Analogue TDcontroller –S12

 ***Service Manual***

(rev AV1)

Declaration of conformity

This equipment has been tested and found to comply with the safety objectives and essential requirements of European (73/23/EEC and 89/336/EEC directives) and international Standards, by fulfilling the requirements of the following harmonized standards:

Electrical Safety (EU) : IEC 60065 (12/2001) Audio, video and similar electronic apparatus

Electrical Safety (US) : UL60065 Seventh Edition, dated June 30, 2003 category AZSQ, E241312.

Electrical Safety (CAN) : CSA-C22.2 N°60065:03 Edition, dated April 2003 category AZSQ7, E241312

Electrical Safety (Rest of the World) : CB test certificate DK-8371 based on IEC60065-2001 7nd ed. with all national deviations.

Radiated Emission (EU) : EN55103-1 (1996) Electromagnetic compatibility - Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use.

Radiated Emission (US) : FFC part15 class B

Radiated Emission (CAN) : This Class B digital apparatus complies with Canadian ICES-003.

RF Immunity (EU) : EN55103-2 (1996) Electromagnetic compatibility - Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use.

LISTED
Audio Equipment
10CE

Note: EMC conformance testing is based on the use of recommended cable types. The use of other cable types may degrade EMC performances.

IMPORTANT SAFETY INSTRUCTIONS

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. (US market)
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Information about products that generate electrical noise :

NOTE: The United States Federal Communications Commission (in 47 CFR 15.105) has specified that the following notice be brought to the attention of users of this product:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the following booklet, prepared by the Federal Communications Commission, helpful: How to identify and Resolve Radio/TV Interference Problems. This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4. Use of a shielded cable is required to comply within Class B limits of Part 15 of FCC Rules. Pursuant to Part 15.21 of the FCC Rules, any changes or modifications to this equipment not expressly approved by NEXO S.A. may cause, harmful interference and void the FCC authorization to operate this equipment.

The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

To avoid electrical shock, do not remove covers.
Dangerous voltages exist inside.
Refer all servicing to qualified personnel only.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING ! This appliance is a CLASS 1 apparatus and must be earthed.

The green and yellow wire of the mains cord must always be connected to an installation safety earth or ground. The earth is essential for personal safety as well as the correct operation of the system, and is internally connected to all exposed metal surfaces. Additional recommendation for interconnection to other equipment can be found in the FOREWORD at the beginning of this manual

Table of content

Foreword

CAUTION !

This servicing instruction is for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Contact technical@nexo.fr for any information not contained in this manual.

Safety instruction

Mains Power

WARNING ! THIS APPLIANCE MUST BE EARTHED.

The green and yellow wire of the mains cord must always be connected to an installation safety earth or ground. The earth is essential for personal safety as well as the correct installation of the system, and is internally connected to all exposed metal surfaces. Any rack framework into which this unit may be mounted is assumed to be connected to the same grounding circuit. (see also p.4)

NEXO TDcontrollers don't provide a mean to switch off the unit from the front panel. As they are intended to be rack mounted the back panel is not accessible during use. Therefore it is left to the user to provide a disconnection mean readily operable.

Voltage setting

NEXO TDcontrollers use a switch mode power supply (SMPS). This SMPS accepts universal AC power input voltages in the range 90V to 264V, and requires no manual adjustment for voltages in this range.

Mounting the TDcontroller in a rack (Grounding, shielding & safety issues)

The TDcontroller is intended for rack mounting. The only accessible part during use shall be the front panel of the TDcontroller. Any space above or under the TDcontroller shall be obstructed with a blank panel.

The rack is a free grounding and shielding structure and it provides extra shielding. Therefore, it is desirable that the screws used to fix the TDcontroller in the frame or rack provide an electrical contact between the chassis of the TDcontroller and the rack.

The primary reason for grounding is safety. Conformance to the applicable requirements of the authorities having jurisdiction is, of course, mandatory. However, grounding also has an impact on electromagnetic compatibility. From the EMC point of view, it is desirable to have a low impedance ground network, as a current flowing in the ground network will then produce low voltage in the network. A low impedance network can be obtained using a multipoint ground scheme, with as many closed ground loops as is economically possible.

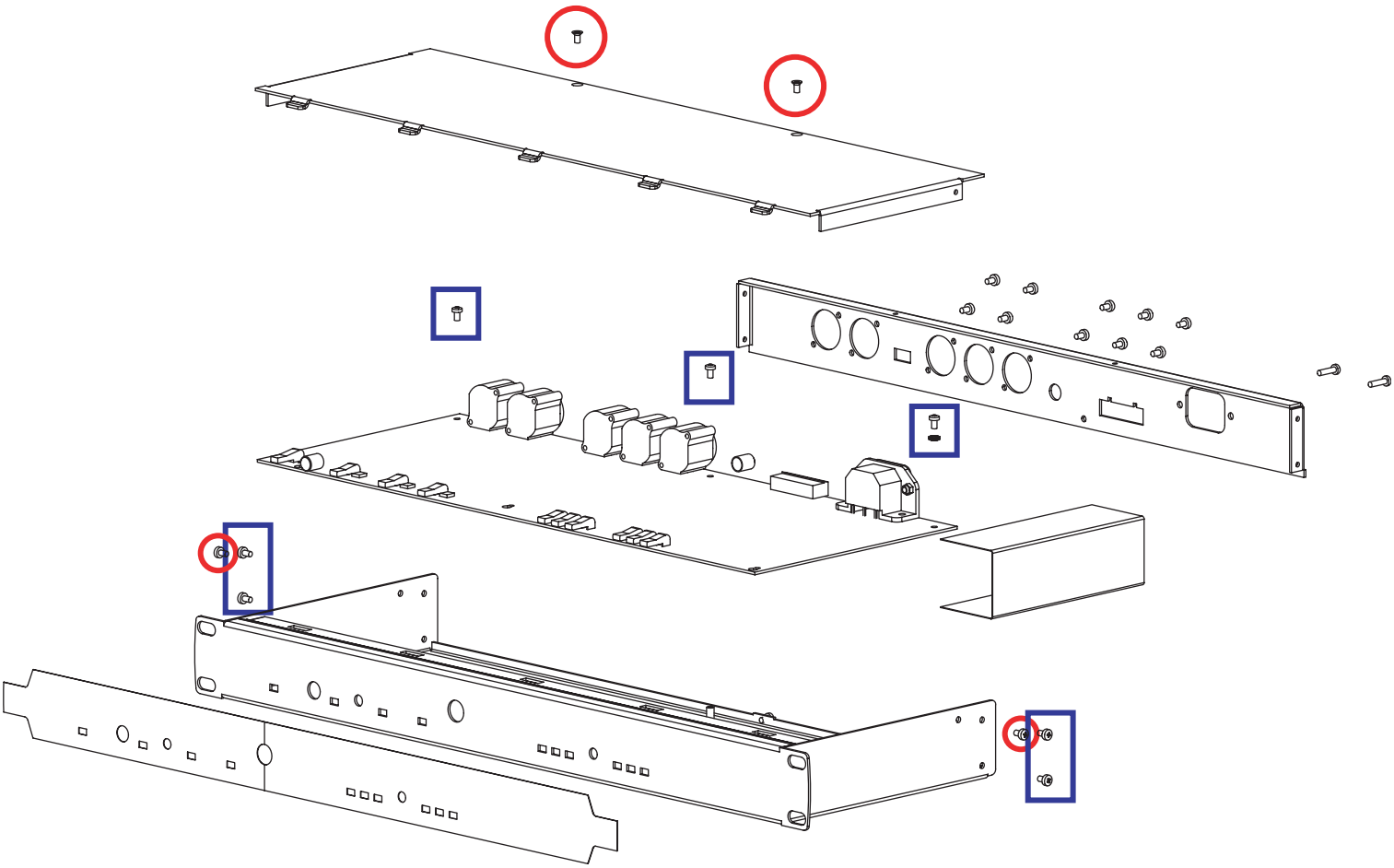
Fuse

The fuse provided in the unit will not blow during normal operation. If the fuse blows the TDcontroller has malfunctioned. This fuse must only be changed by NEXO certified service personnel. In any case do not replace the fuse with a non-certified NEXO fuse, as this will invalidate the NEXO warranty.

History

Partlist	PCB ref	note	S/N	Date
V1.0	TDMK3 1.3	initial		

Mechanical issues



Most of the maintenance can be done without taking the PCB away. All test points are accessible on the top layer of the PCB and allows a complete diagnostic. The bottom layer contains all discrete components (diode, capacitor, resistors…)

Removing the top panel

To remove the top panel; unscrew the 4 screws circled in red in the above drawing (POZIDRIVE screwdriver).

