.5, J1.6, J1.8 N.C.



SPEED SCALE INDICATION

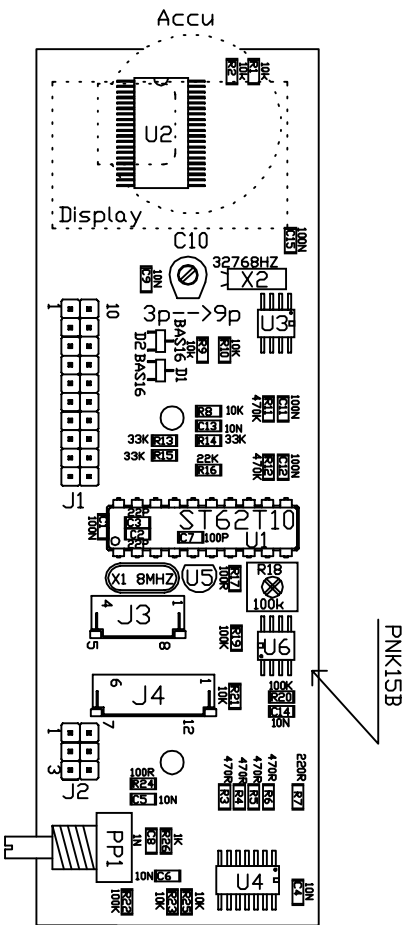
PCB PNK9 is for Suction-Arm. It has only Connector J1 and Switches Sw1-Sw4.

Some Models of PNK10 in the Instrument-Bridge also have only J1 and Sw1-Sw4 assembled.

		Checked	Date
Code E1005-3165		Jouni	12.11.2003
Name Led PCB		Drawn	Jouni
Order code PNK10 10 94		Filename	72050.dwg
Device Unit		Version no.	-
		Scale Factor	-

COMPONENT LAYOUT of
Clock-PCB PNK15b 4/04

C10 = Clock sync

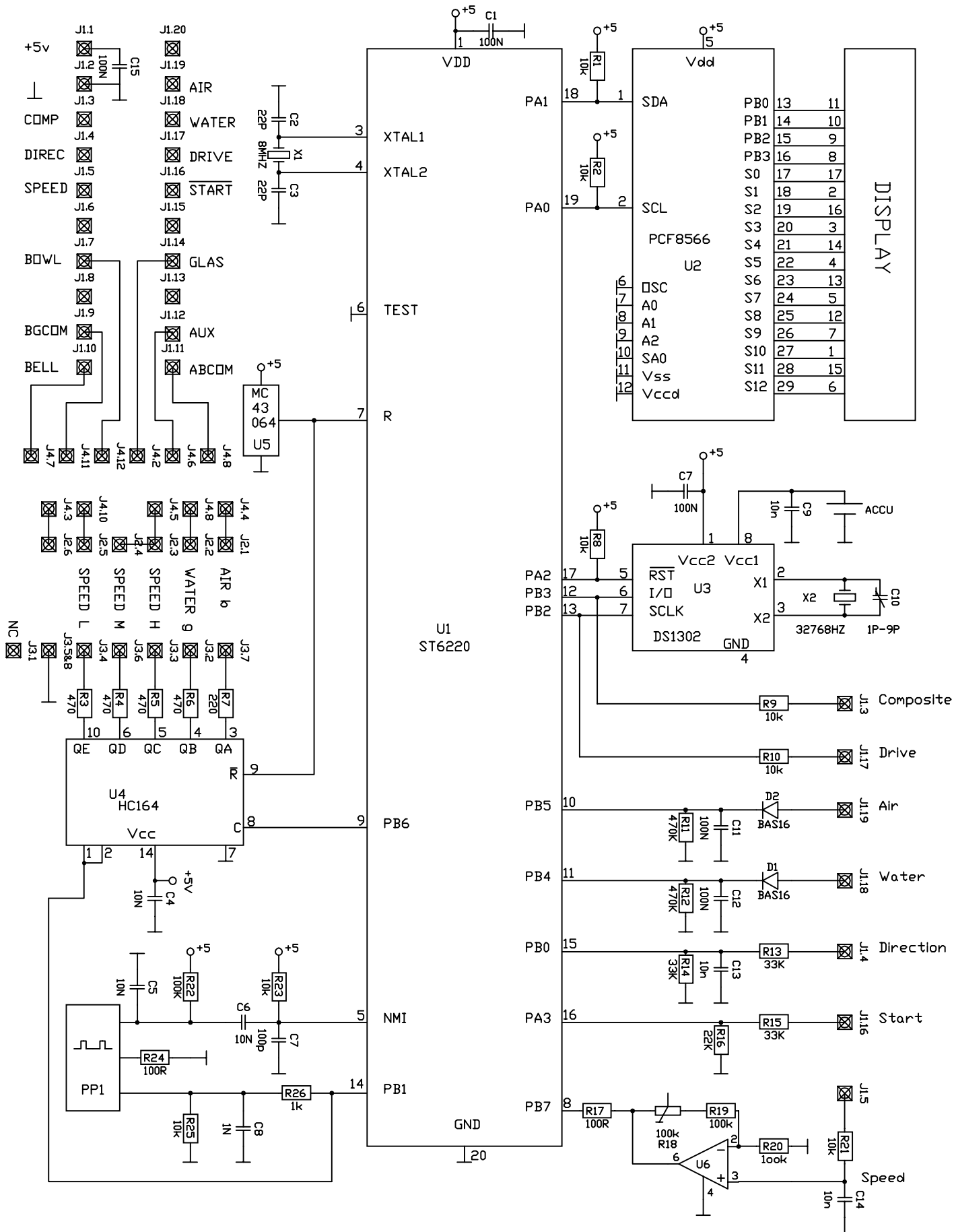



PP1 = Time adjust

- J1 = TO INSTRUMENT PCB
- J2 = CHAIR CONTROL
- J3 = LED CONNECTOR
- J4 = PUSHBUTTON CONNECTOR

- U1=ST62T10
- U2=PCF8566
- U3=DS1302
- U4=74HC164
- U5=MC34064
- U6=TS1851

		Checked	Date
		Jouni	11.2.11.2003
Code	E1005-3168	Drawn	Jouni
Name	Clock PCB	Filename	72055L.dwg
Order code	PNK15b	Version no.	-
Device	Unit	Scale Factor	-

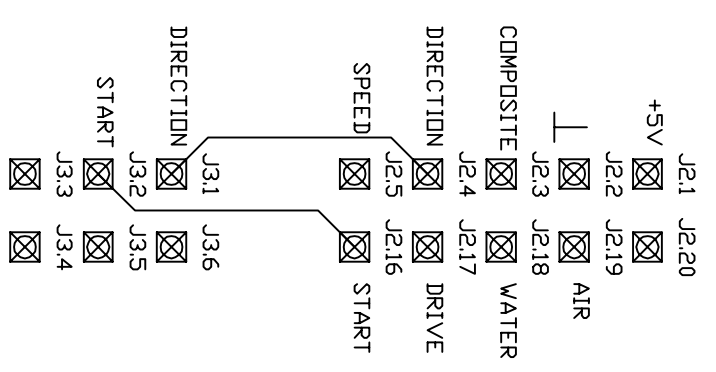
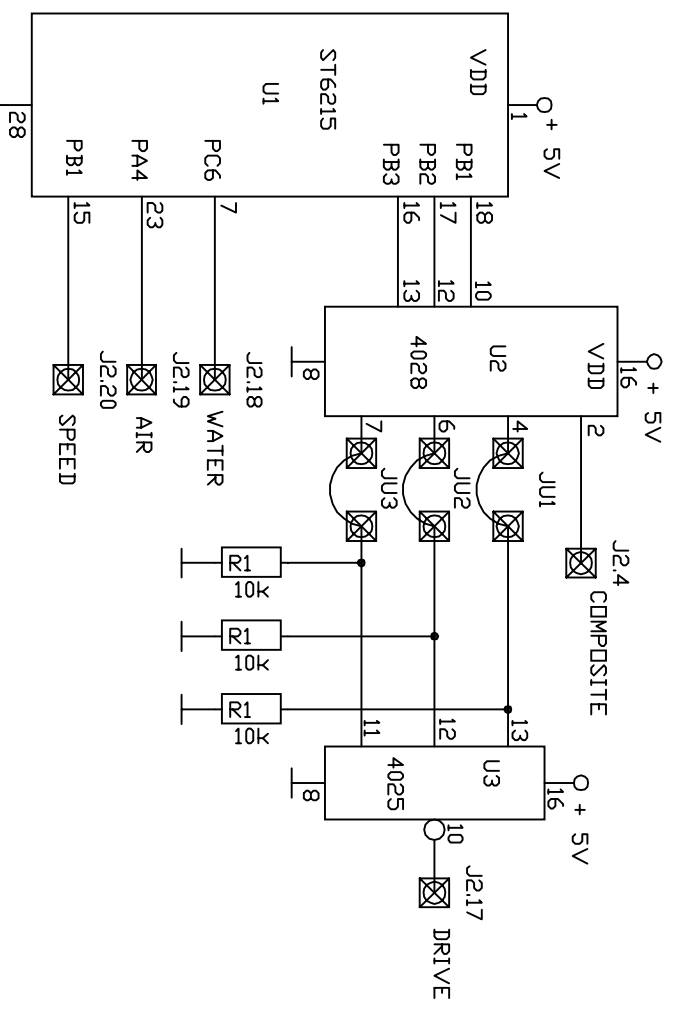
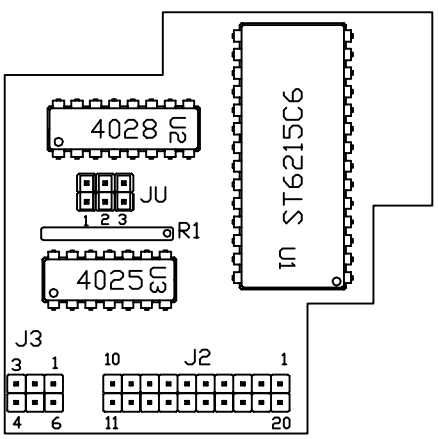


	Checked	Date
	Jouni	12.11.2003
Code	E1005-3167	Filename
Name	Clock PCB	72055.dwg
Order code	PNK15b	Version no.
Device	Unit	Scale Factor
		-

COMPONENT LAYOUT AND SCHEMATICS of Clock adapter PCB UAPU1 4/03

J2 = TD CLOCK PCB
 J3 = TD INSTRUMENT PCB
 JU1 = MM3 channel 4
 JU2 = MM1 channel 5
 JU4 = MM2 channel 6

U1=ST6215
 U2=HEF 4028
 U3=4025

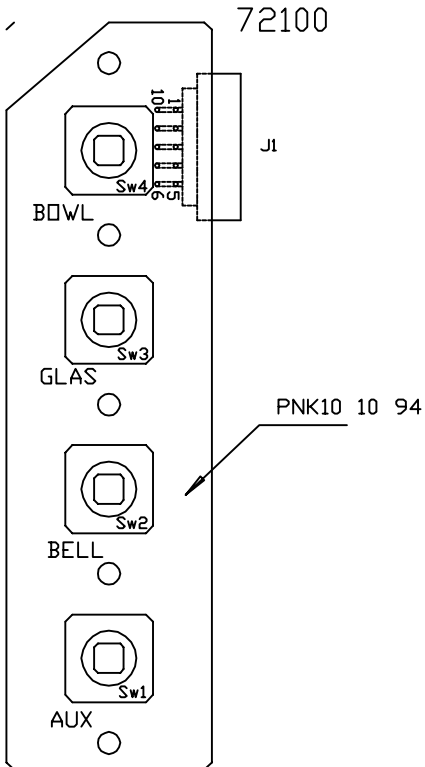


		Checked	Date
E1205-3168		Jouni	12.11.2003
Unit clock adapter PCB		Drawn	Jouni
Version no.		Filename 72070.dwg	
Order code UAPU1 4/03		Scale Factor	
Device Unit			

OSASIJUUTTELLU

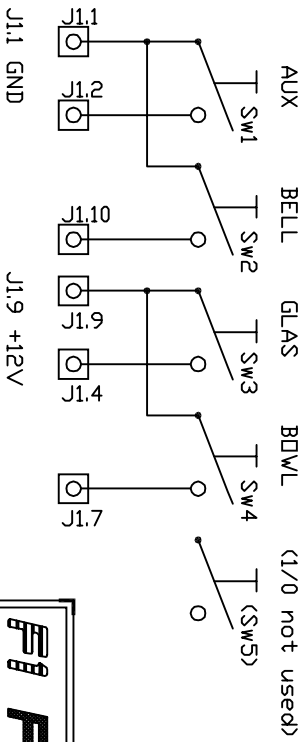
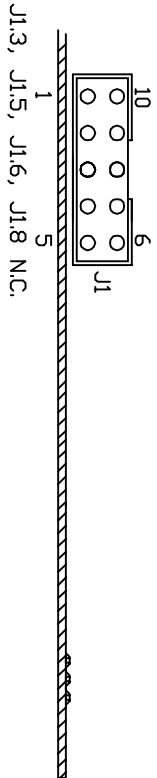
Painonappikor-tit PNK9

10-WIRE FLAT CABLE TD VALVE-PCB



10-WIRE FLAT CABLE TD VALVE-PCB

Connector J1 is on the other side of PCB than switches.

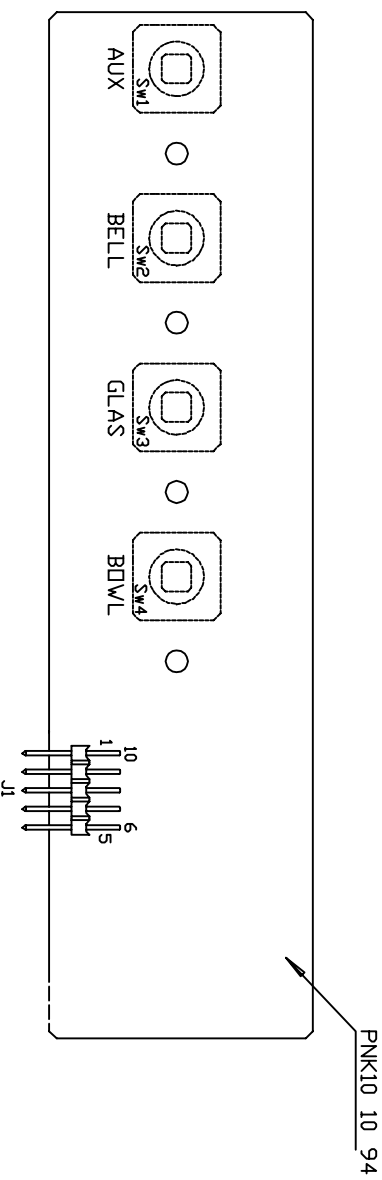


		Checked	Date
		Jouni	12.11.2003
Code	E1005-3170	Drawn	Jouni
Name	Pushbutton PCB	Filename	72100.dwg
Order code	PNK9	Version	-
Device	Unit	Scale Factor	-

OSASIJODITTELU

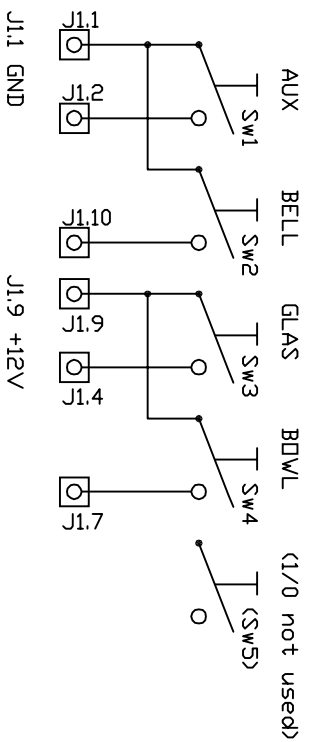
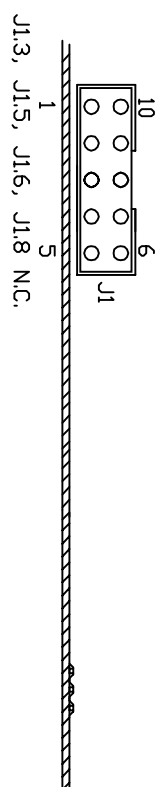
Painonappikoriti PNK10 10 94

Switches SW1-Sw4 are on the 'solder-side' of the PCB.



Connector J1 is on the other side of PCB than switches.