Removing the PCB

The remove the PCB; unscrew the 7 screws in blue square (POZIDRIVE screwdriver). The PCB must then be pulled backward to free the fixation point at the front of the TDcontroller.

To pull the PCB back in place, first insert the front fixation in the front holes and push gently to align the back screws in front of their holes. Pay attention that the guide light and push buttons of the front panel are correctly aligned.

DO NOT FORGET TO PLACE THE STAR WASHER ON THE SCREW NEAR THE IEC SOCKET.

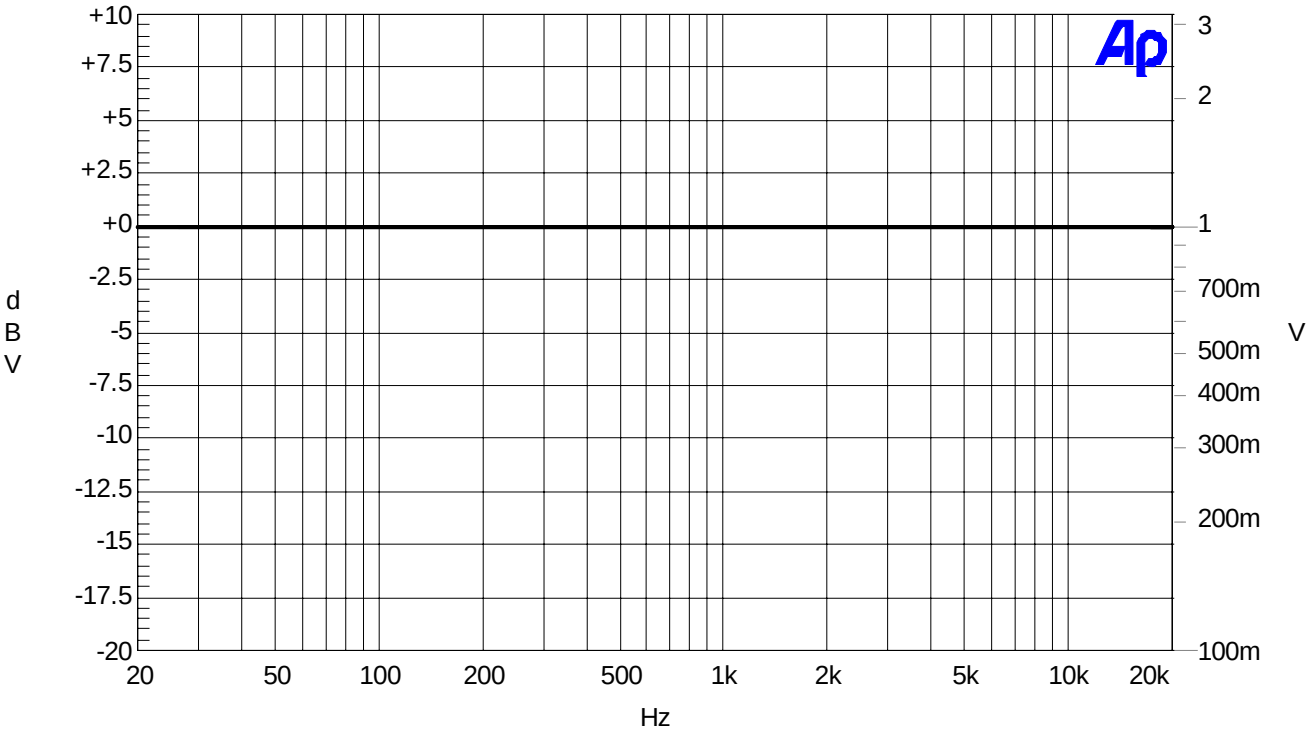
Trouble shooting

This section displays the traces at each TDcontroller test-point. With a signal generator and an oscilloscope one can easily check that the signal is approximately correct at each test-point. A deeper (ans faster) analysis will require an AudioPrecison S1 with a switcher in order to perform the production test. Contact the NEXO factory at technical@nexo.fr in order to receive instructions.

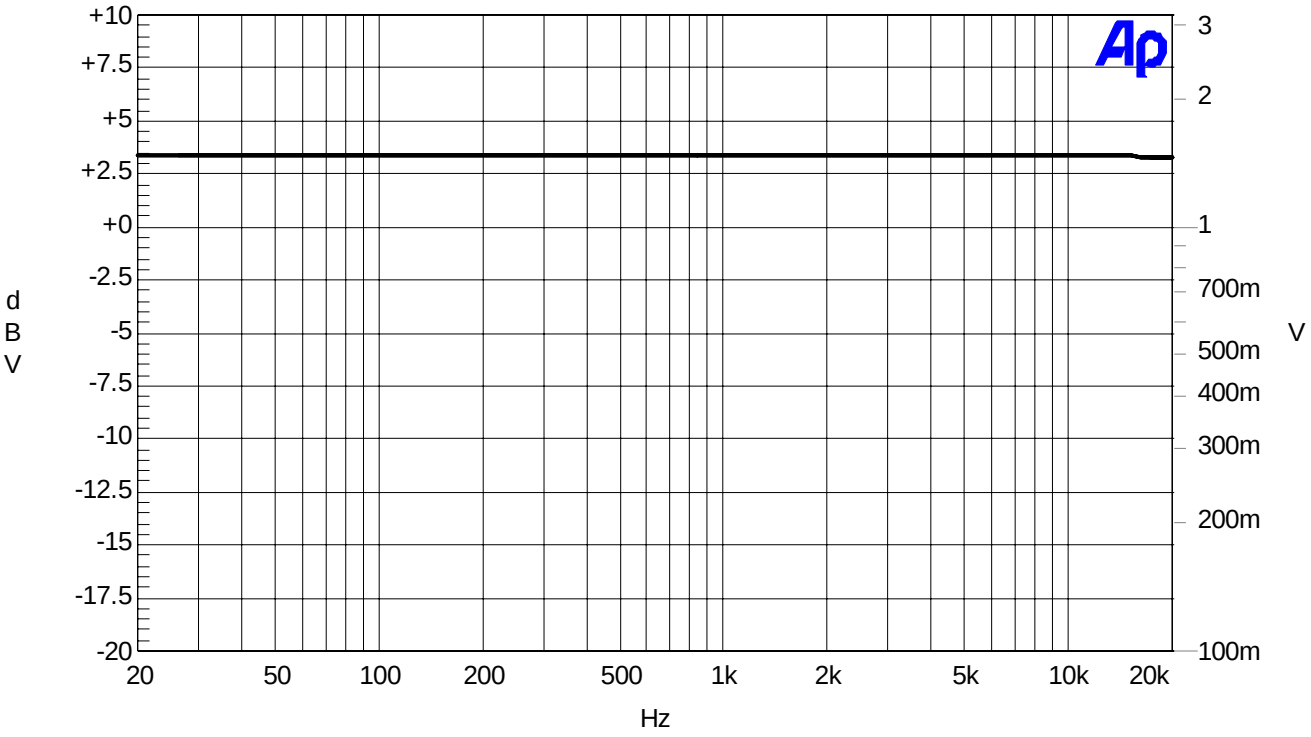
Linear section

The following traces are taken with the sense connector NOT connected. Both inputs fed with a 0dBV (1Vrms) signal. Unless stated the configure button is released in Overlap mode, the back panel gain switch is set in medium position (0dB) and the front sub potentiometer is fully turn right (maximum).