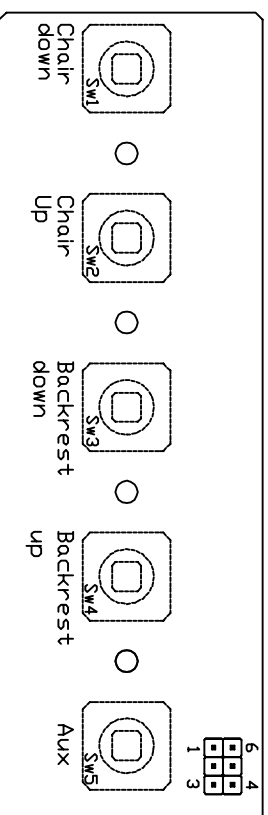
10-WIRE FLAT CABLE TD VALVE-PCB



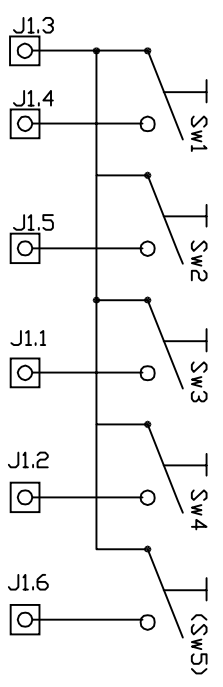
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E1005-3163		Jouni	12.11.2003
I-head push button PCB		Drawn	Jouni
File name 72040.dwg		Version no.	-
Order code PNK10 10 94		Scale factor	-
Device Unit			

OSASIOJITTELU

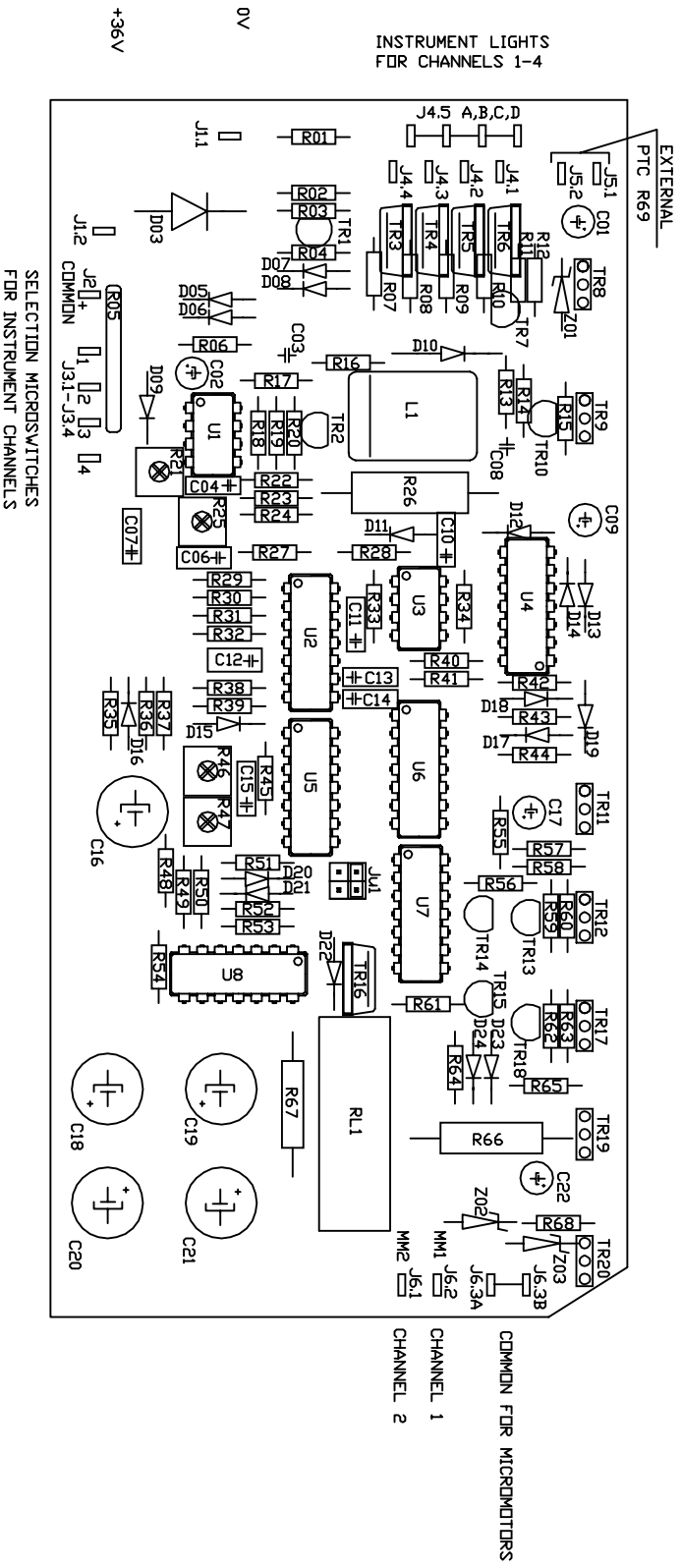
Painonappikorrit PNK18 1 96



Chair down Chair Up Backrest down Backrest up
 (1/0 not used)

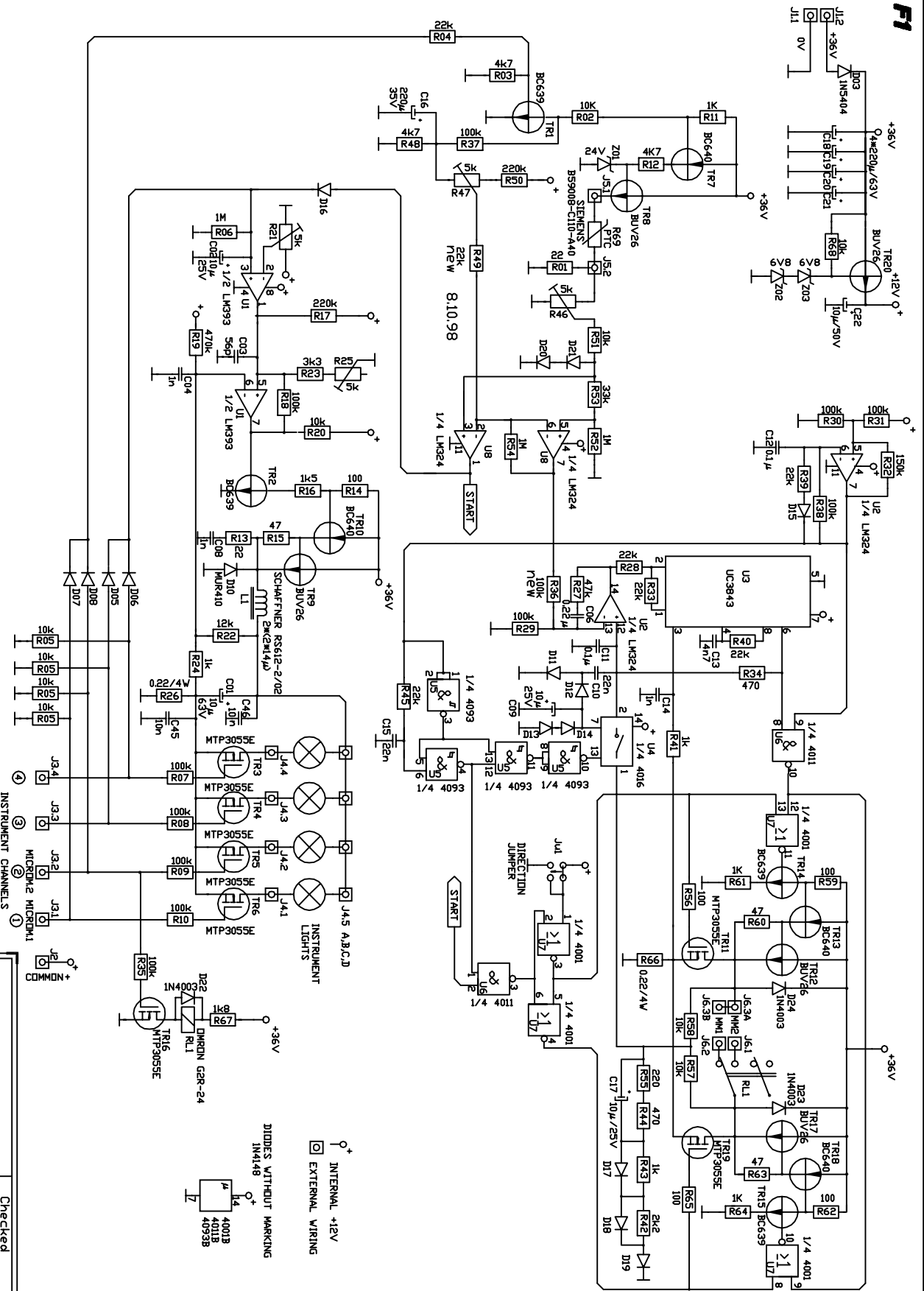


		Checked	Date
E1005-3164		Jouni	12.11.2003
Name Push button PCB		Drawer	Jouni
Order code PNK 18		Filename	72045.dwg
Device Unit		Version no.	-
		Scale factor	-



ALL TRIMMERS ARE ON THE SOLDER SIDE OF THE BOARD

		Checked	Date
		Jouni	13.11.2003
Code		Drawer	Filename
E1003-3186		Jouni	72370L.dwg
Name		Version no.	Scale Factor
SE Instrument PCB			
Order Code		Device	
PKK 2 5 95		Unit	



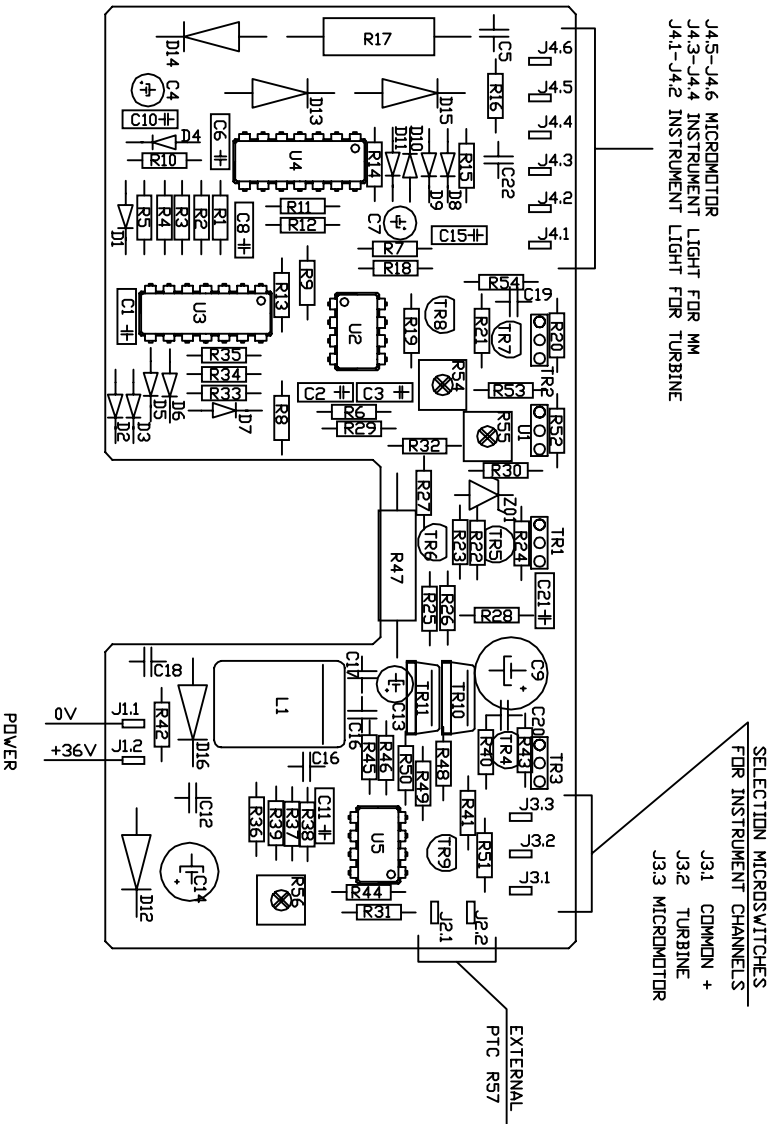
INTERNAL +12V
EXTERNAL WIRING

DIODES WITH/OUT MARKING
IN4148
4001B
4001A
4093B

INSTRUMENT CHANNELS
J3.4
J3.3
MICROA2 MICROA1
J3.2
J3.1

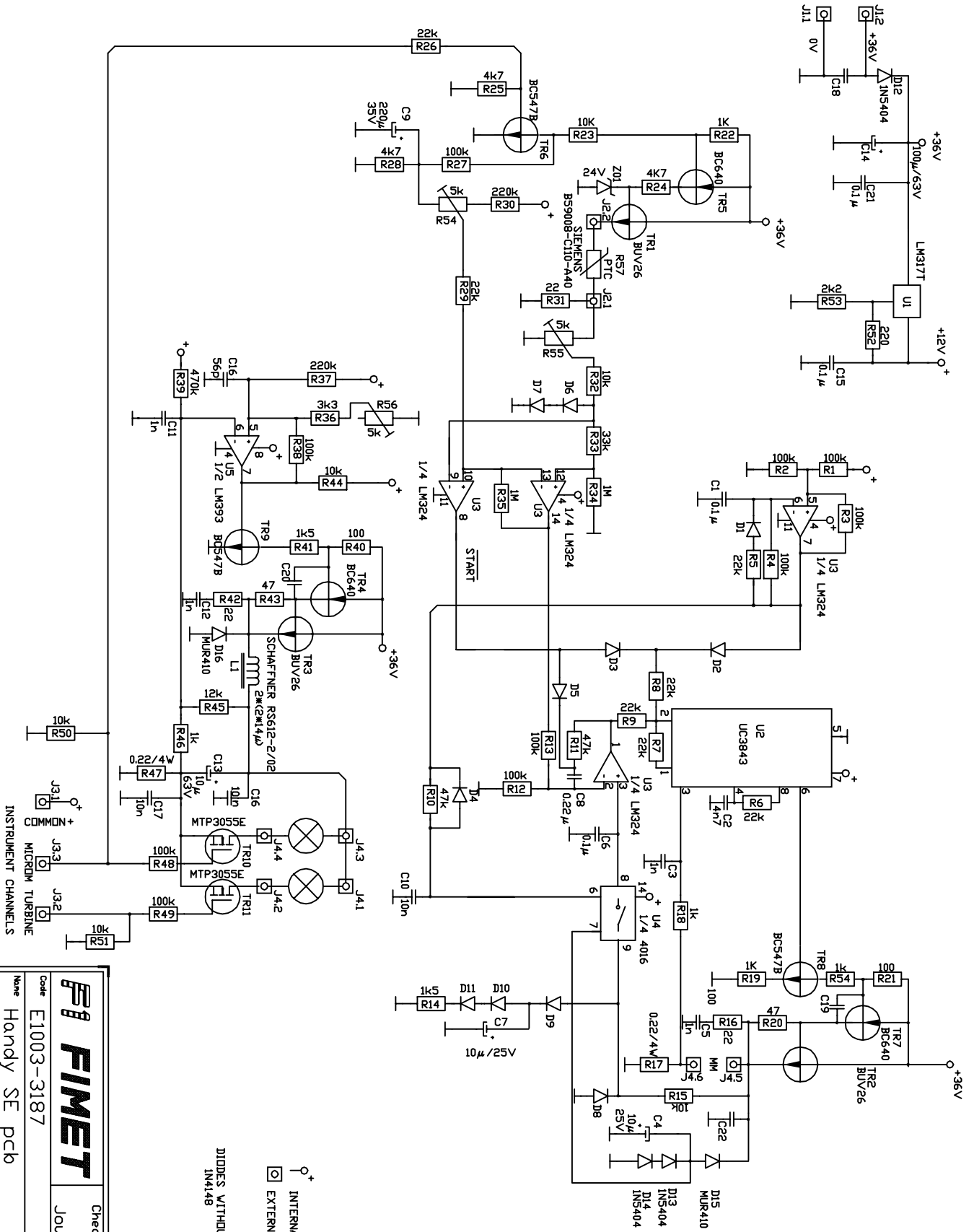
		Checked	Date
Code	E1003-3185	Jouni	13.11.2003
Name	SE Instrument PCB		
Order Code	PK 2 5 95	Filename	72370.dwg
Device	Unit	Version no.	
		Scale Factor	

COMPONENT LAYOUT of MicroMotor-PCB PORA2 1/98



R56 VOLTAGE OF INSTR. LIGHTS
R54 START THRESHOLD OF MICROMOTOR
R55 MAX VOLTAGE OF MICROMOTOR

		Checked	Date
		Jouni	13.11.2003
Code	E1003-3188	Drawer	Jouni
Name	Handy SE PCB	Filename	72390L.dwg
Order Code	PORA2 1/98	Version no.	
Device	Unit	Scale Factor	



⊕ INTERNAL +12V
 □ EXTERNAL WIRING
 DIODES WITHOUT MARKING
 IN4148

		Checked	Date
		Jouni	13.11.2003
Code	E1003-3187	Drawer	Jouni
Name	Handy SE pcb	Filename	72390.dwg
Order Code	PKRA2 1/98	Version no.	
Device	Unit	Scale Factor	

J1 FLAT-CABLE TO SUCTION ARM
J7 FLAT-CABLE TO INSTRUMENT ARM

- 1 0V
- 2 AUX
- 3 SUCT.1
- 4 GLAS
- 5 N.C.
- 10 BELL
- 9 +12V
- 8 SUCT.2
- 7 BOWL
- 6 N.C.