LT1-RT1 Input stage

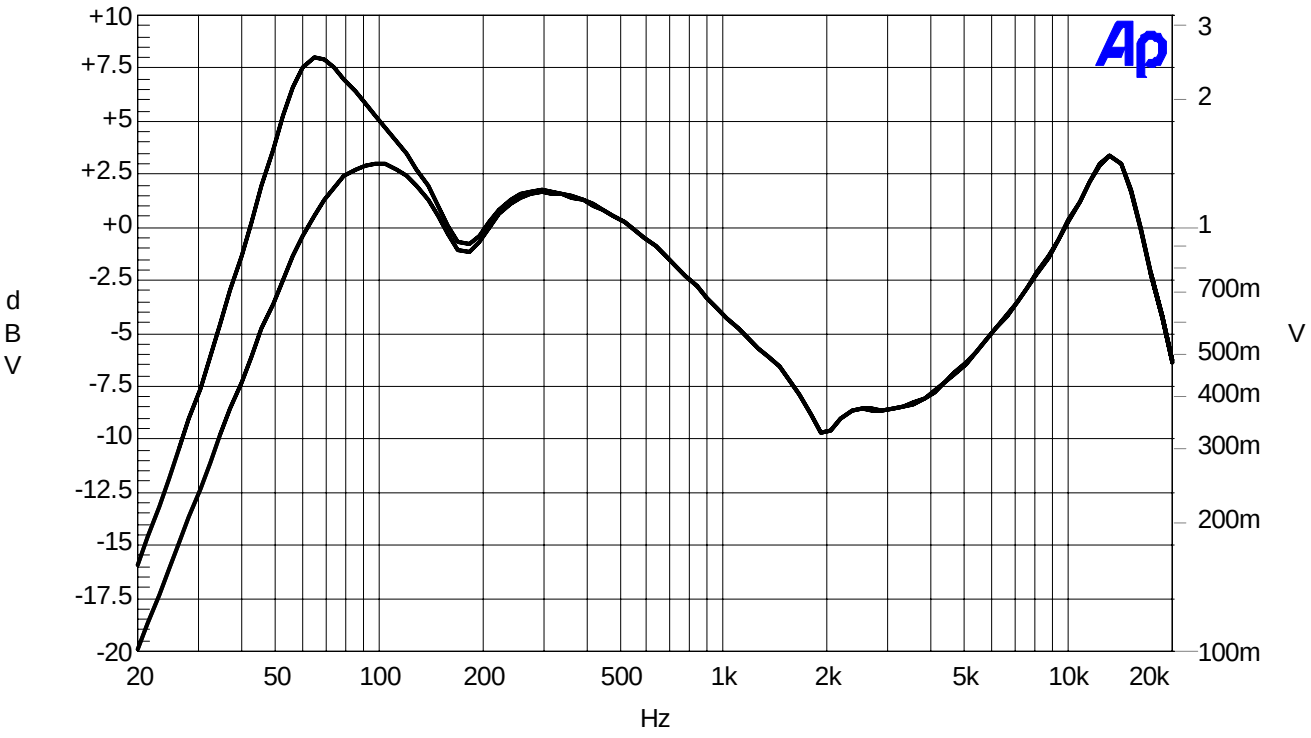


LT2-RT2 input gain

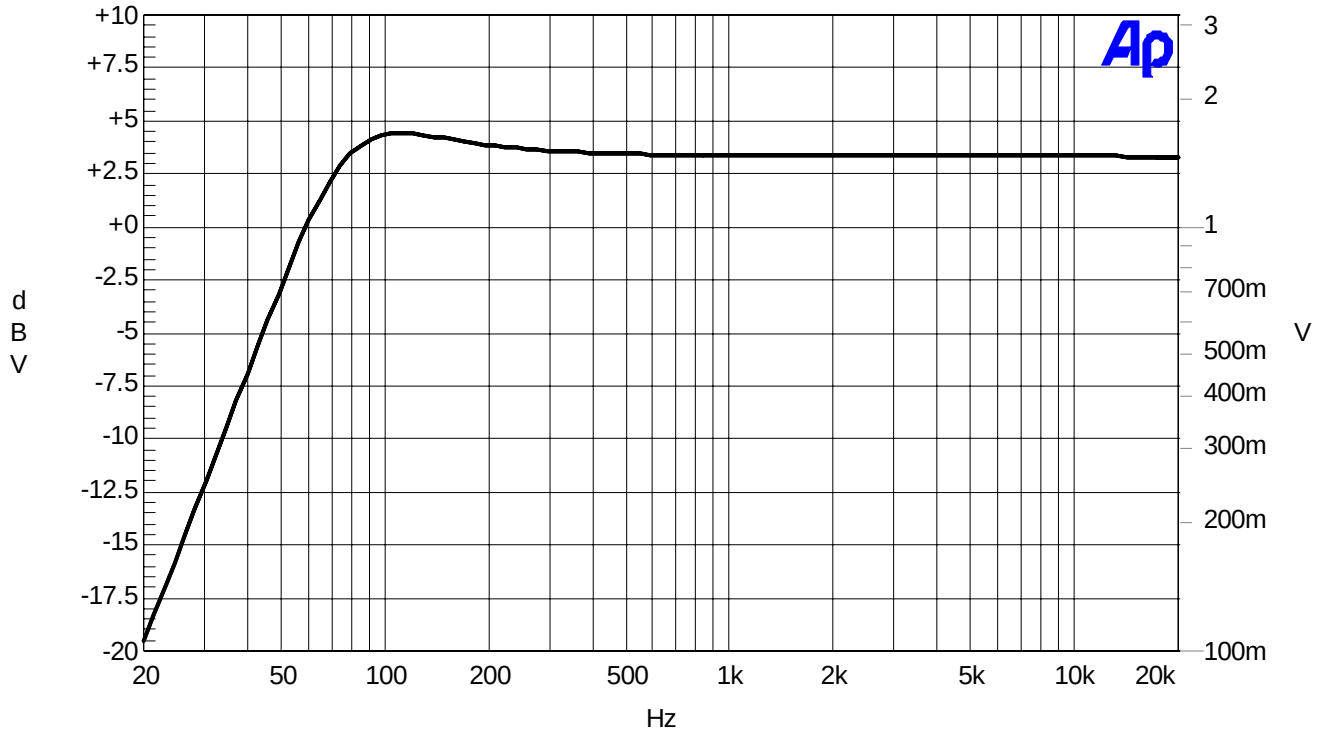


LT3-RT3 HPF EQ LPF + Protections

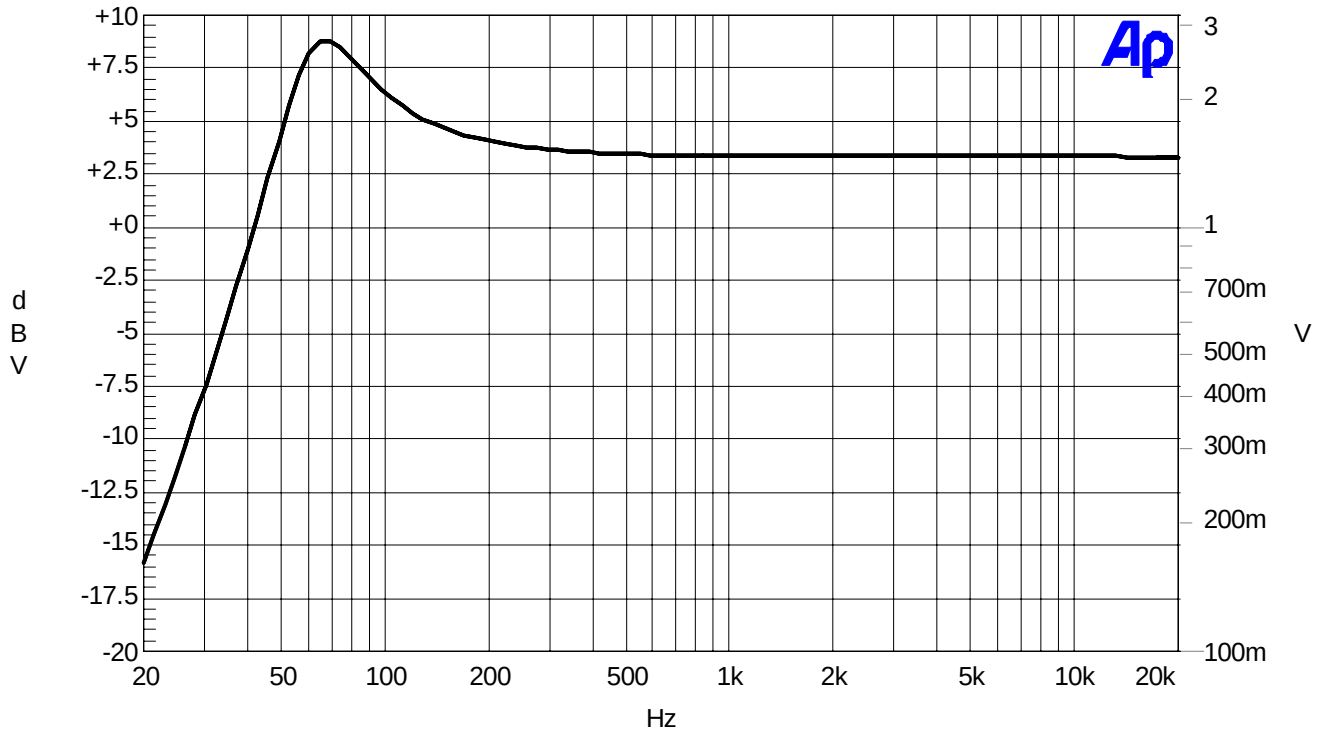
Go directly to testpoint 8 if testpoint 3 is fine. The second curve is for the configure font panel button in crossover mode. (Red LED on)