J2 CABLE TO FLOOR BOX

- 1 0VDC
- 2 BELL REL
- 3 29VAC
- 4 AUX REL
- 5 35VDC
- 6 0VAC
- 7 REL COMMON
- 8 14.5VAC
- 9 SUCT REL
- 10 GND

J3 OPER.LIGHT

- 1 12V/27V (J10)
- 2 HIGH
- 3 FIMET F1 control
- 4 LOW

J4 POWER TO INSTRARM

- 1 35VDC
- 2 0V
- 3 GND
- 4 NC

J8 SEPTISPRAY

- 1 +13.6V
- 2 LED ANODE
- 3 SWITCH
- 4 LED CATHODE

J10 OPER.LIGHT VOLTAGE

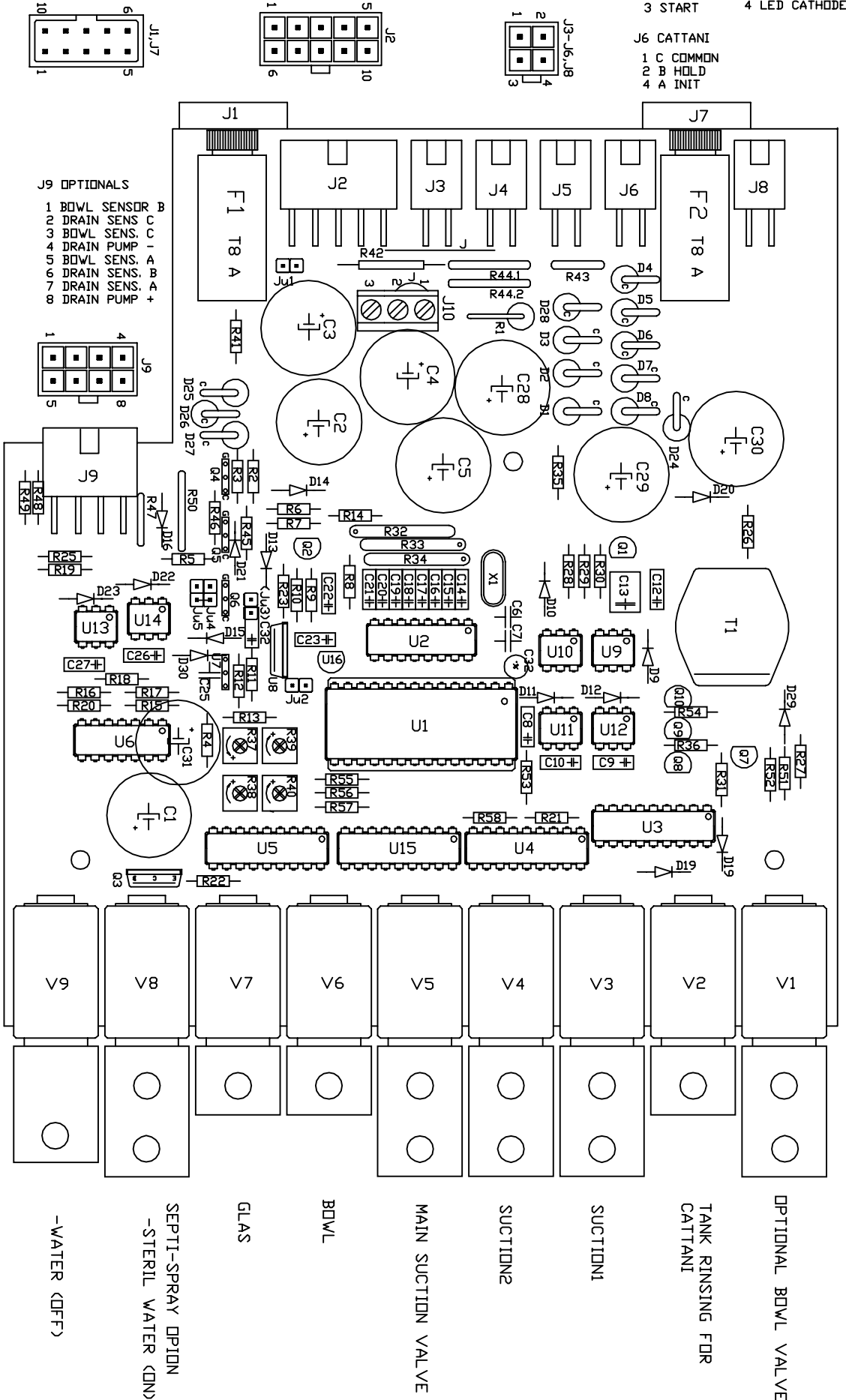
- JUMPER 1-2 / 12V
- JUMPER 2-3 / 27V

J5 METASYS

- 1 24Vrect
- 2 0V
- 3 START

J6 CATTANI

- 1 C COMMON
- 2 B HOLD
- 4 A INIT



- J9 OPTIONALS
- 1 BOWL SENSOR
 - 2 DRAIN SENS.
 - 3 BOWL SENS.
 - 4 DRAIN PUMP
 - 5 BOWL SENS.
 - 6 DRAIN SENS.
 - 7 DRAIN SENS.
 - 8 DRAIN PUMP

Ju1 With AUX can optional relay be used.

Ju2 AUX-PushButton in suction- and toolarms can be used to switch operation light on/off.

Ju3 Fimet F1 Operation Light (27V)

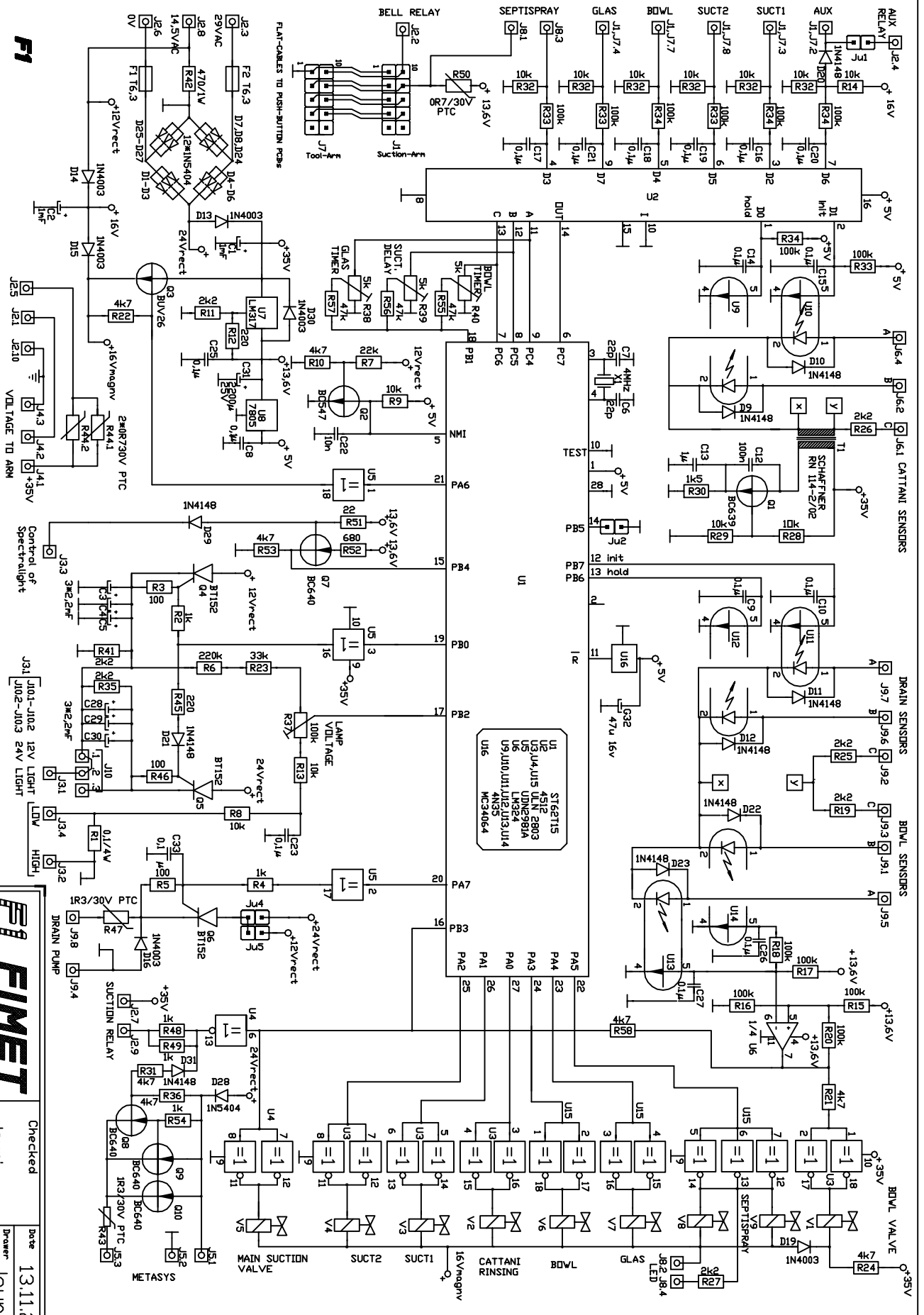
Ju4, Ju5 Drain pump 24V/12V

TRIMMERS

- R37 Light Voltage
- R38 Glas Timer
- R39 Suct. Delay
- R40 Bowl Timer

		Checked	Date
Code E1003-3180		Jouni	13.11.2003
Name Valve PCB		Drawer	Jouni
Order code VK15 V3		Filename	72230L.dwg
Device Unit		Version	no.
		Scale Factor	-

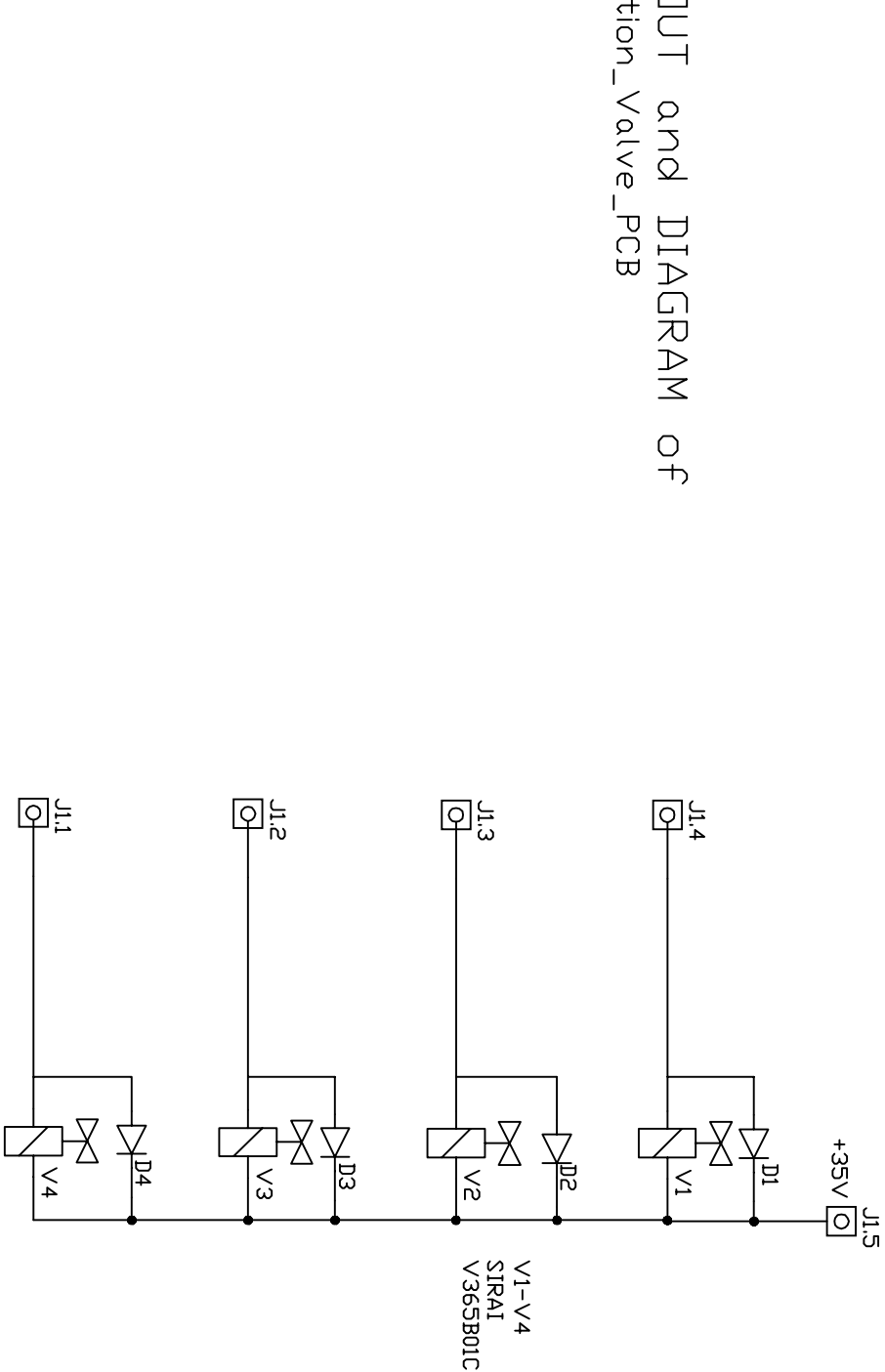




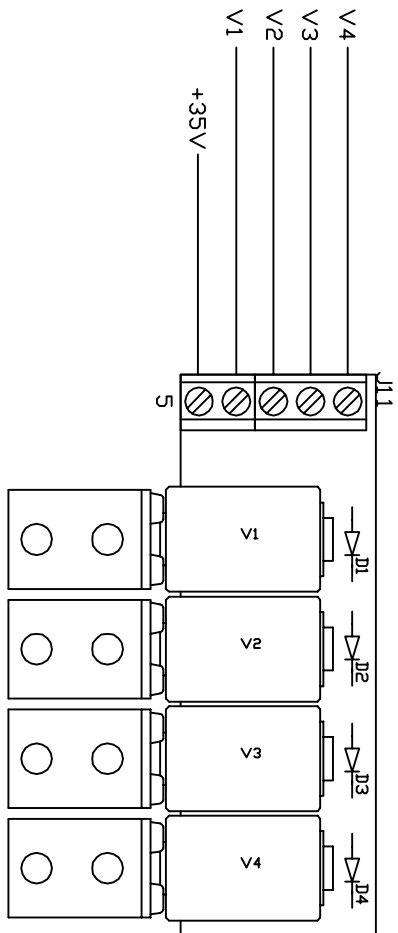
F1

		Code	E1003-3179	Checked	Jouni	Date	13.11.2003
		Name	Valve PCB	Drawer	Jouni	Filename	72230.dwg
Order code	VK15 V3	Version no.		Scale Factor			
Device	Unit						1:1

LAYOUT and DIAGRAM of
Selection_Valve_PCB



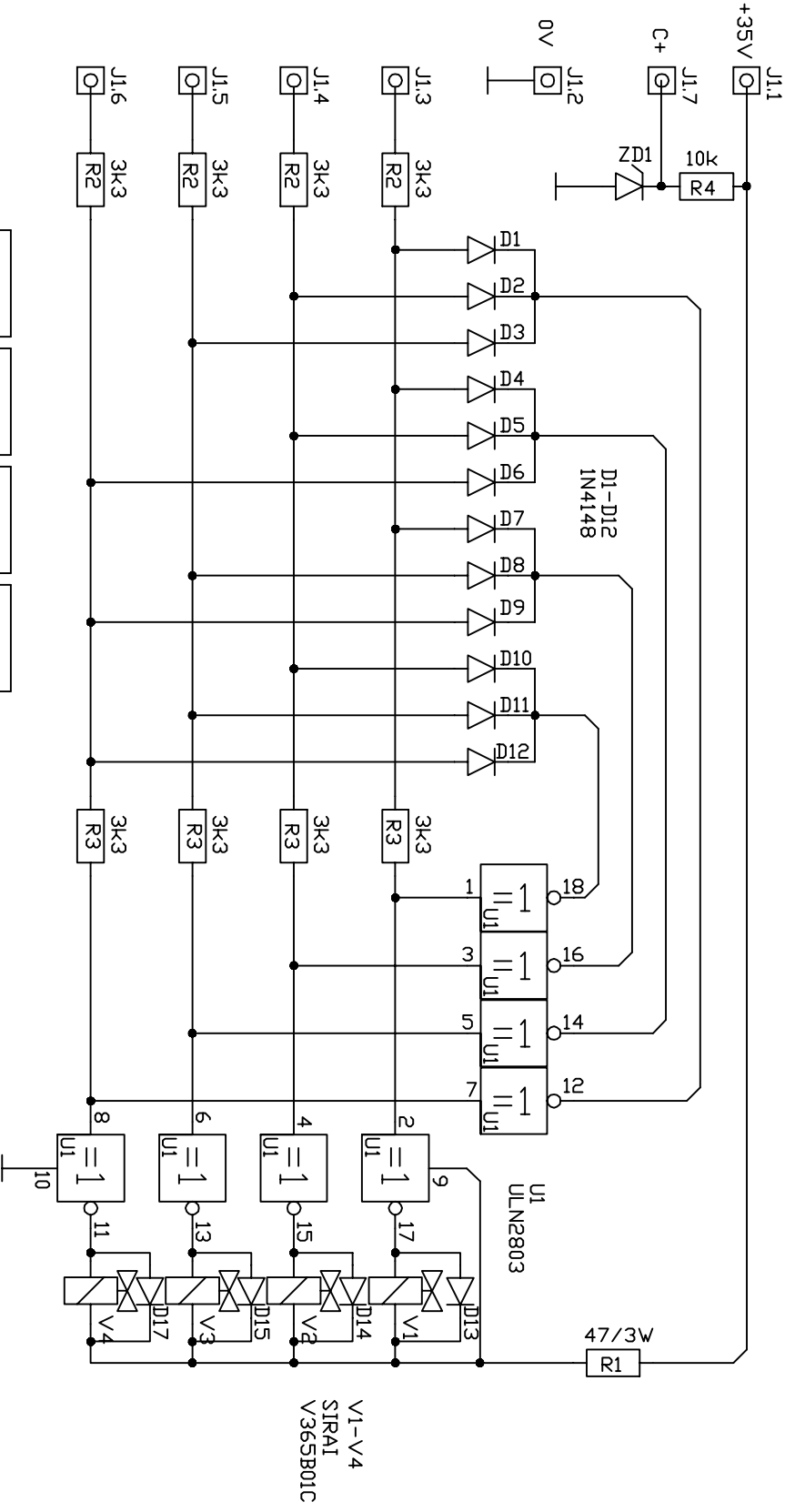
SELECTION MICROSWITCHES
FOR INSTRUMENT CHANNELS
(Select / 0v)