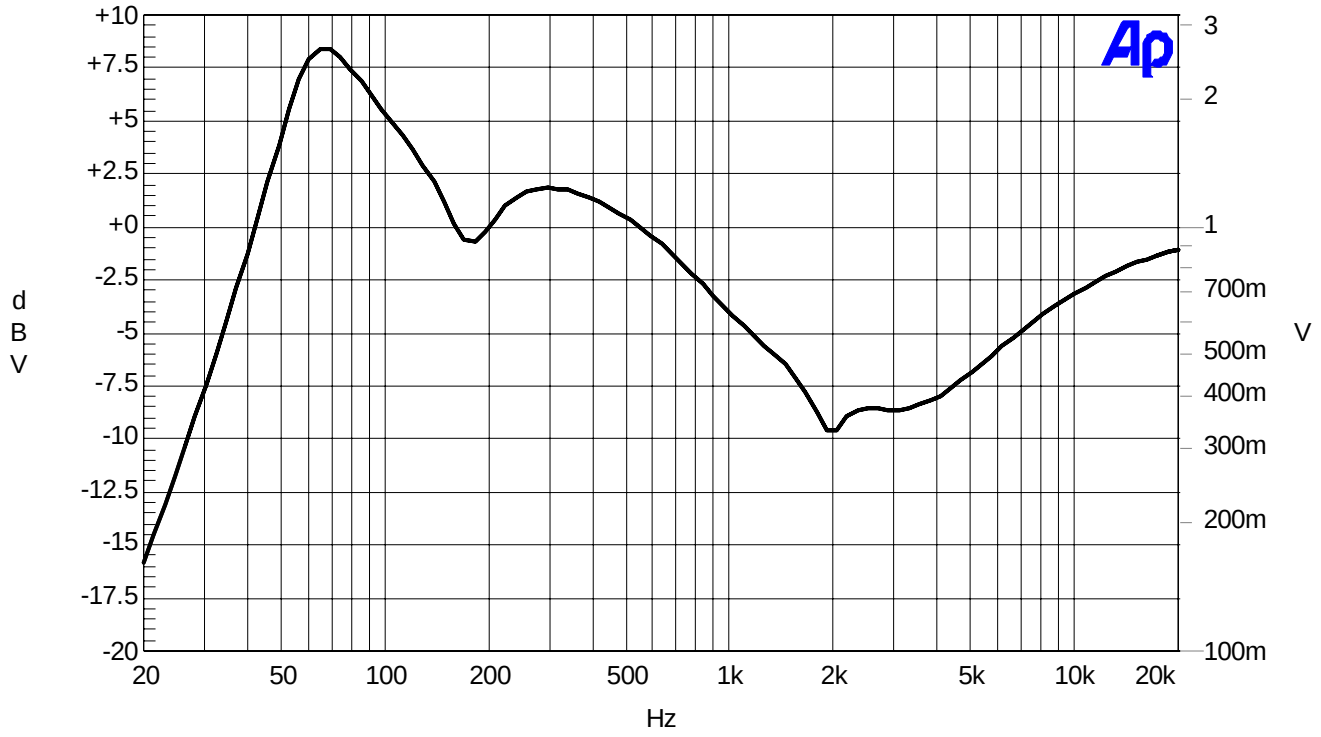
LT4-RT4 High pass filter Crossover



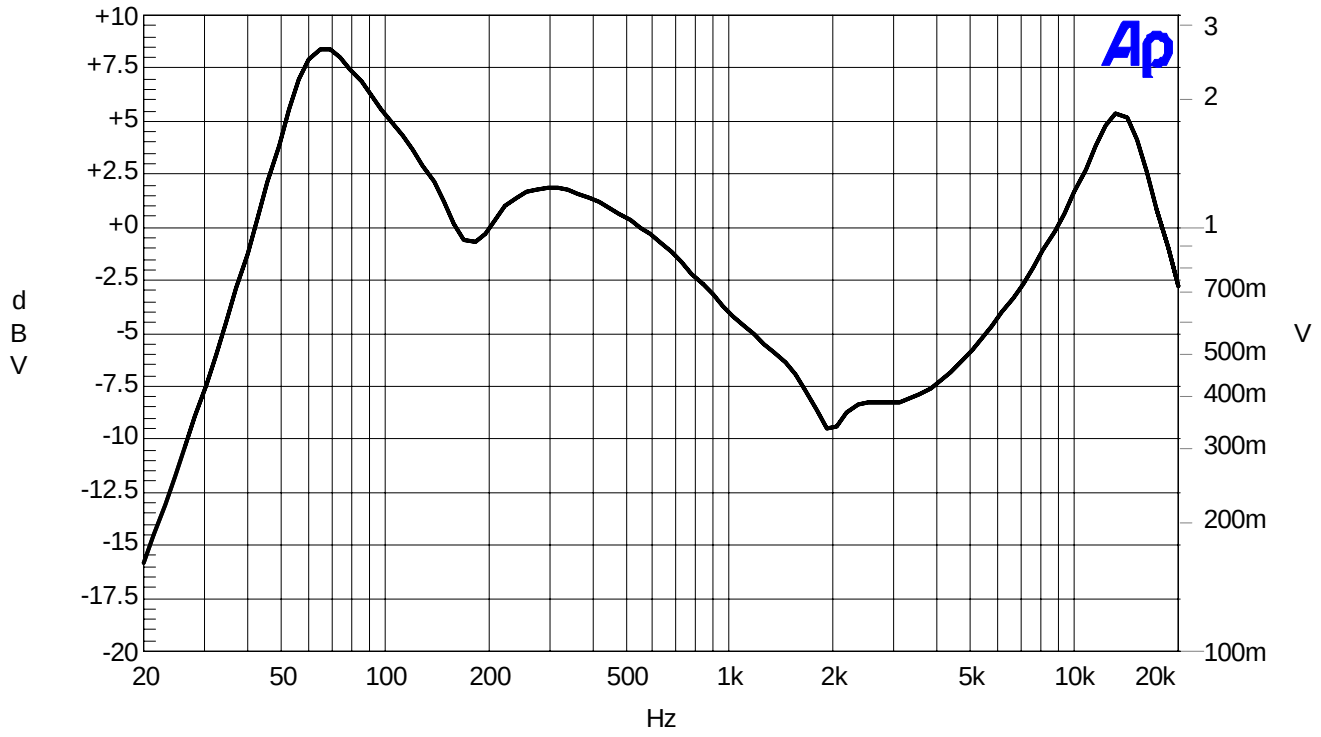
LT5-RT5 High pass filter Overlap



LT6-RT6 HPF + EQ

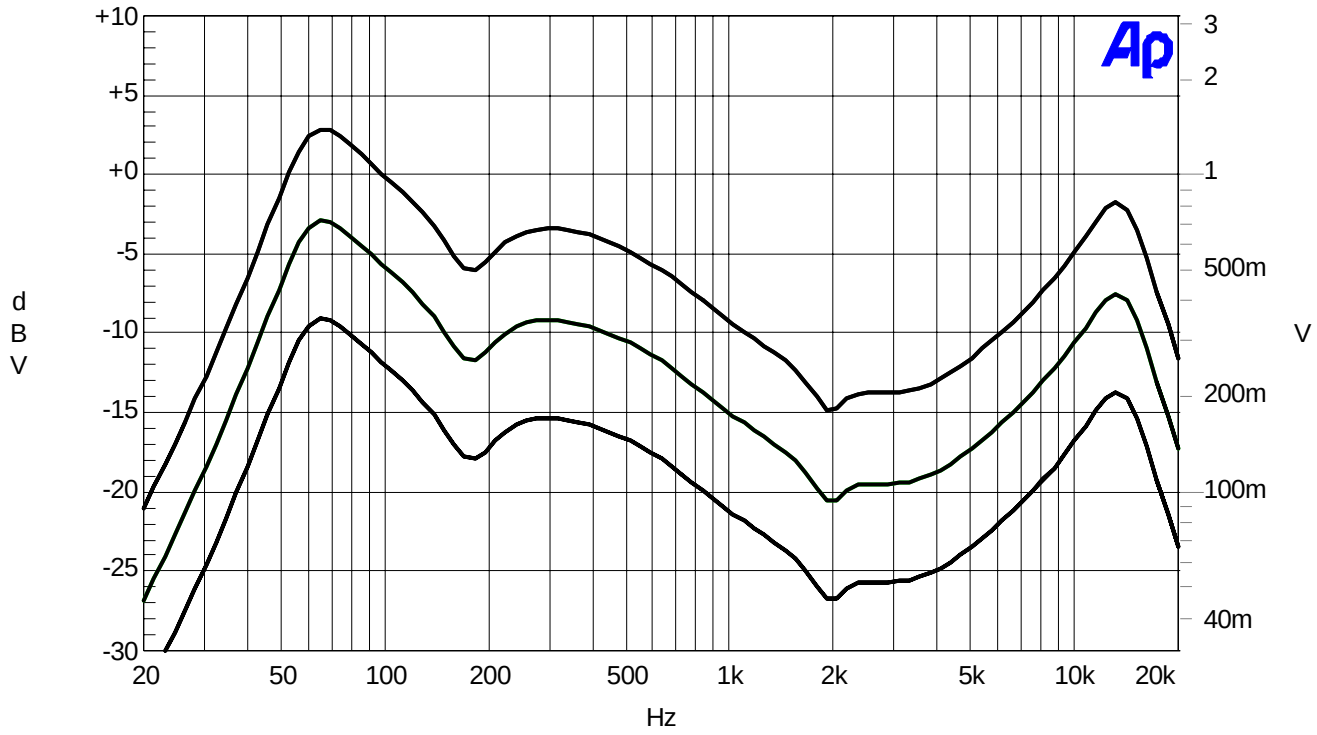


LT7-RT7 HPF + EQ + LPF



LT8-RT8 HPF EQ LPF + Protections + output gain