SELECTION MAGNET-VALVES

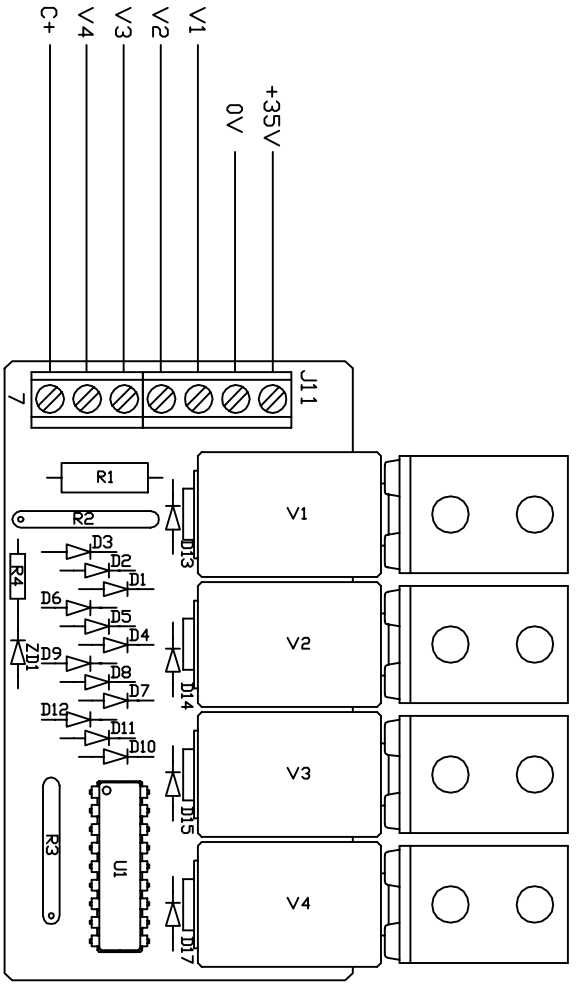
		Checked	Date
Code E1003-3192		Jouni	13.11.2003
Name Selection Valve PCB		Drawn	Jouni
Order code VKE3		Filename	72440.dwg
Device Unit		Version no.	-
		Scale Factor	-

LAYOUT and DIAGRAM of Selection_Valve_PCB



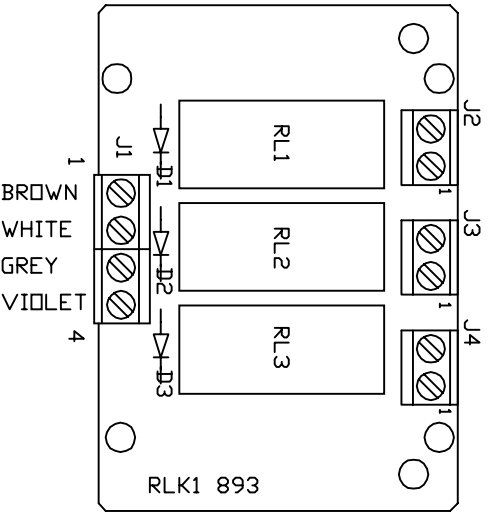
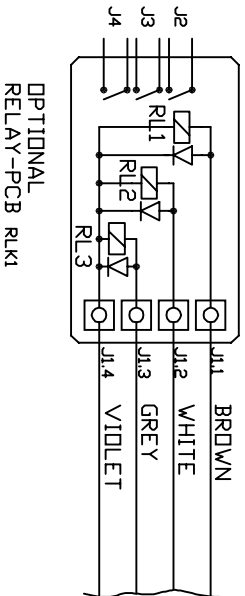
SELECTION MAGNET-VALVES

SELECTION MICROSWITCHES FOR INSTRUMENT CHANNELS (Select / +13.6V)



		Checked	Date
Code E1003-3191		Jouni	13.11.2003
Name Selection valve PCB		Drawn	Jouni
Order code VKE 3		Filename	72430.dwg
Device Unit		Version no.	-
		Scale Factor	-

RELEKORTTI RLK1



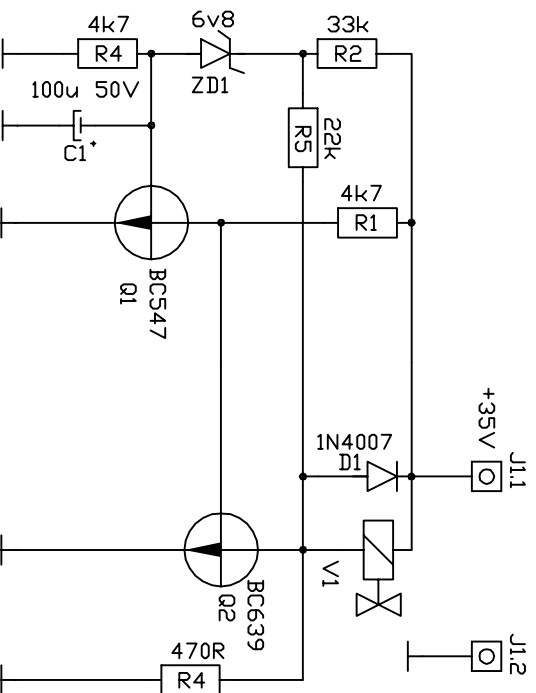
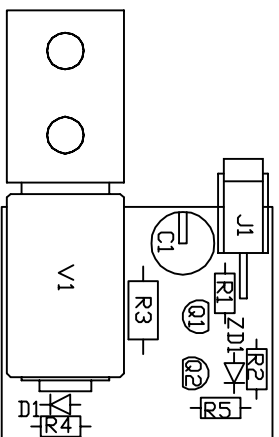
RELAY RL1 IS ON, WITH SUCTION ON

RELAYS RL2 AND RL3 ARE ACTIVATED WITH
PUSH-BUTTONS ON SUCTION- AND INSTRUMENT-ARMS

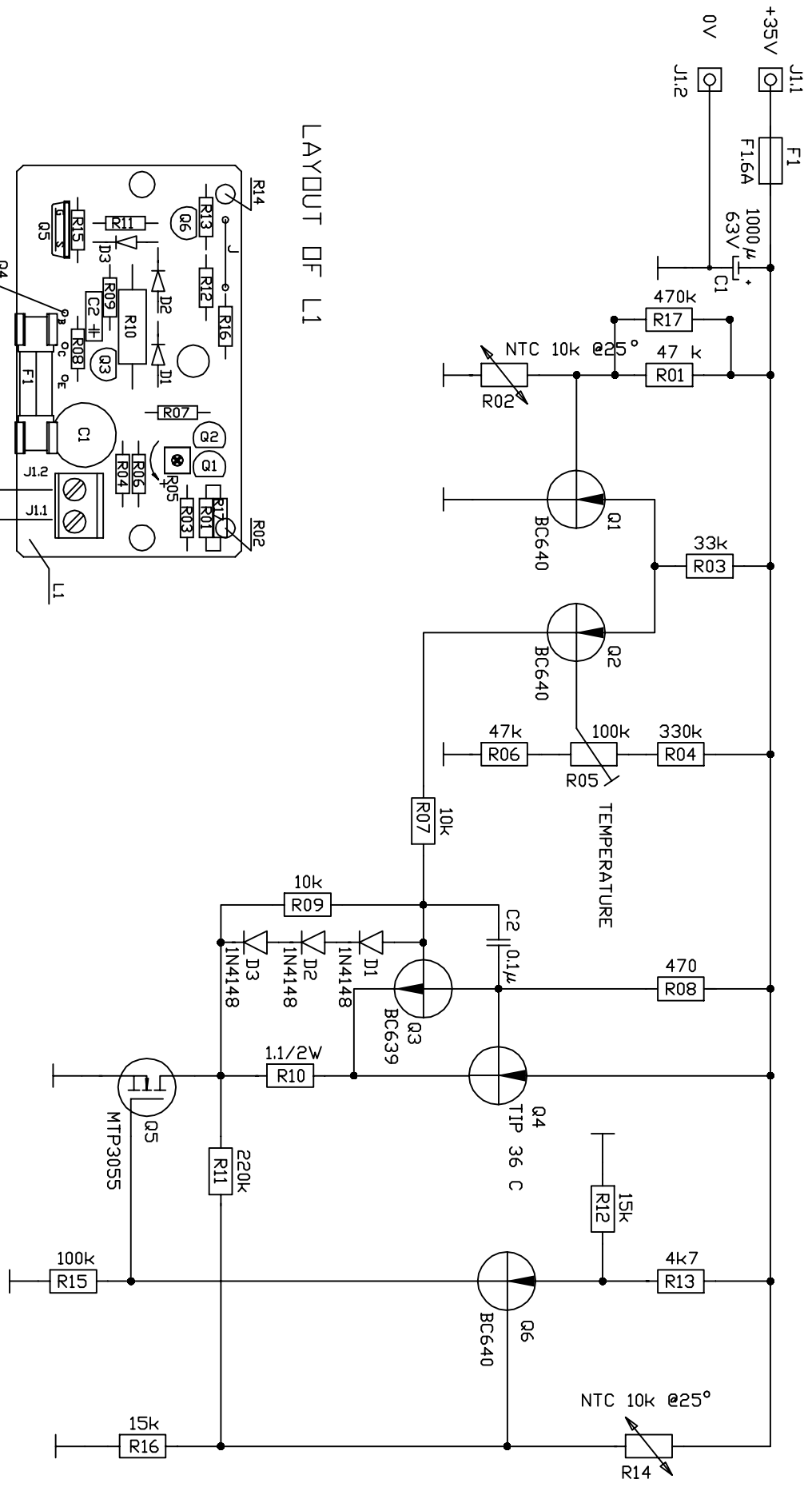
		Checked	Date
Code E1005-3173		Jouni	12.11.2003
Name Relay PCB		Drawn	Jouni
Order Code RK9 9/98		Filename	72120.dwg
Device Unit		Version no.	-
		Scale Factor	-

F1

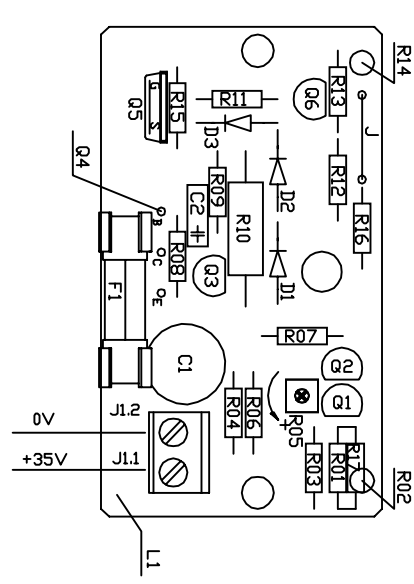
LAYOUT of
pressure PCB MGV03 5/02



		Checked	Date
		Jouni	12.11.2003
Code		Drawn	
E1003-3101-2		Jouni	
Name		Filename	
Pressure relief PCB		72380.dwg	
Order code		Version no.	
MGV03 5/02		-	
Device		Scale factor	
Unit		-	

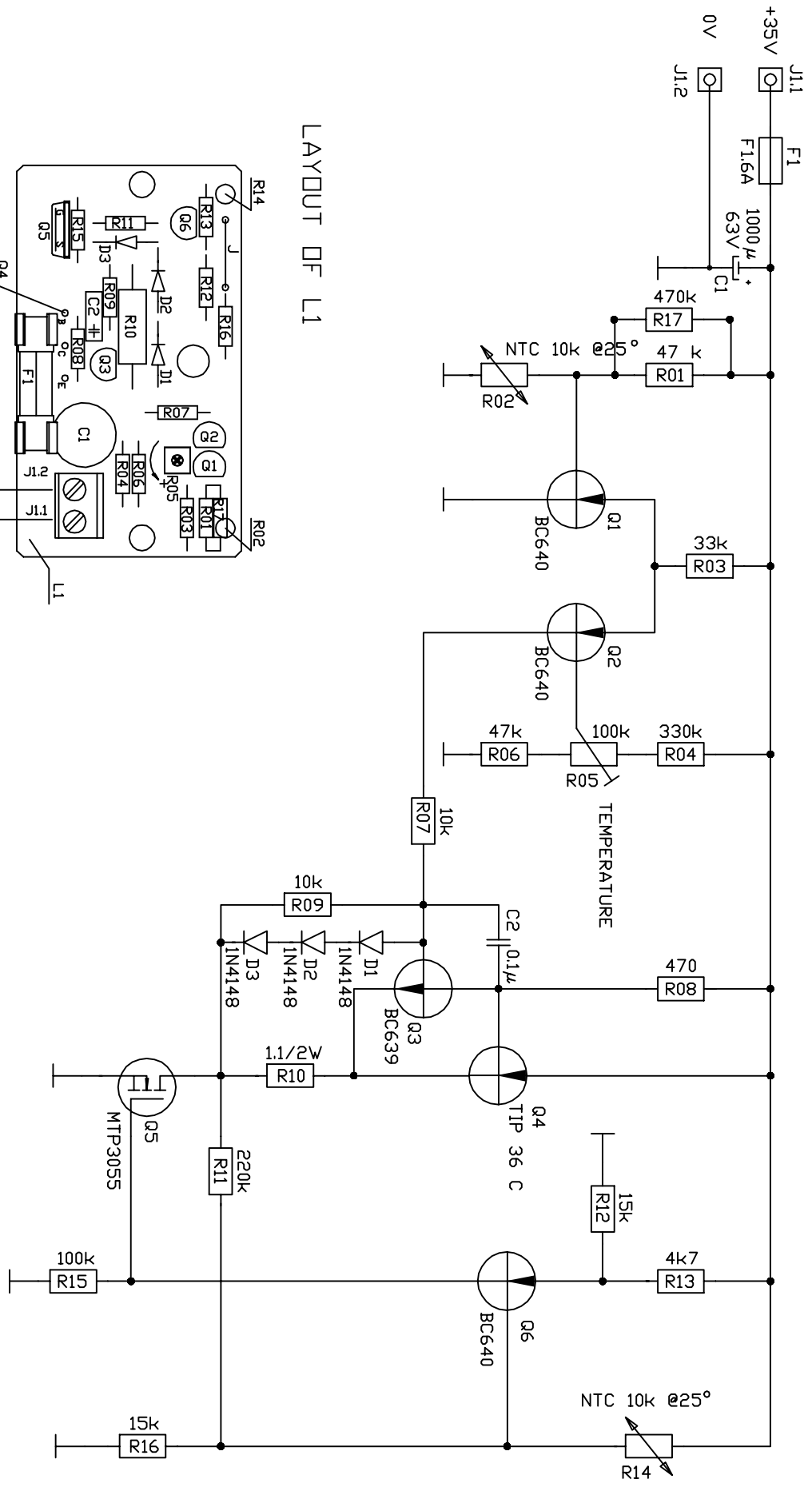


LAYOUT OF L1

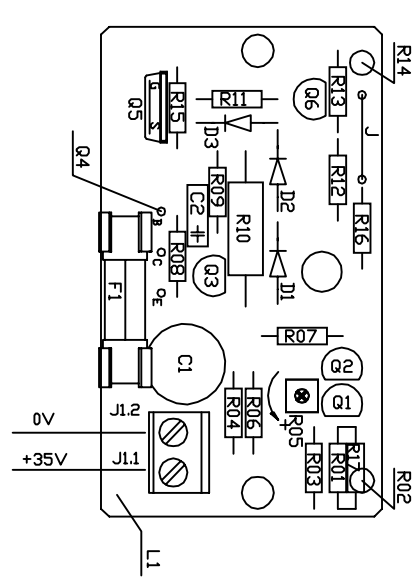


COMPONENTS R02,R14 AND Q4 ARE ON THE SOLDERSIDE OF PCB.

		Checked	Date
Code E1003-3178		Jouni	13.11.2003
Name Water heater pcb		Drawer	Jouni
Order code L1 3 94		Filename	72160.dwg
Device Unit		Version no.	-
		Scale Factor	-



LAYOUT OF L1

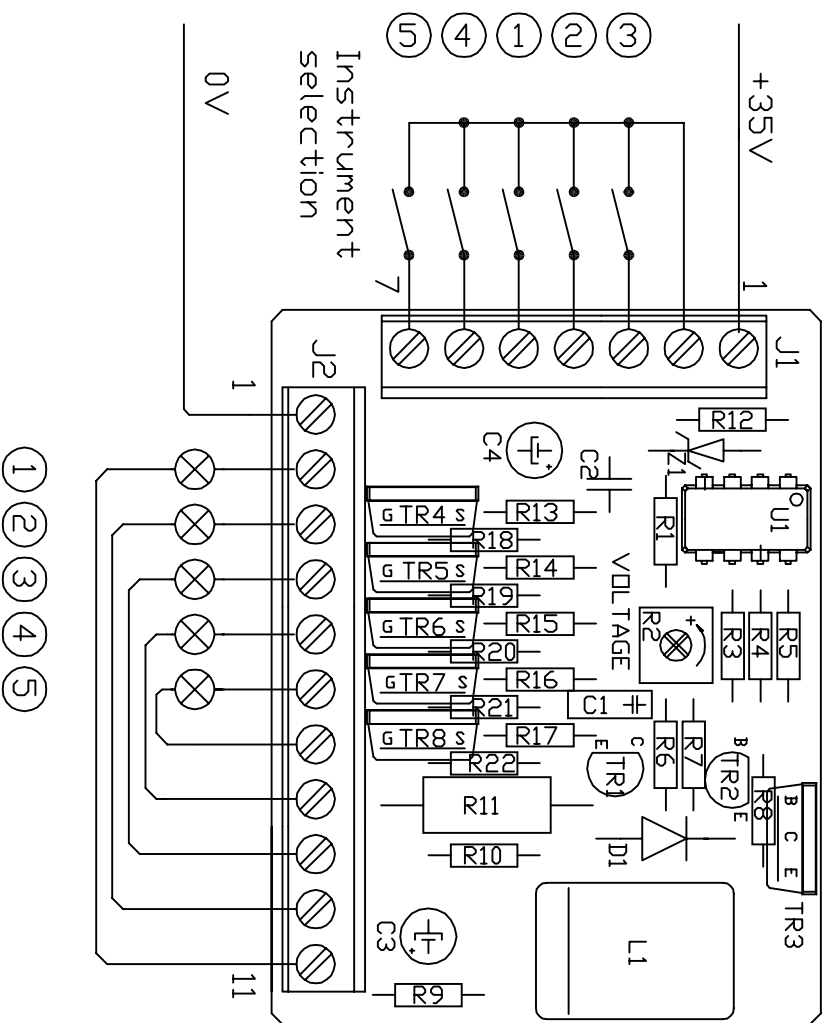


COMPONENTS R02,R14 AND Q4 ARE ON THE SOLDER SIDE OF PCB.

		Checked	Date
		Jouni	13.11.2003
Code	E1003-3178	Drawer	Jouni
Name	Water heater pcb	Filename	72160.dwg
Order code	L1 3 94	Version no.	
Device	Unit	Scale Factor	

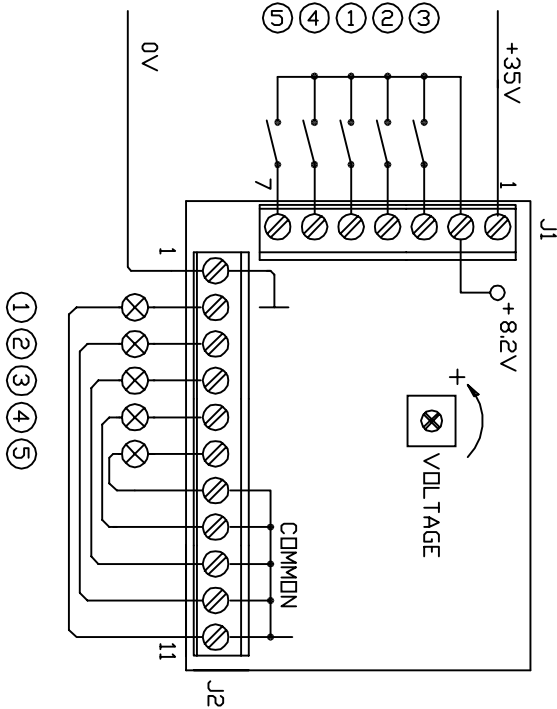
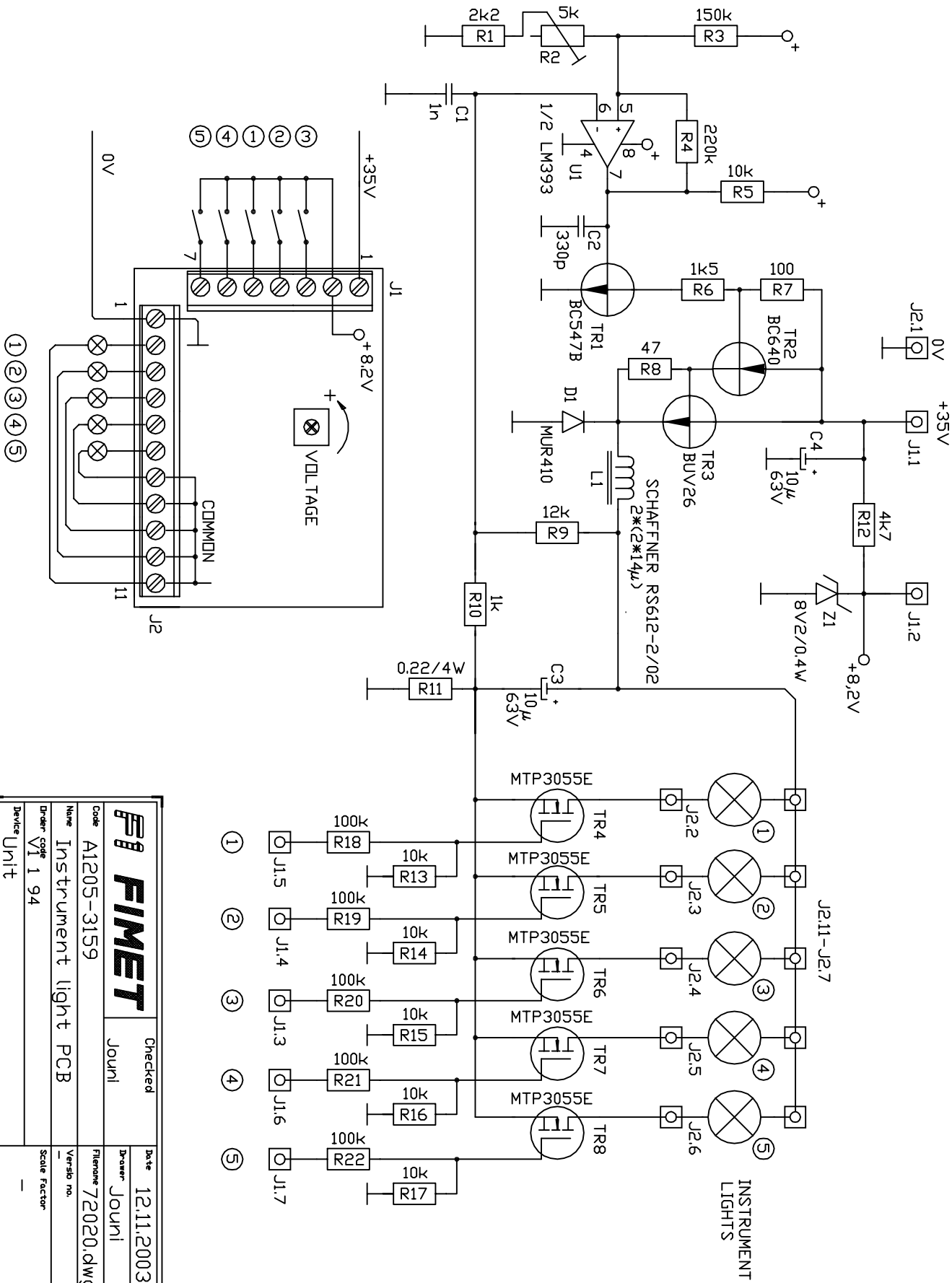
OSASIJDITTELU

Virtalähde instrumenttivalolle IV1



Instrument lights

		Checked	Date
A1005-3160		Jouni	12.11.2003
Instrument light PCB		Drawn	Jouni
Order code V1 1 94		Filename	72020L.dwg
Device A unit		Replaces drawing no.	-
		Scale factor	-

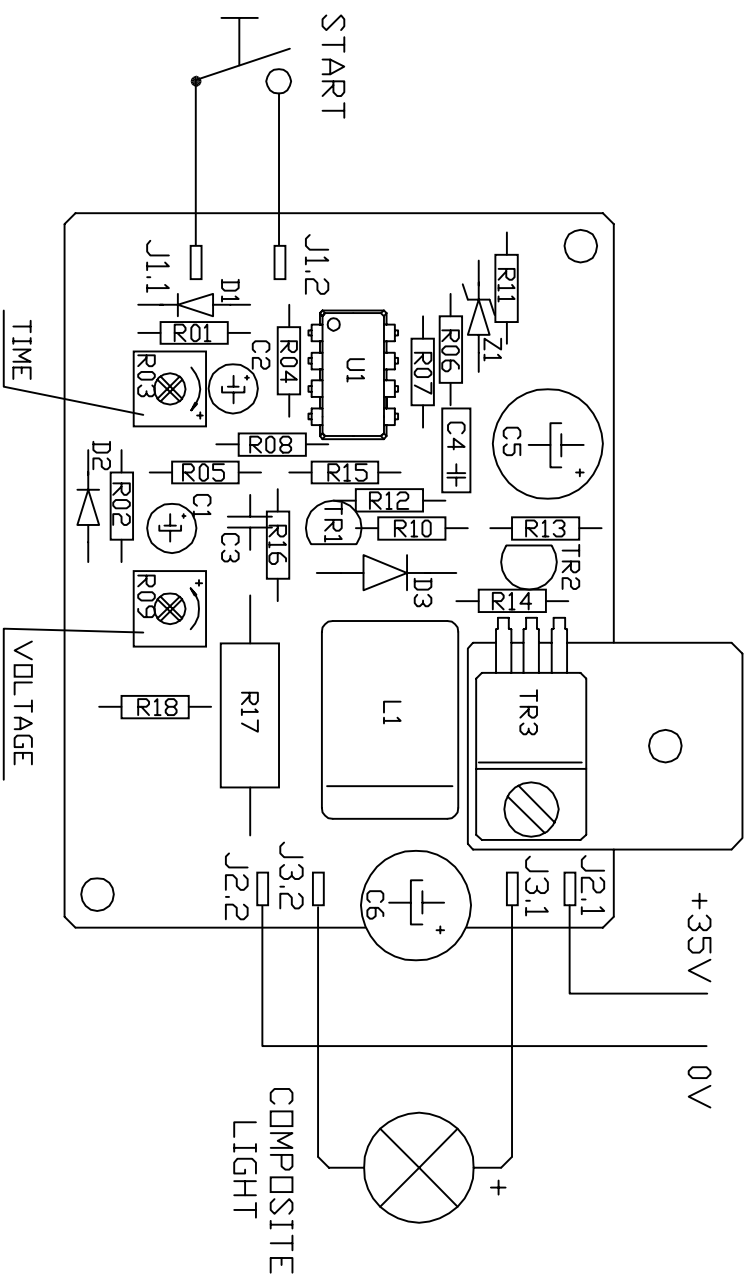


FIMET		Checked	Date
Code: A1205-3159		Jouni	12.11.2003
Name: Instrument light PCB		Drawn	Jouni
Order code: V1 1 94		Filename	72020.dwg
Device: Unit		Version	no.
		Scale	Factor

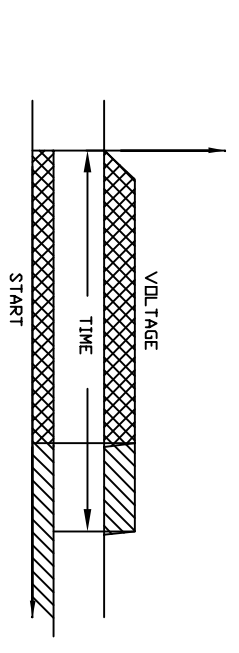
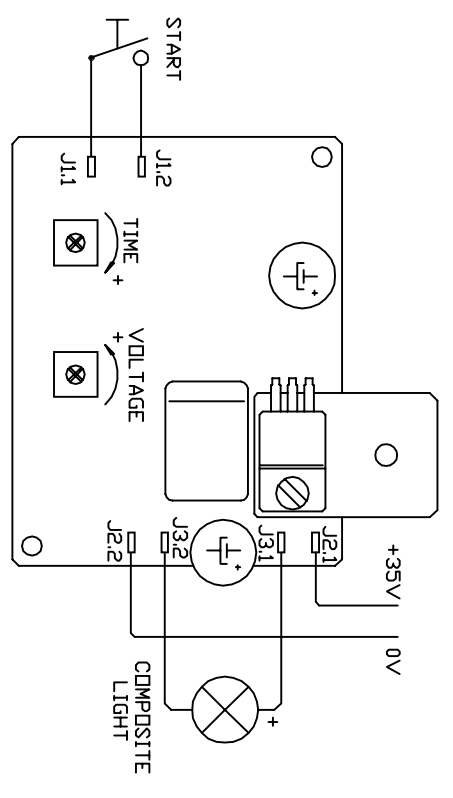
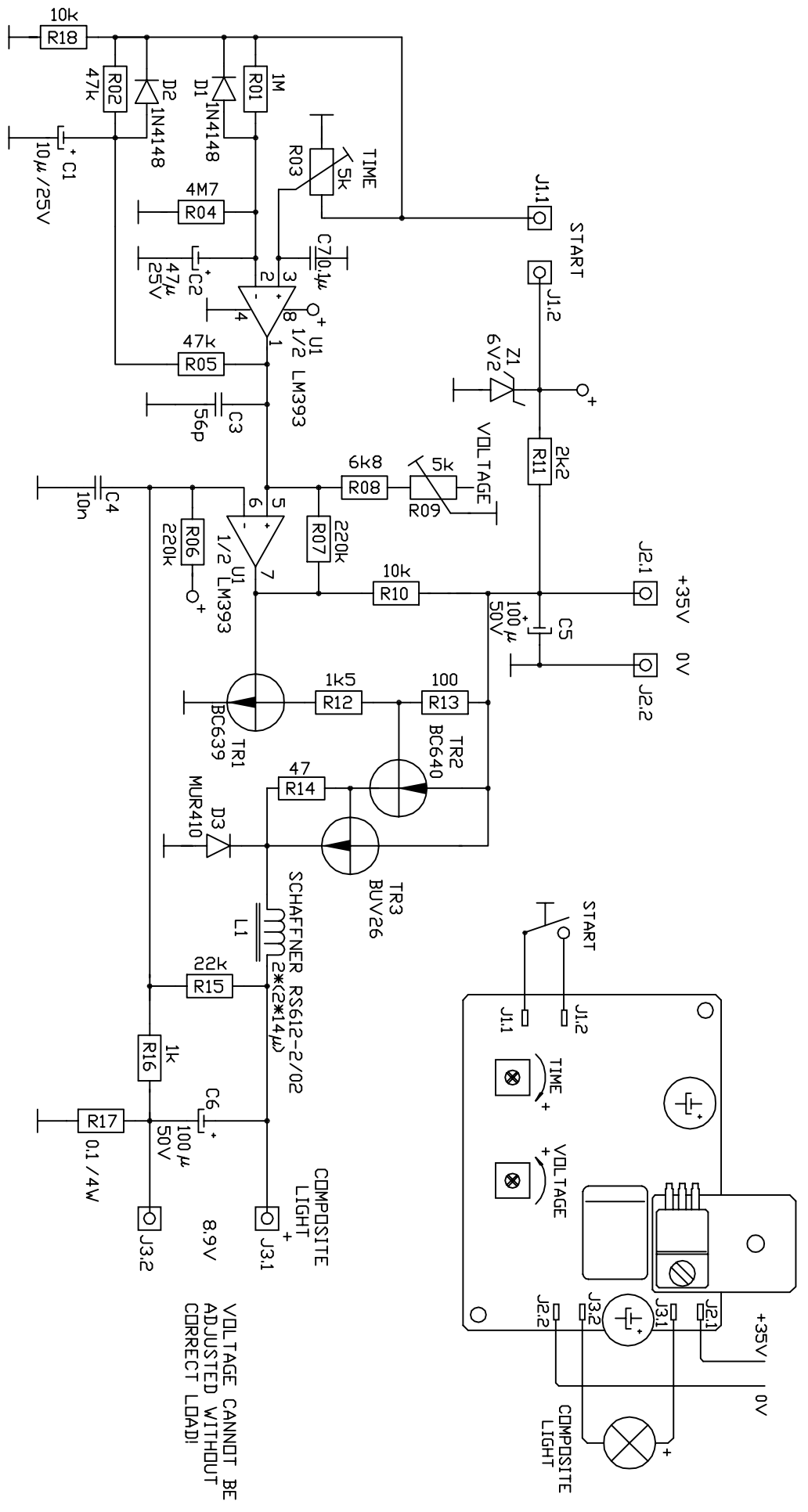
OSASIJOOITTELU

Valokovettajan virtalähde KVL2

SUHDE 1,5 : 1



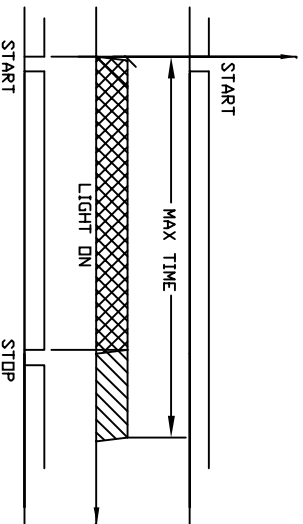
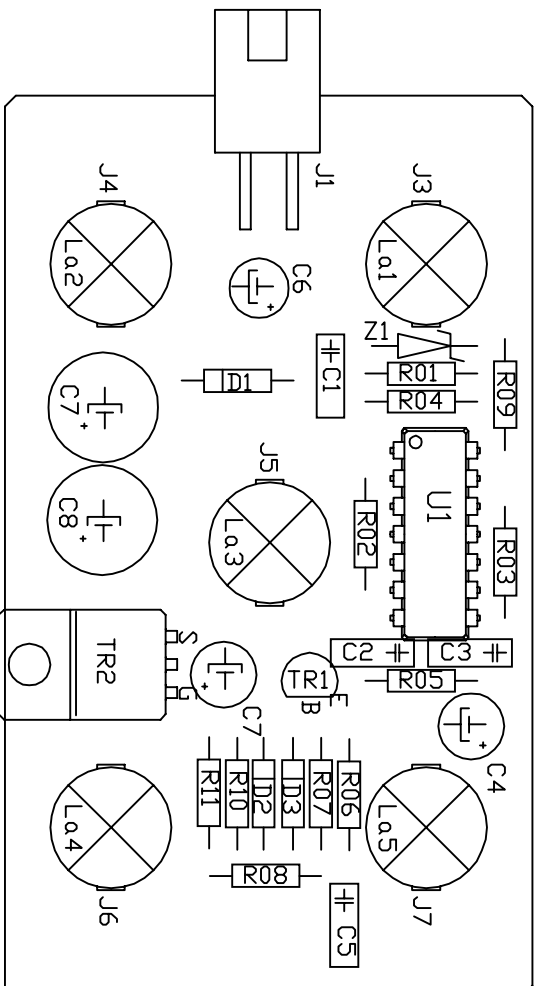
		Checked	Date
		Jouni	12.11.2003
Code	A1205-3162	Drawer	Jouni
Name	Comp. Light PCB	Filename	72030L.dwg
Order code	799022	Version no.	-
Device	A unit	Scale Factor	-