The curves correspond to the three gain of the back panel switch -6dB/0/+6dB

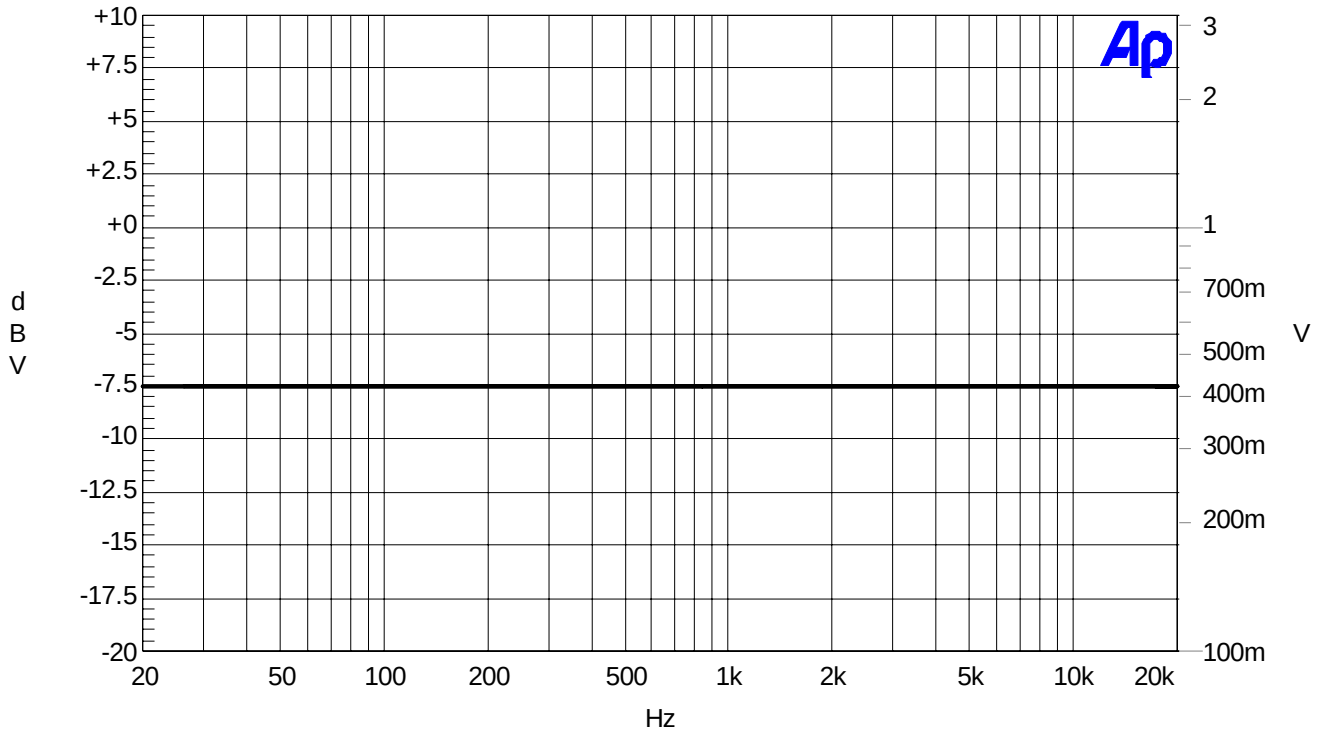


LT9-RT9 output pin3 // LT10-RT10 output pin 2

Symmetrical output stage: the two curve of testpoints 9 & 10 shall be within 0.5dB

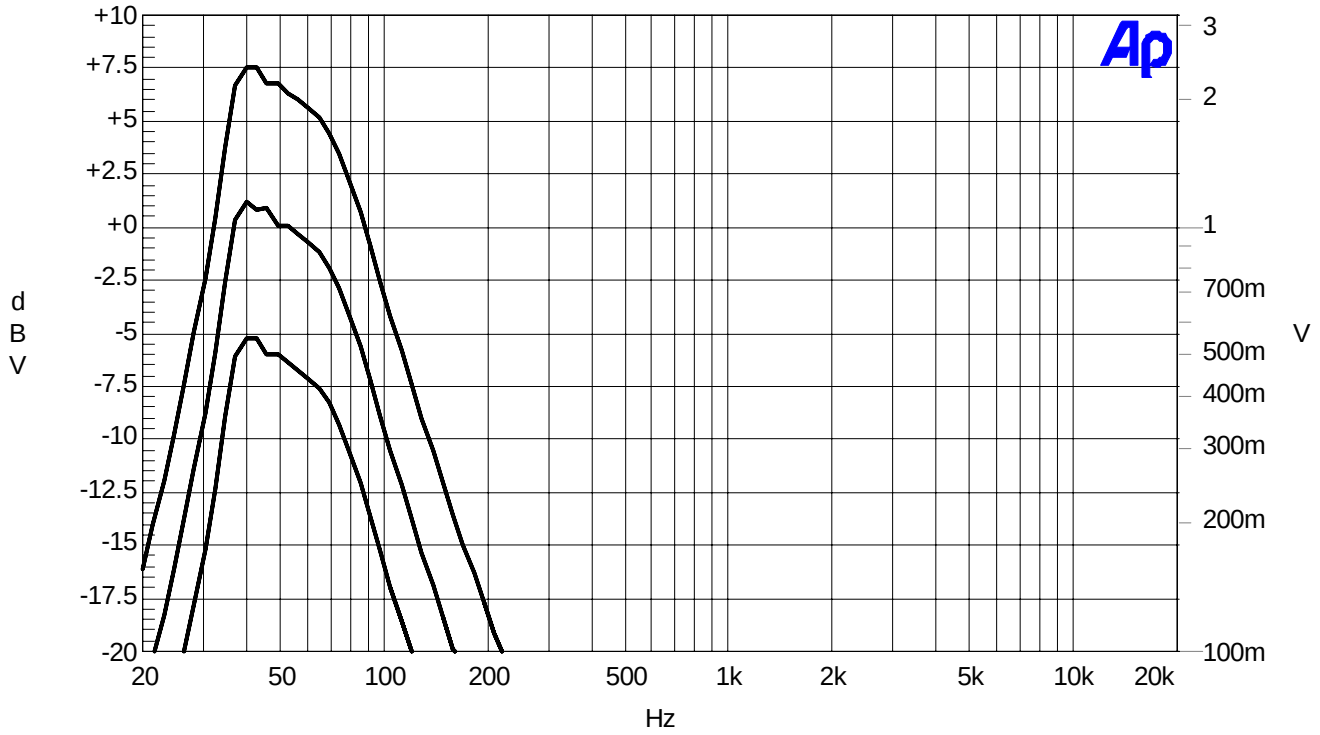
T11 Sub summation

The Jumper ST1 must be set on PIN2-3, both inputs fed.