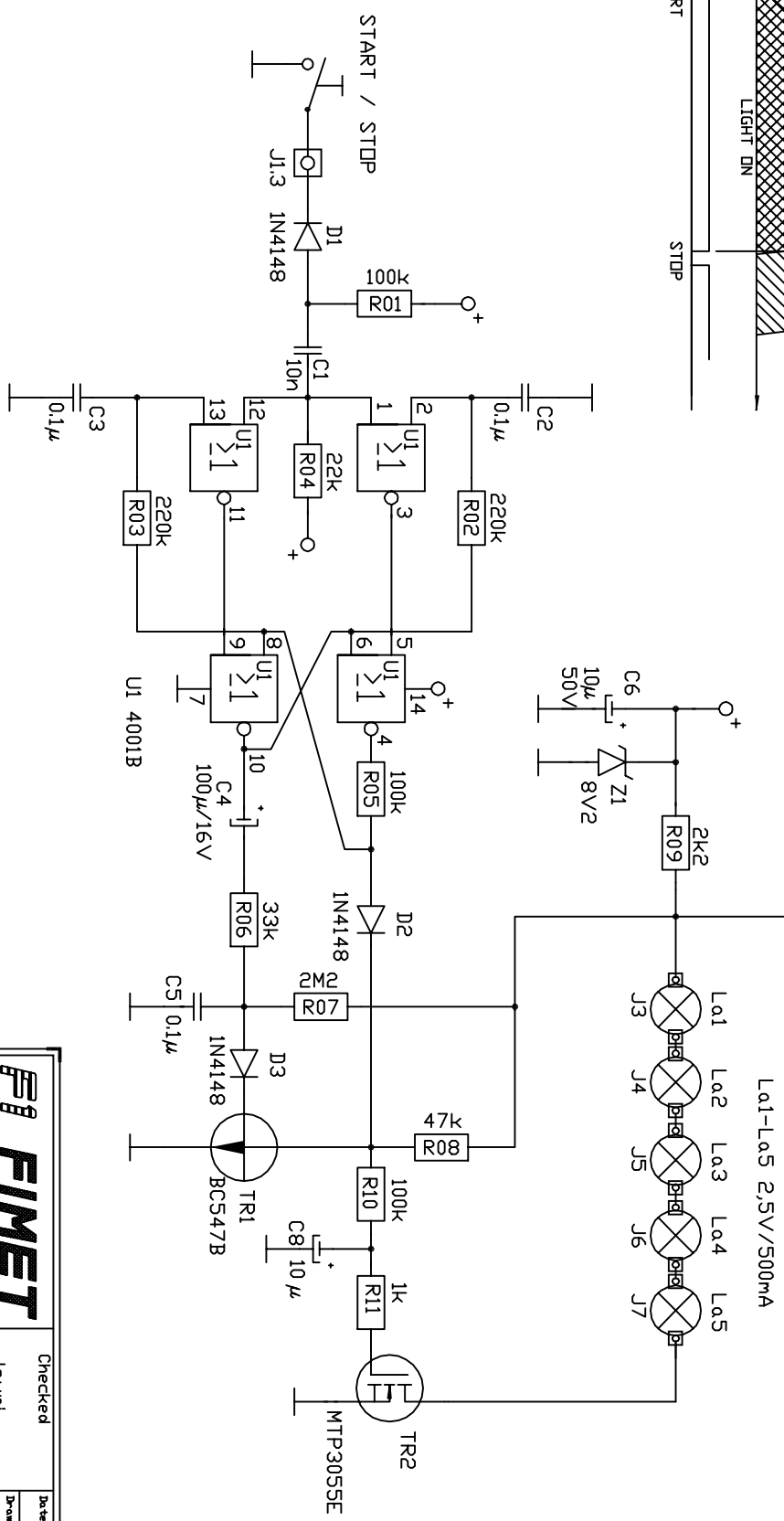
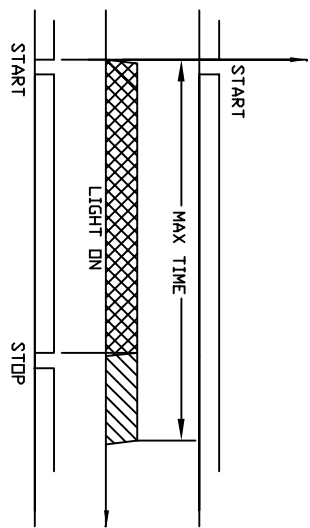
VOLTAGE CANNOT BE
ADJUSTED WITHOUT
CORRECT LEAD!

		Checked	Date
Code A1005-3160		Jouni	12.11.2003
Name Comp. Light PCB		Drawn	Jouni
Order code 799022		Filename	72030.dwg
Device A unit		Version	no.
		Scale	Factor

OSASIJDITTELU
RÖNTGENKATSELULAITE RV
SUHDE 1,5 : 1



		Checked	Date
Code E1005-3172		Jouni	12.11.2003
Name RTG view PCB		Drawn	Jouni
Order code RV2		Filename	72111L.dwg
Device Unit		Version	no.
		Scale	Factor

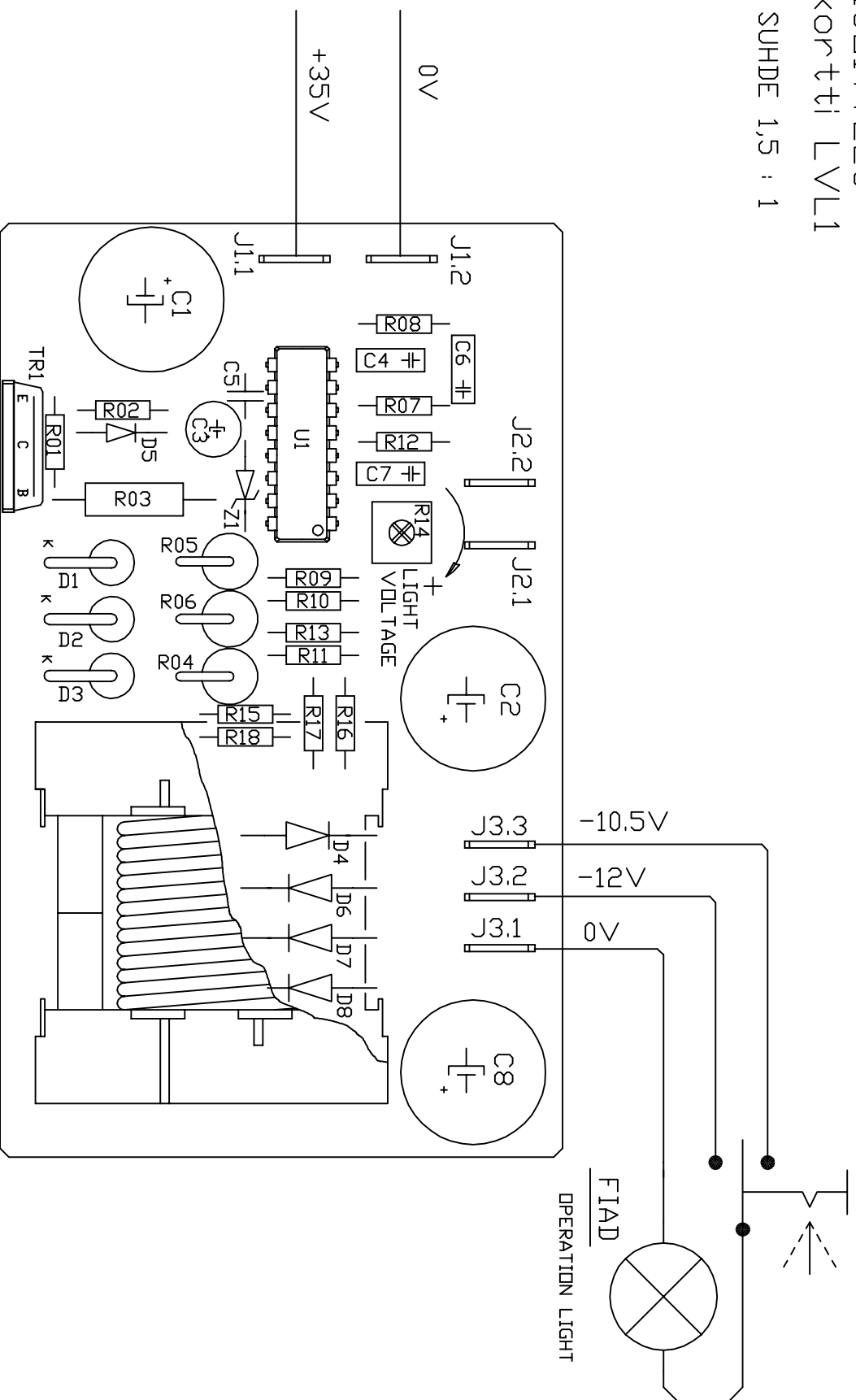


La1-La5 2,5V/500mA

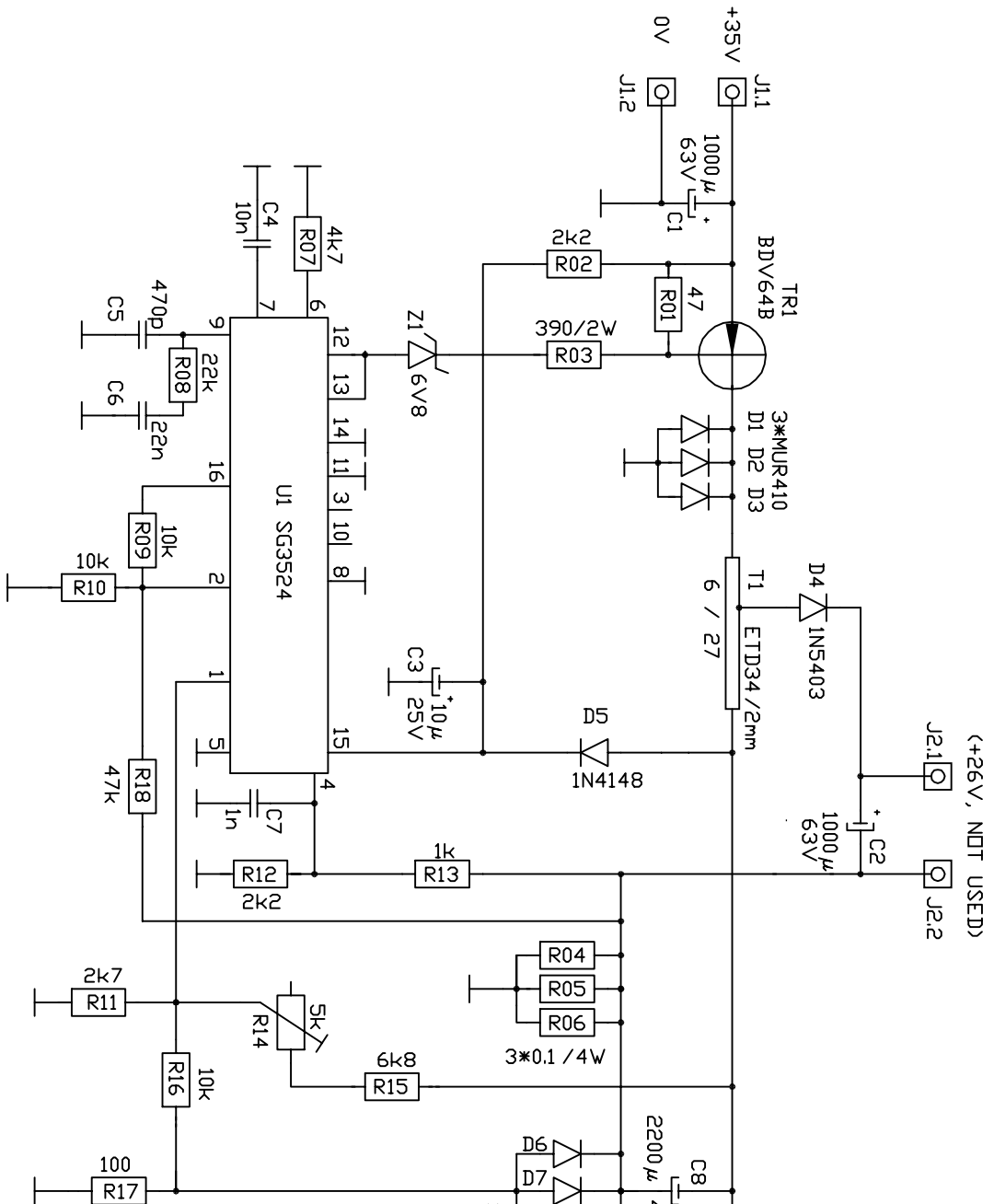
		Checked	Date
		Jouni	12.11.2003
Code		Drawn	Filename
E1005-3171		Jouni	72111.dwg
Name		Version	Scale
RTG view PCB		RV2	Factor
Order code		Device	
RV2		Unit	

OSASIJÄITTELU VALOKORFTI LVL1

SUHDE 1,5 : 1

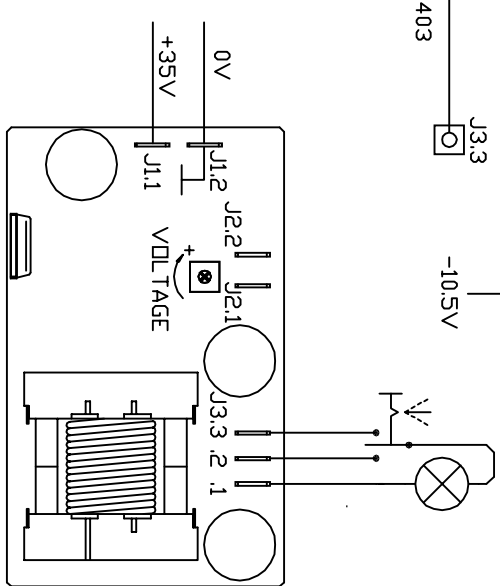
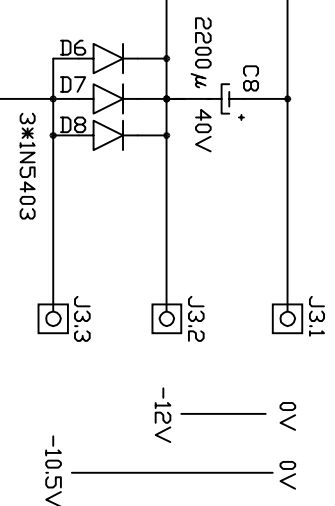


		Checked	Date
E1003-3175		Jouni	13.11.2003
Name		Drawer	
Light power source		Jouni	
Order code		Filename	
VL 1 3 92		72140L.dwg	
Version		Scale factor	
1		1:1	
Device		Unit	



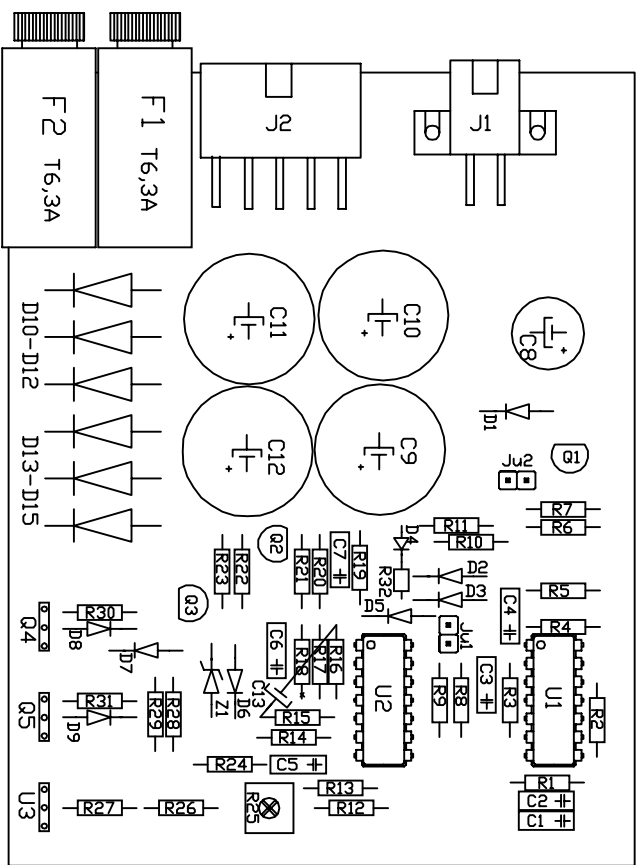
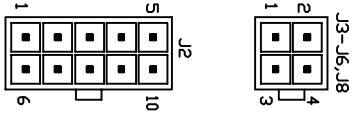
(+26V, NDT USED)
 J2.1
 J2.2

OPERATION LIGHT ONLY
 ATTENTION:
 0-POTENTIAL FOR THESE
 VOLTAGES DIFFERS FROM
 COMMON GROUND!



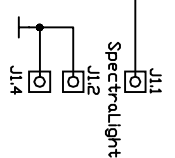
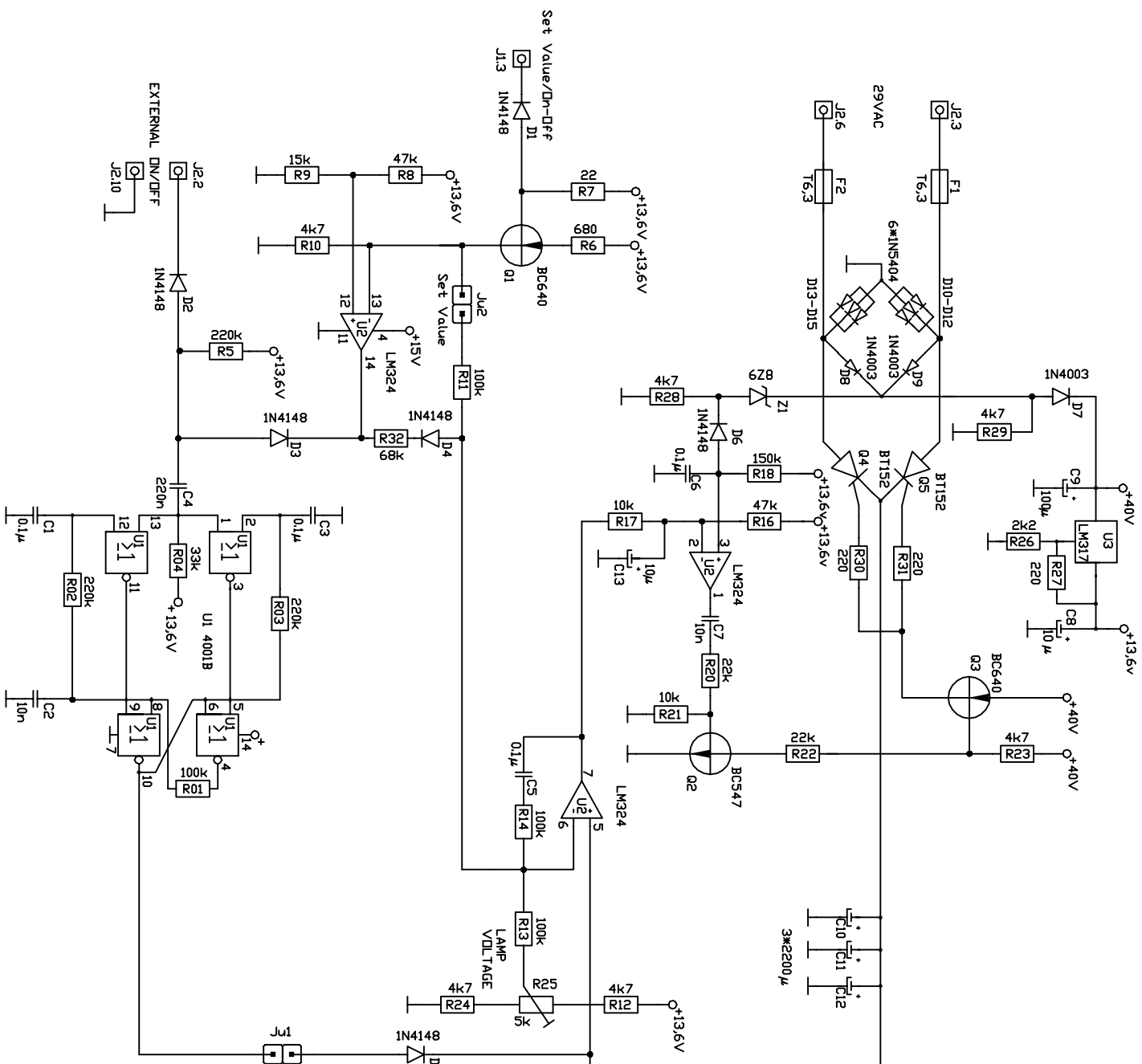
		Checked	Date
Code	E1003-3174	Jouni	13.11.2003
Name	Light Power	Drawer	Jouni
Order code	VL 1 3 92	Filename	72140.dwg
Device	Unit	Scale Factor	-

- J2 CABLE TO TRANSFORMER
- | | |
|---------------|---------|
| 1 NC | 6 29VAC |
| 2 EXT. DN/OFF | 7 NC |
| 3 29VAC | 8 NC |
| 4 NC | 9 NC |
| 5 NC | 10 GND |
- J1 SPECTRALIGHT
- | |
|-----------|
| 1 +27V |
| 2 0V |
| 3 CONTROL |
| 4 0V |



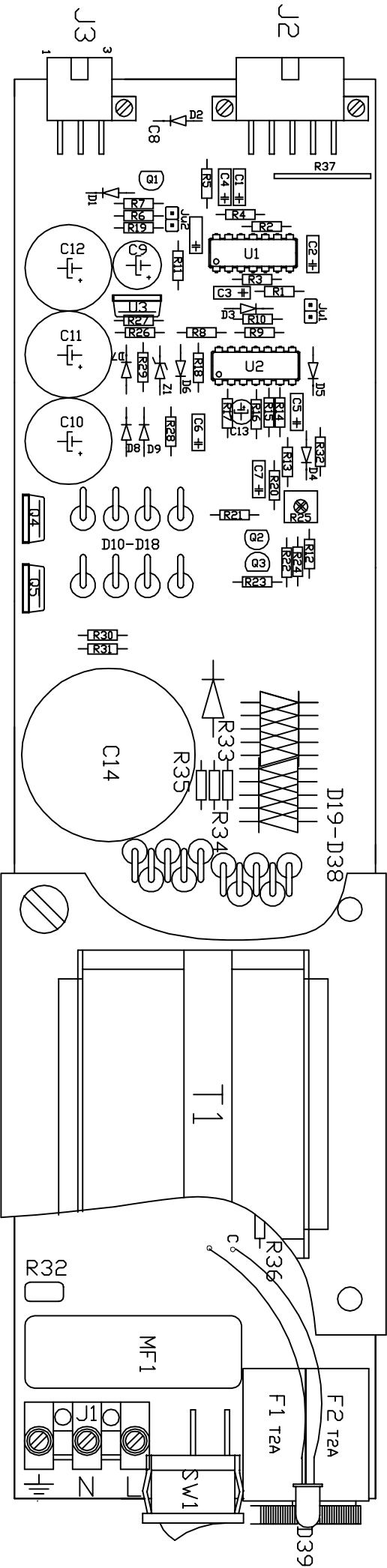
Ju1 External DN/OFF
 Ju2 Set Value from Spectralight
 R25 Light Intensity

		Checked	Date
		Jouni	13.11.2003
Code	E1003-3182	Drawer	Jouni
Name	Spectra Power PCB	Filename	72330L.dwg
Order code	VAL01 10/98	Version no.	-
Device	Unit	Scale Factor	-

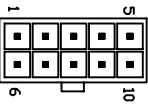


		Checked	Date
		Jouni	13.11.2003
Code	E1003-3181	Drawer	Jouni
Name	Spectra Power	Filename	72330.dwg
Order code	VAL01 10/98	Version no.	-
Device	Unit	Scale Factor	-

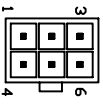
Ju1 External DN/DF
 Ju2 Set Value from Spectralight
 R25 Light Intensity



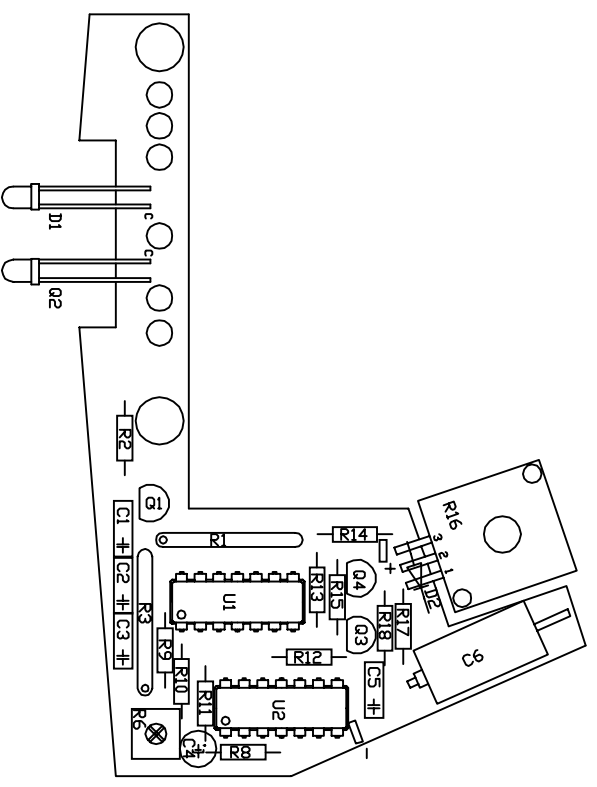
- Ju1 write u/tin
- 5 0 VDC
 - 4 +35 VDC
 - 3 GND
 - 2 GND
 - 1 24 VAC




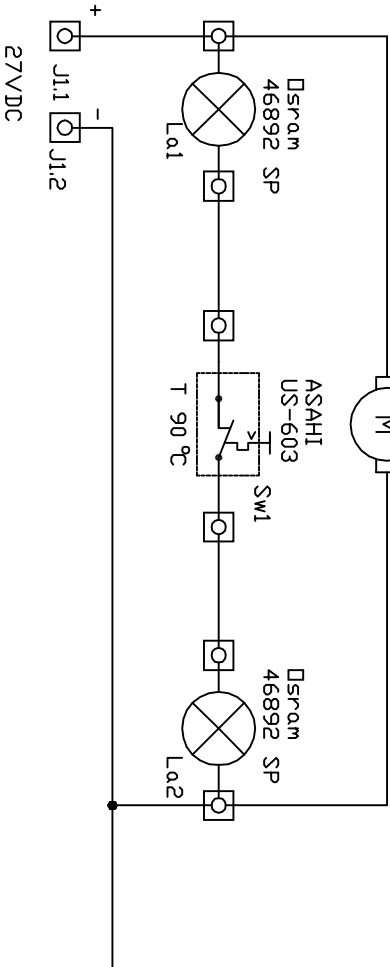
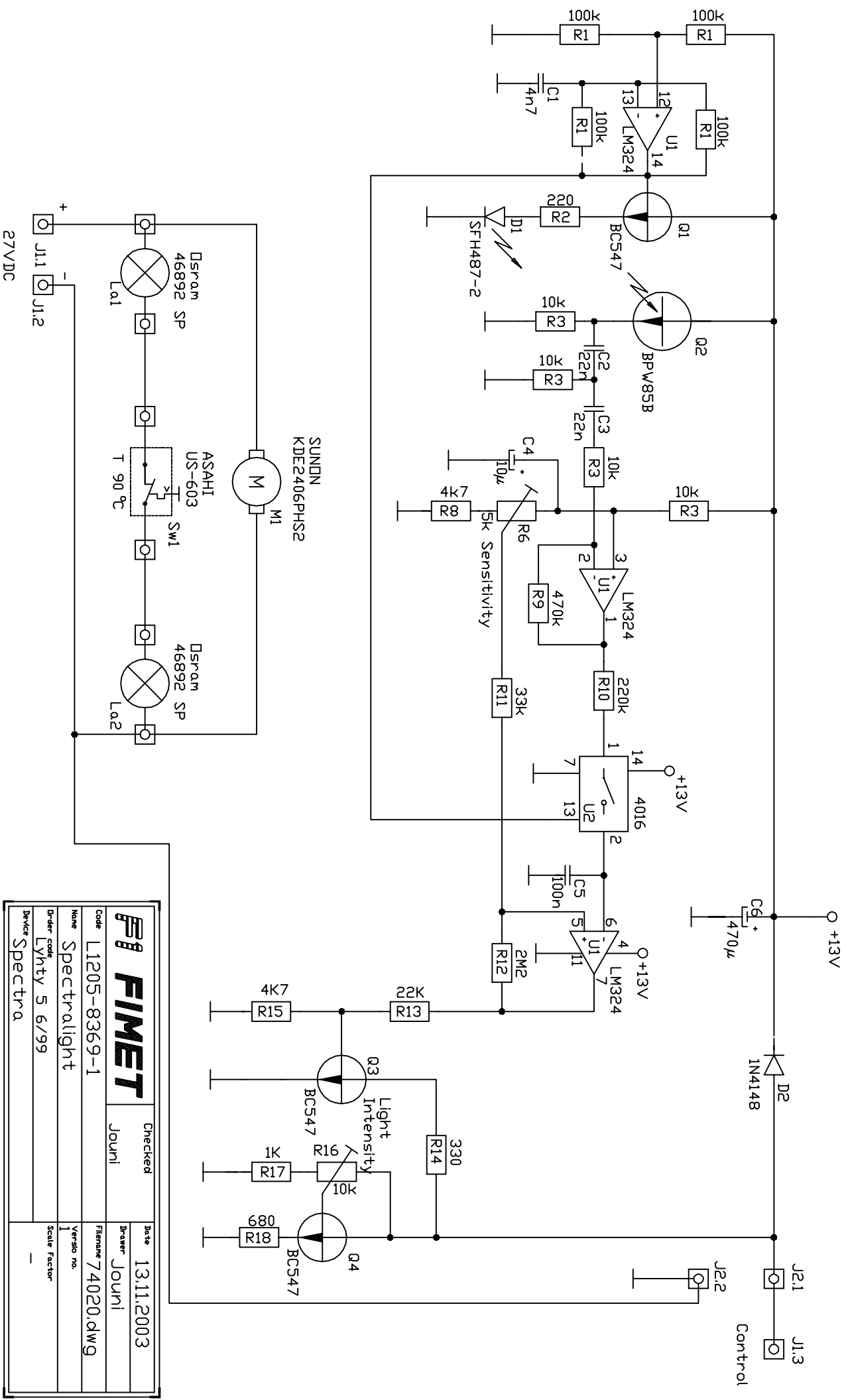
- Spectralight u/tin
- 3 0 VDC
 - 2 +27 VDC
 - 1 ext on/off
 - 6 NC
 - 5 control
 - 4 ext on/off



		Checked	Date
Code	E1003-3184	Jouni	13.11.2003
Name	Spectra. Power	Drawer	Jouni
Order Code	SEVL 9/99	Filename	72340L.dwg
Device	Unit	Version no.	
		Scale Factor	



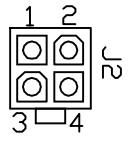
		Checked	Date
		Jouni	13.11.2003
Code	L1205-8370	Drawn	Jouni
Name	Spectralight	Filename	74020L.dwg
Order code	Lyhty 5 6/99	Version	no.
Device	Spectra	Scale	Factor



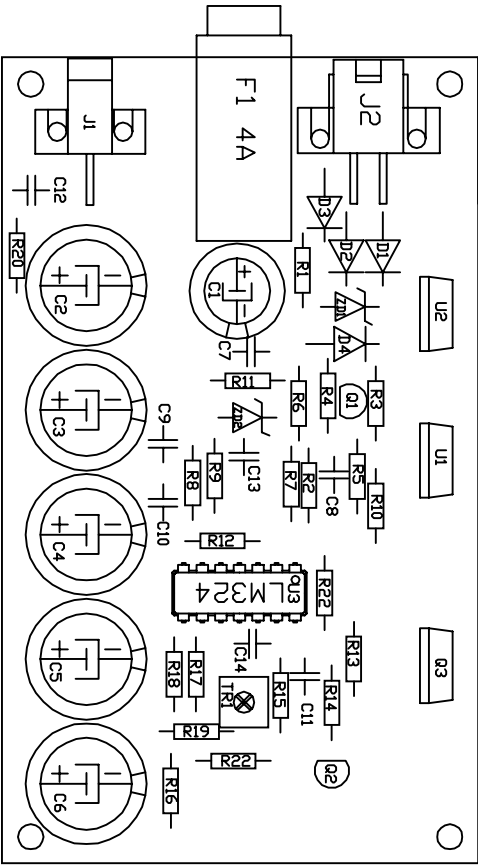
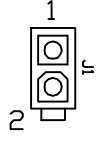
		Checked	Date
Code L1205-8369-1		Jouni	13.11.2003
Name Spectralight		Drawn	Jouni
Order code Lyhty 5 6/99		Filename	74020.dwg
Device Spectra		Version no.	1
		Scale factor	-

J2 CABLE TO FLOOR BOX

- 1. 14,5VAC
- 2. 14,5VAC
- 3. 0VAC
- 4. 24VVAC

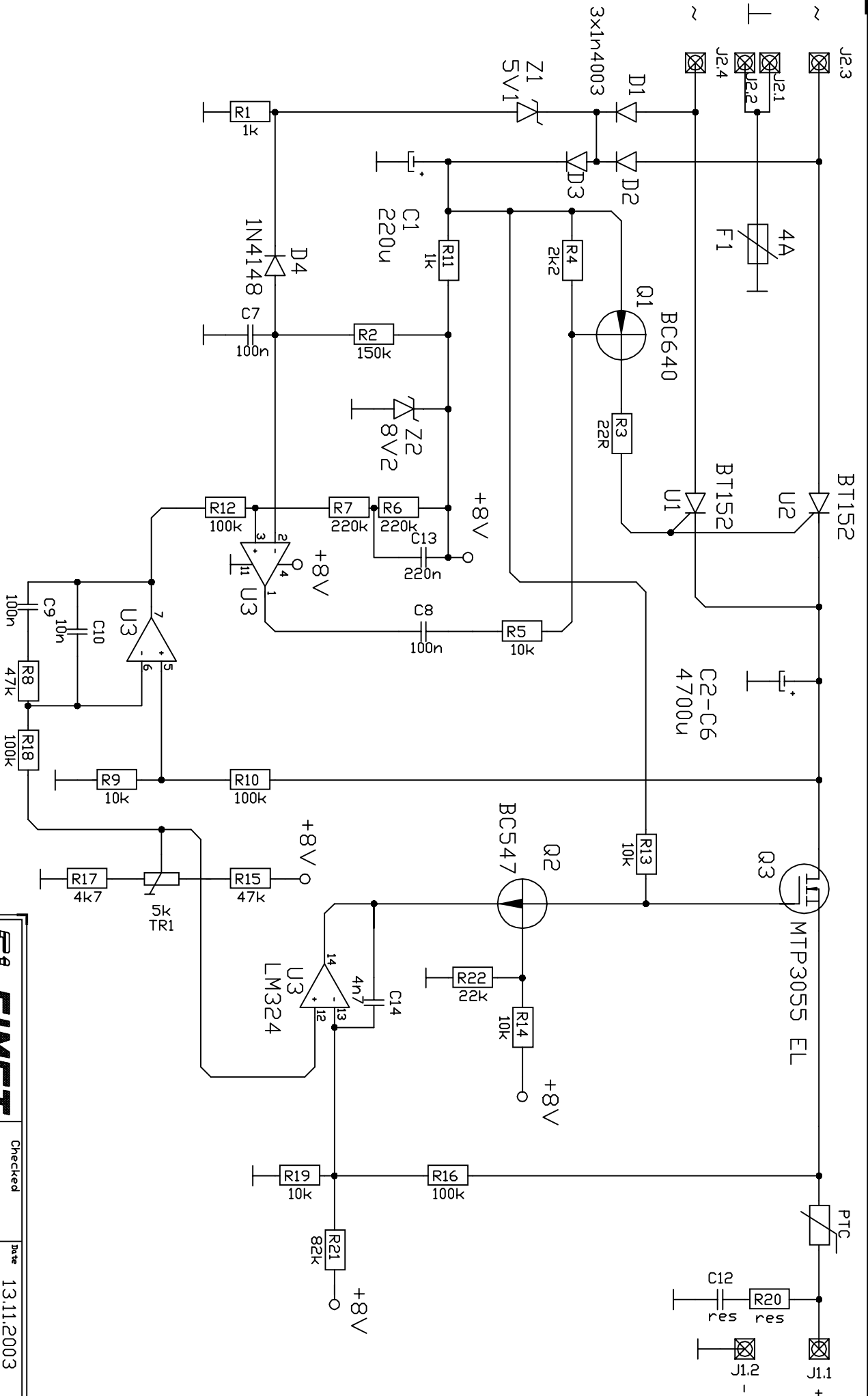


- J1 +15dc to multimedia device
- 1. 15VDC
 - 2. GND



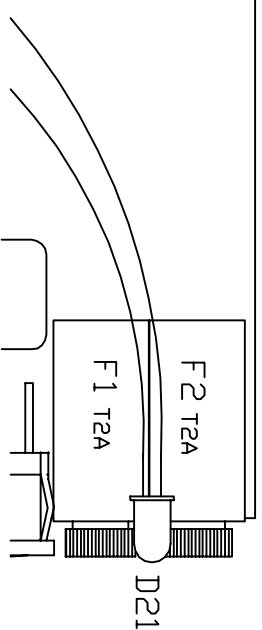
Use tr1 to adjust correct voltage to Equipment.