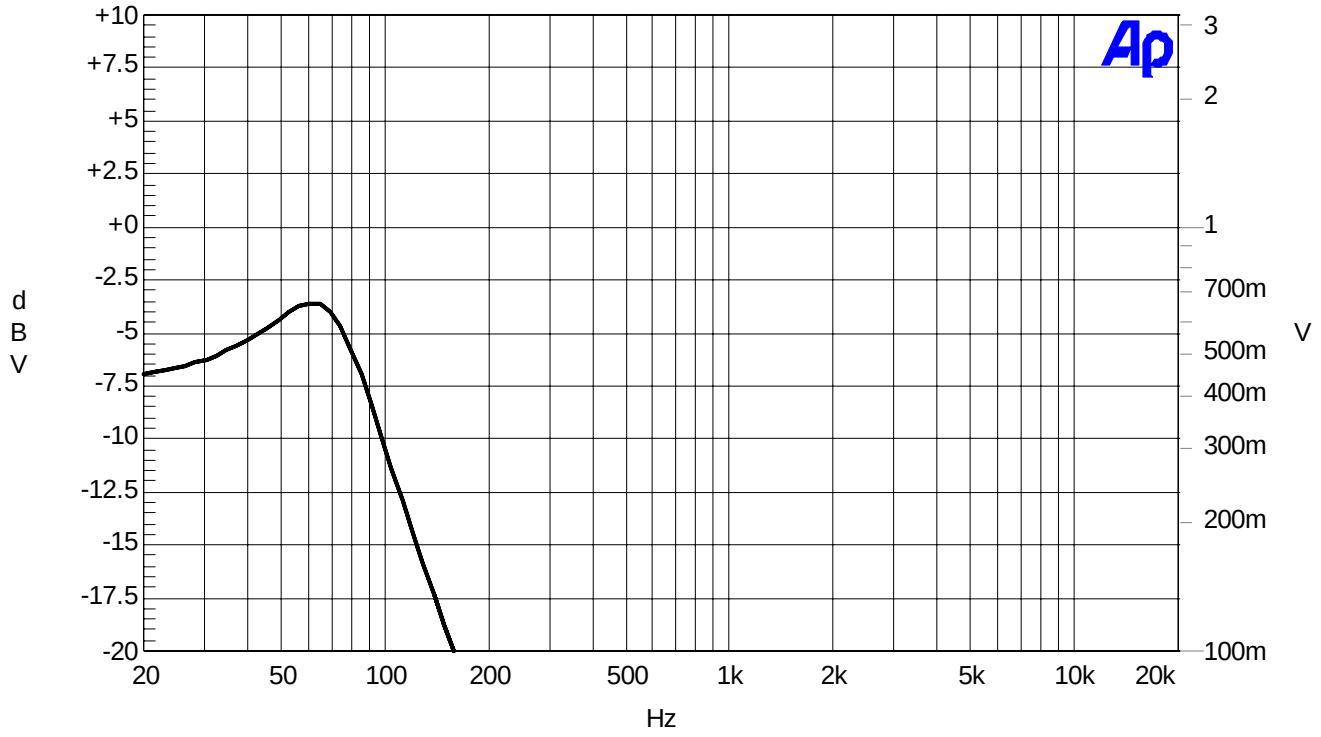


T12 Sub HPF-EQ-LPF-channel Gain

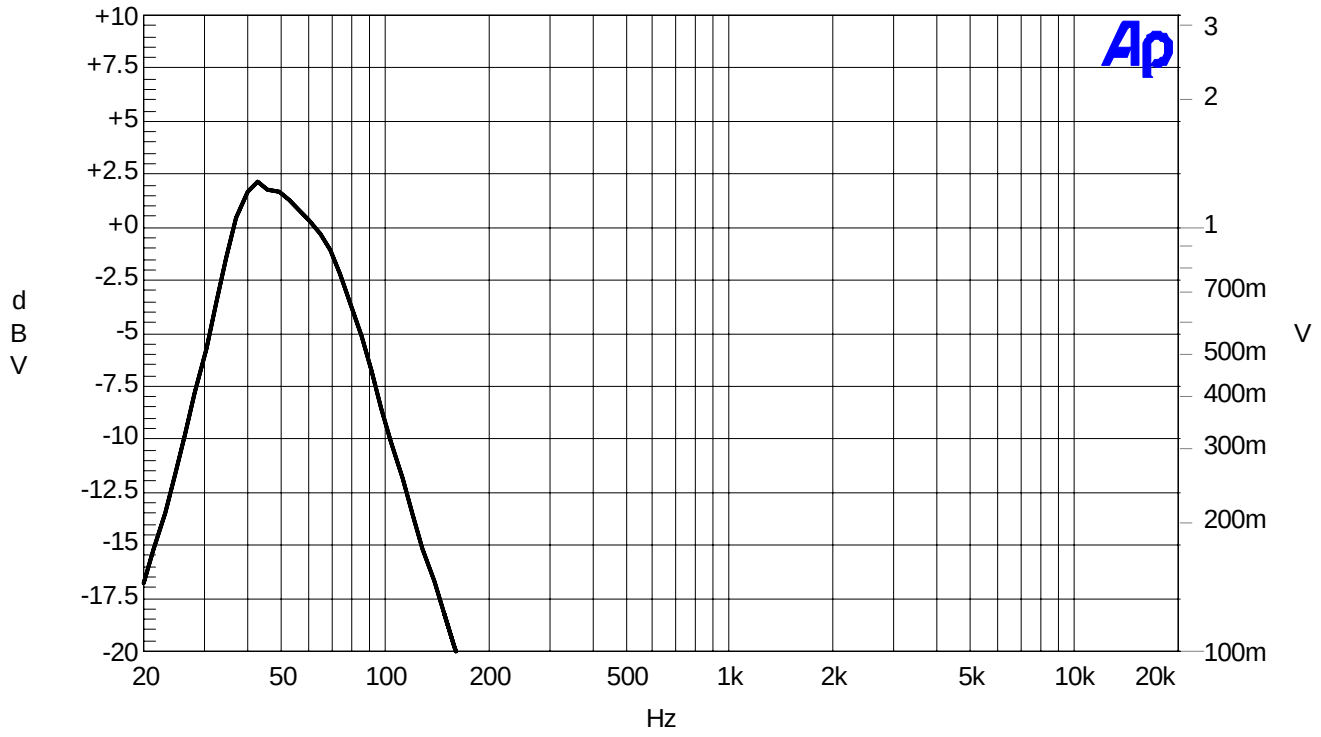
Effect of the front panel potentiometer 12dB between min and max. (potentiometer has a tolerance of 20% that may cause some drift of nominal values of about 1dB.



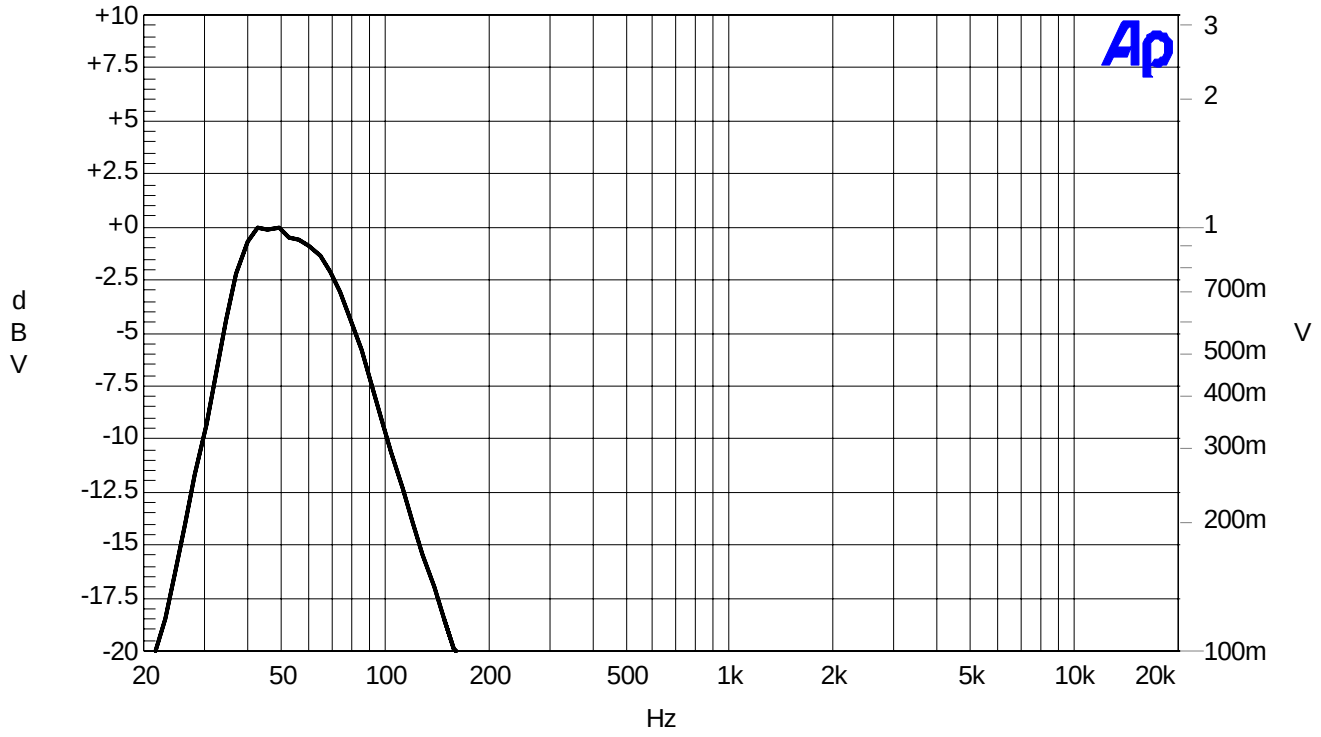
T13 Sub Low pass filter



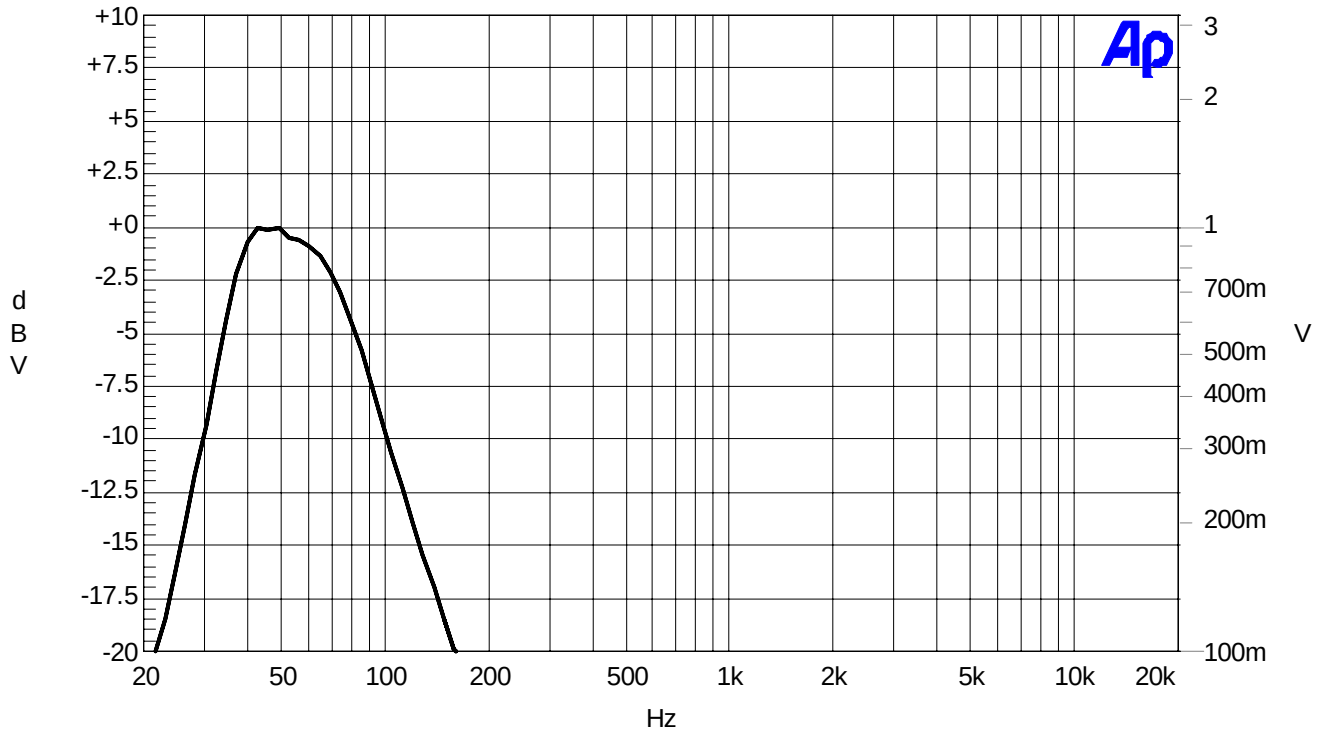
T14 Sub LPF + HPF2nd ordrer



T15 Sub LPF + HPF3rd ordrer

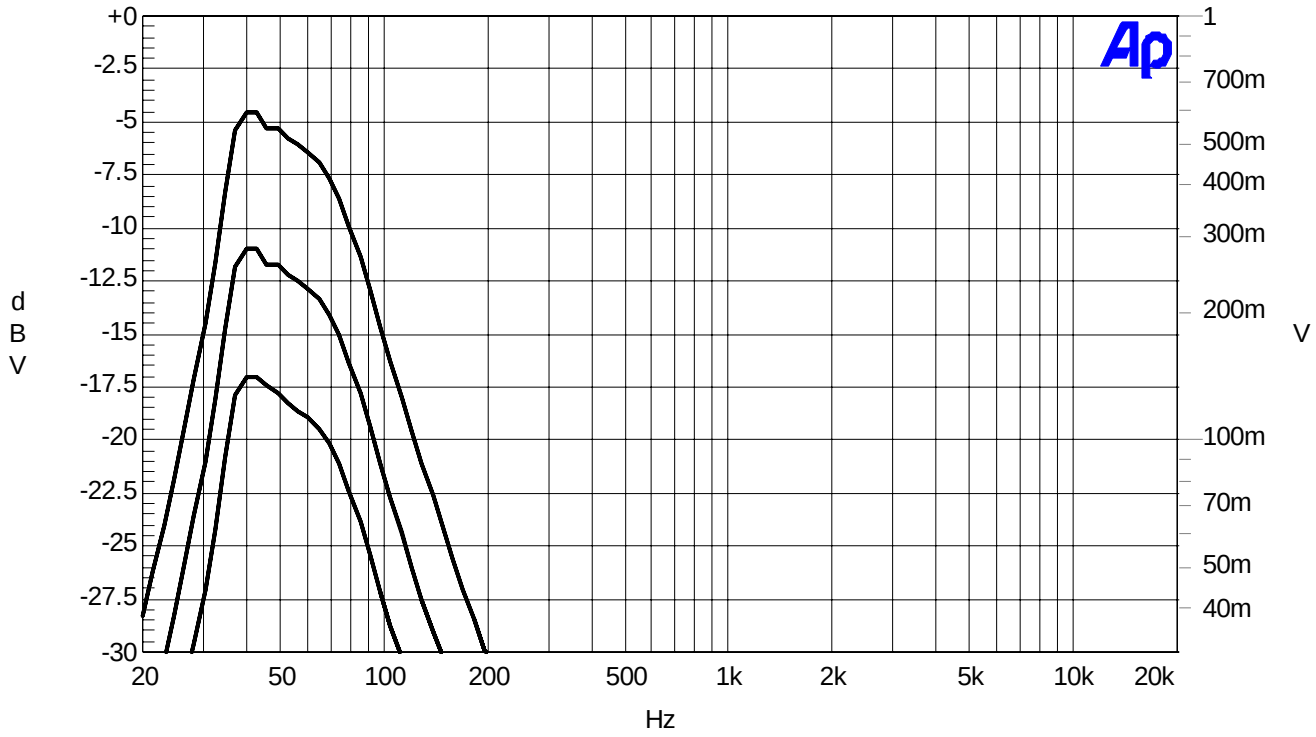


T16 Sub LPF + HPF3rd ordrer + EQ



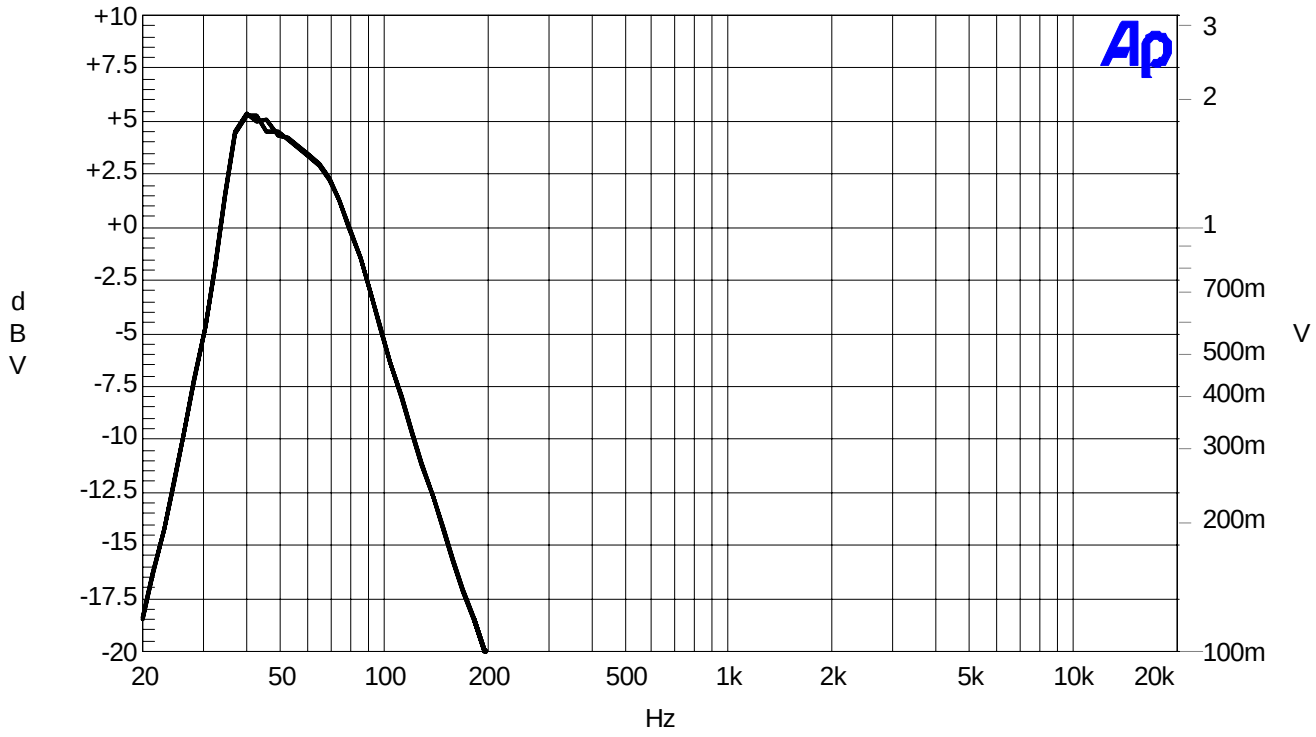
T17 Sub HPF-EQ-LPF-channel Gain + output gain

The curves correspond to the three gain of the back panel switch -6dB/0/+6dB



T18 output pin3 // T19 output pin 2