		Checked	Date
		Jouni	13.11.2003
Code	E1003-3190	Drawn	Jouni
Name	Multimedia Power	Filename	72410L.dwg
Order Code	MVL5 10/03	Version no.	-
Device	Unit	Scale Factor	-



		Checked	Date
		Jouni	13.11.2003
Code		Drawer	File name
E1003-3189		Jouni	72410.dwg
Name		Replaces drawing no.	
Multimedia Power PCB		-	
Order code		Scale Factor	
MVL5 10/03		-	
Device		-	
Unit		-	

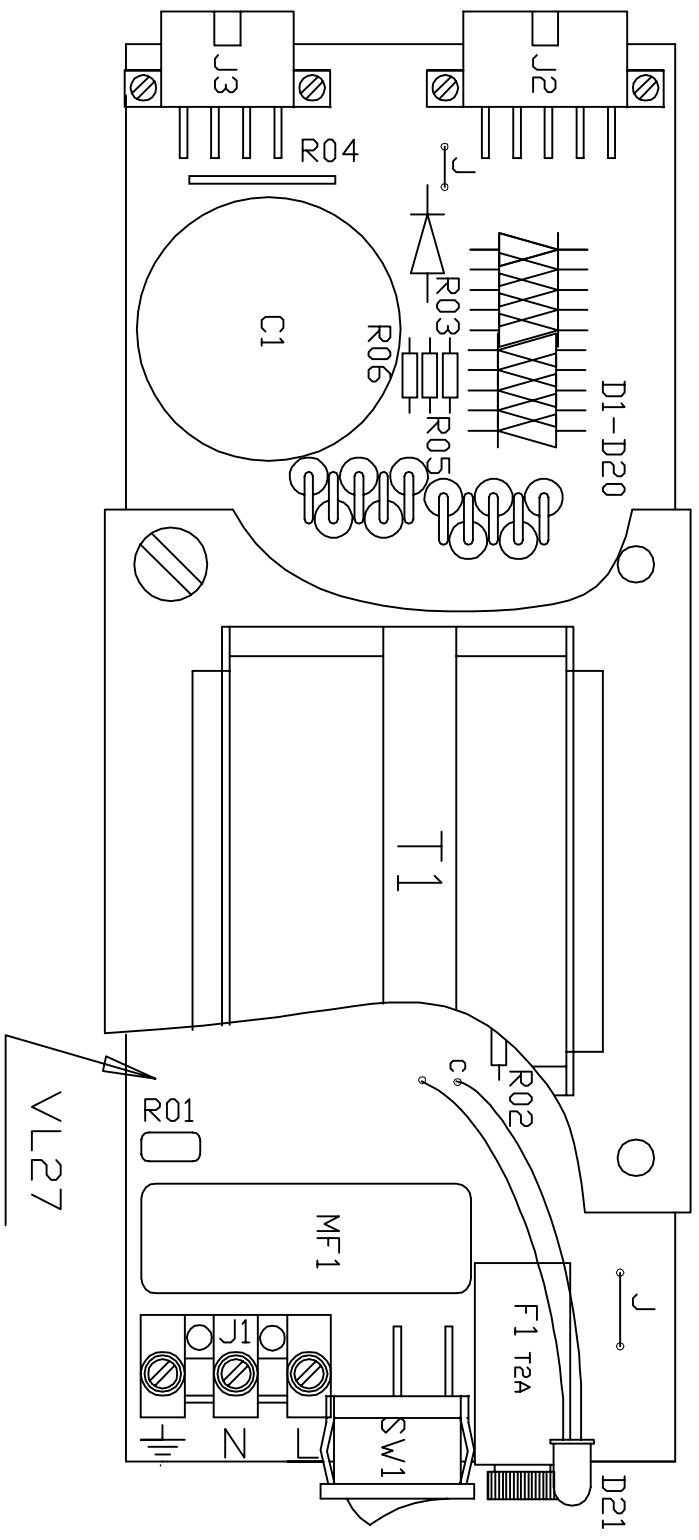
PS150C2



LAYOUT of POWER SOURCE

PS150C1
PS150C2

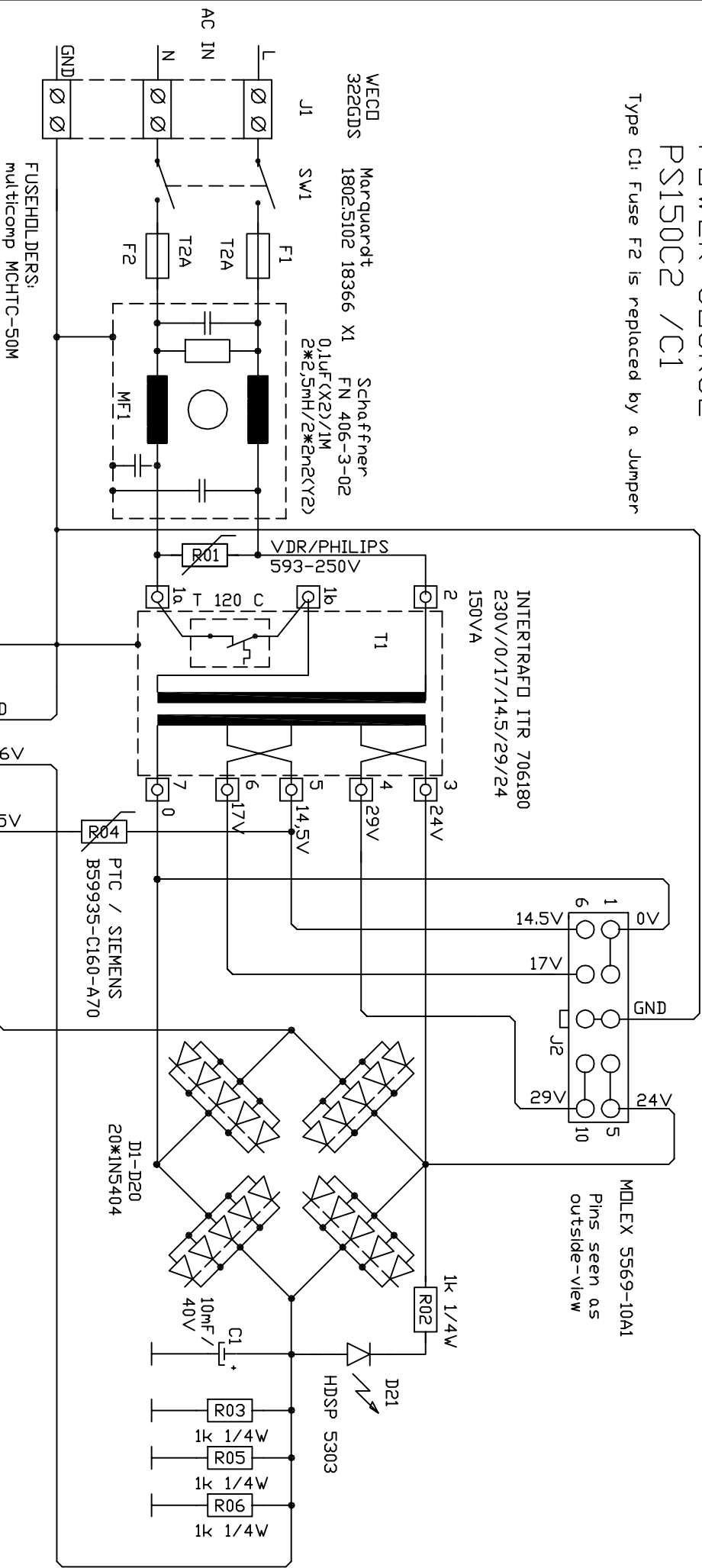
PS150C1



		Checked	Date
FIMET		Jouni	13.11.2003
Code	T1003-3197	Drawer	Jouni
Name	Short PowerSource	Filename	PS150L.dwg
Order code	VL27	Version no.	-
Device	Chair	Scale Factor	

POWER SOURCE PS150C2 / C1

Type C1: Fuse F2 is replaced by a Jumper



FUSEHOLDERS:
multicomp MCHTC-50M

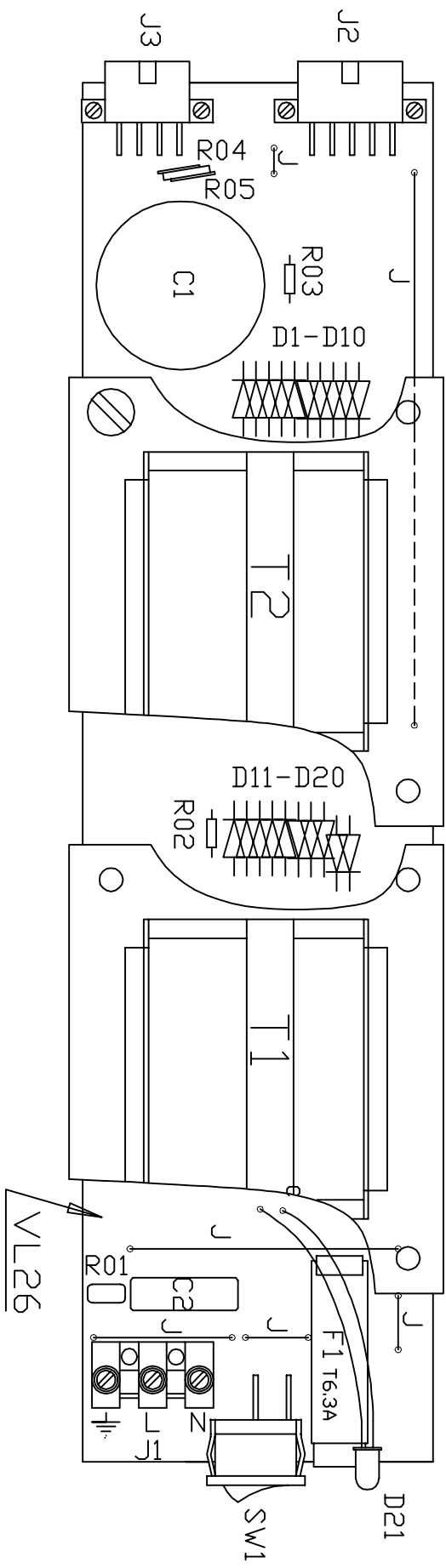
WECD 322GDS Marquardt 1802.5102 18366 X1 Schaffner FN 406-3-02
0.1uF(X2)/1M 2*2.5mH/2*2n2(Y2)

MIDLEX 5569-10A1
Pins seen as
outside-view

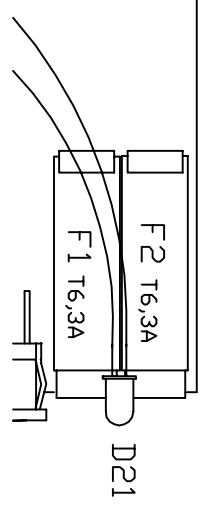
MIDLEX 5569-08 A1
Pins seen as
outside-view

FIMET		Checked	Date
Code	T11003-3196	Jouni	13.11.2003
Name	Sohrt PowerSource PCB	Drawn	Jouni
Drawn code	VL27	Filename	PS150.dwg
Device	Chair	Replaces drawing no.	-
		Scale Factor	-

LAYOUT OF POWER SOURCE
 PS2150C
 PS2150C / B (Kiilntedä asennus)



PS2150 C1

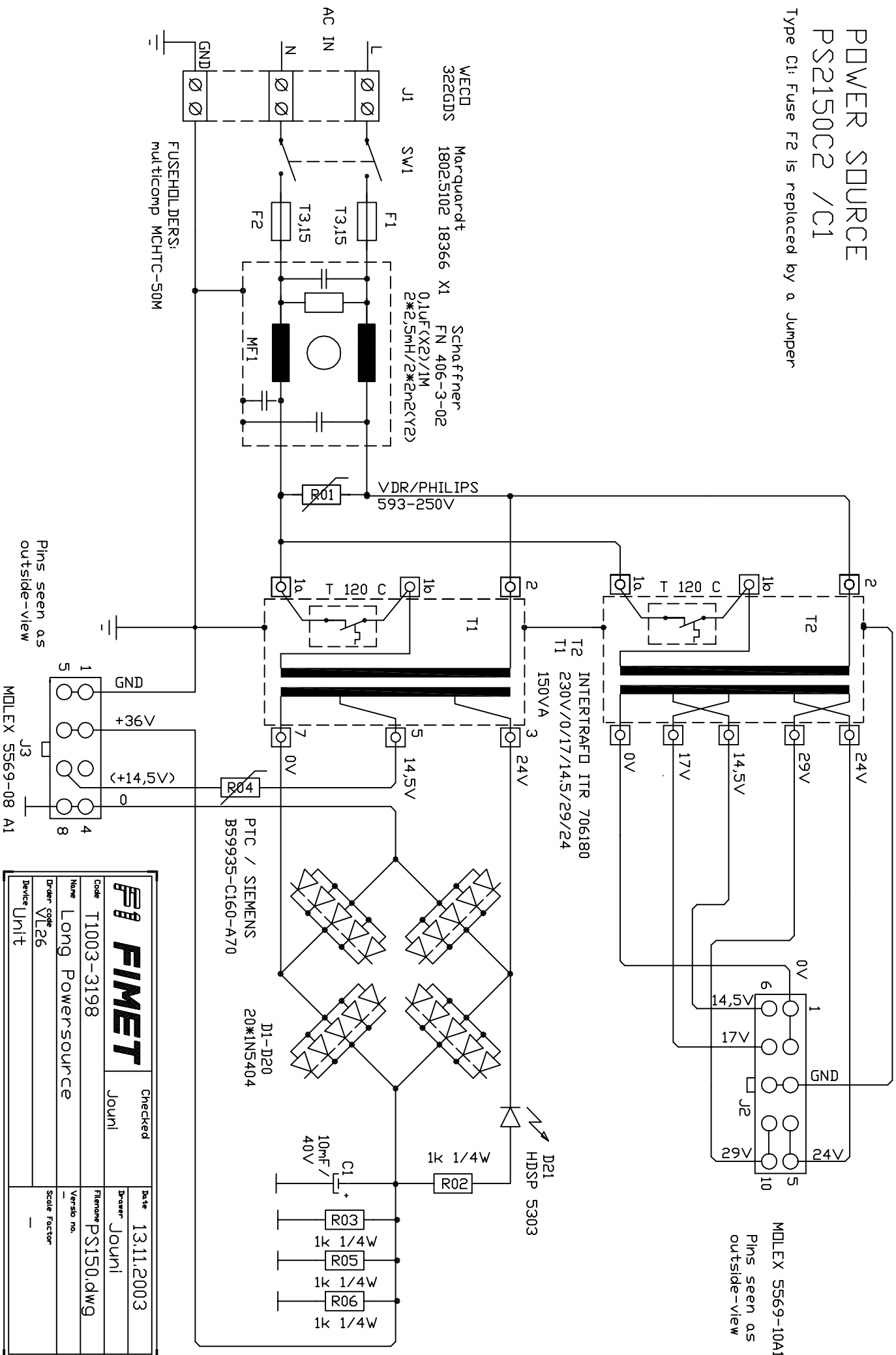


PS2150 C2

		Checked	Date
FIMET		Jouni	13.11.2003
Code	E1003-3199	Drawn	Jouni
Name	Long PowerSource	File name	PS2150L.dwg
Order code	VL26	Version	-
Device	Unit	Scale Factor	-

POWER SOURCE PS2150C2 /C1

Type C1: Fuse F2 is replaced by a Jumper



FUSEHÜLLDERS:
multicomp MCHTC-50M

WECD 322GDS Marquardt 1802,5102 18366 X1
Schaffner FN 406-3-02
0,1µF(X2)/1M
2*2,5mH/2*2m2(Y2)

VDR/PHILIPS 593-250V

T2 INTERTRAFO ITR 706180
T1 230V/0/17/14,5/29/24
150VA

PTC / SIEMENS B59935-C160-A70
D1-D20 20*IN5404

MOLEX 5569-10A1
Pins seen as
outside-view

Pins seen as
outside-view

MOLEX 5569-08 A1

FIMET		Checked	Date
Code	T1003-3198	Jouni	13.11.2003
Name	Long PowerSource	Drawn	Jouni
Order code	VL26	Filename	PS150.dwg
Version	1	Version no.	-
Device	Unit	Scale Factor	-