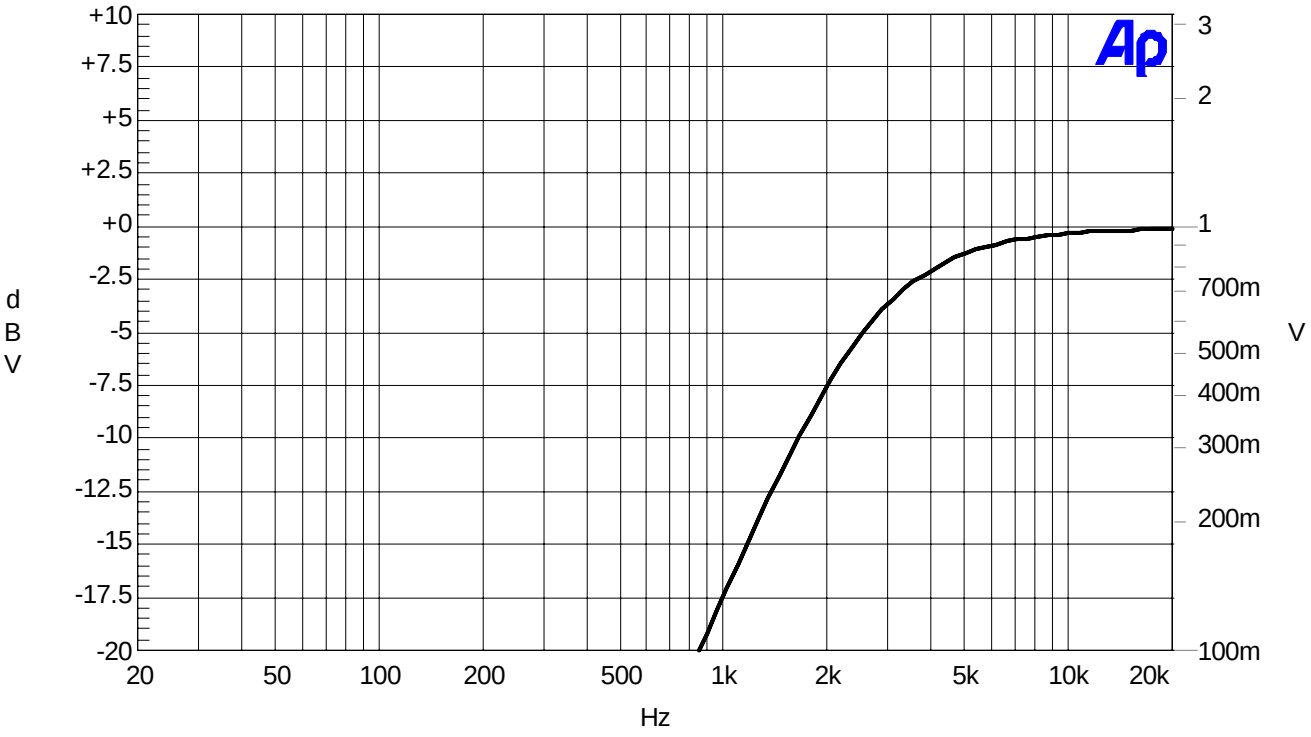
Symmetrical output stage: the two curve of testpoints 18 & 19 shall be within 0.5dB



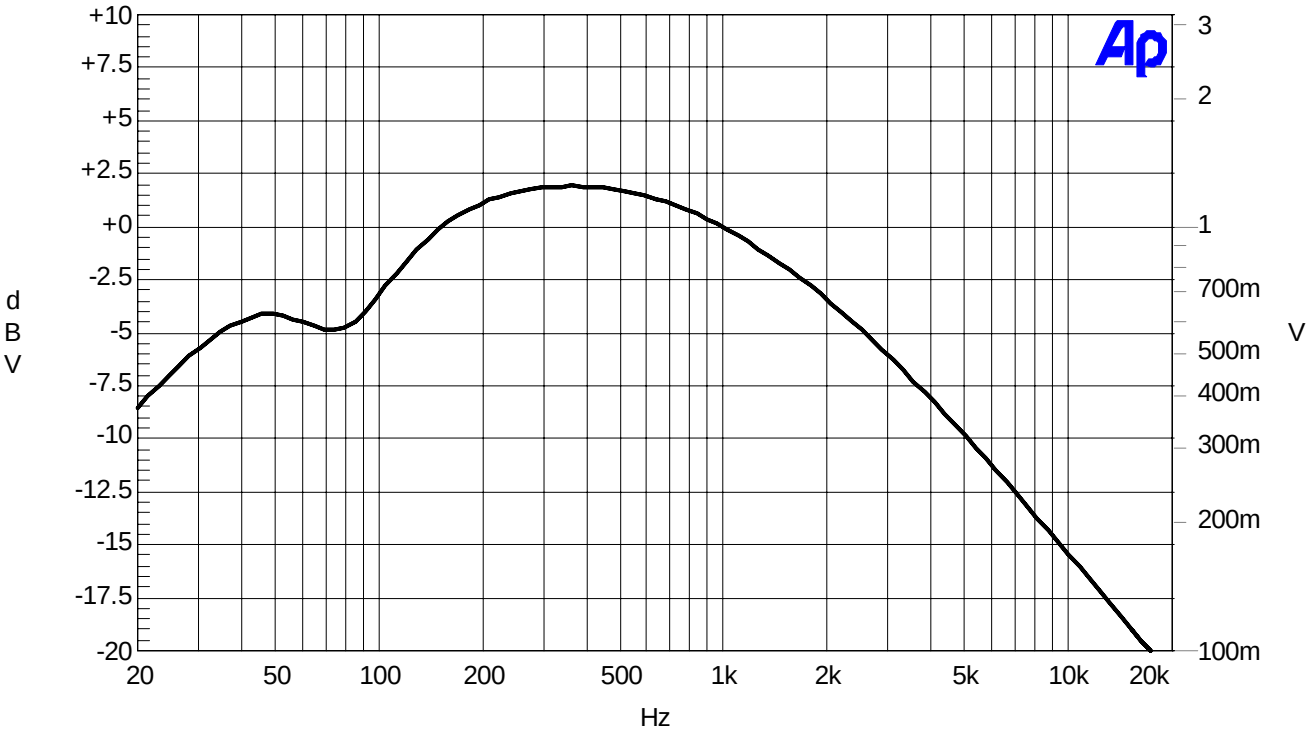
Servo control section

For the following test point a 20Vrms signal is directly injected in the sense connector. Check the following in case of protection failure. If the following traces are good and the problem persist it will be necessary to run the production procedure.

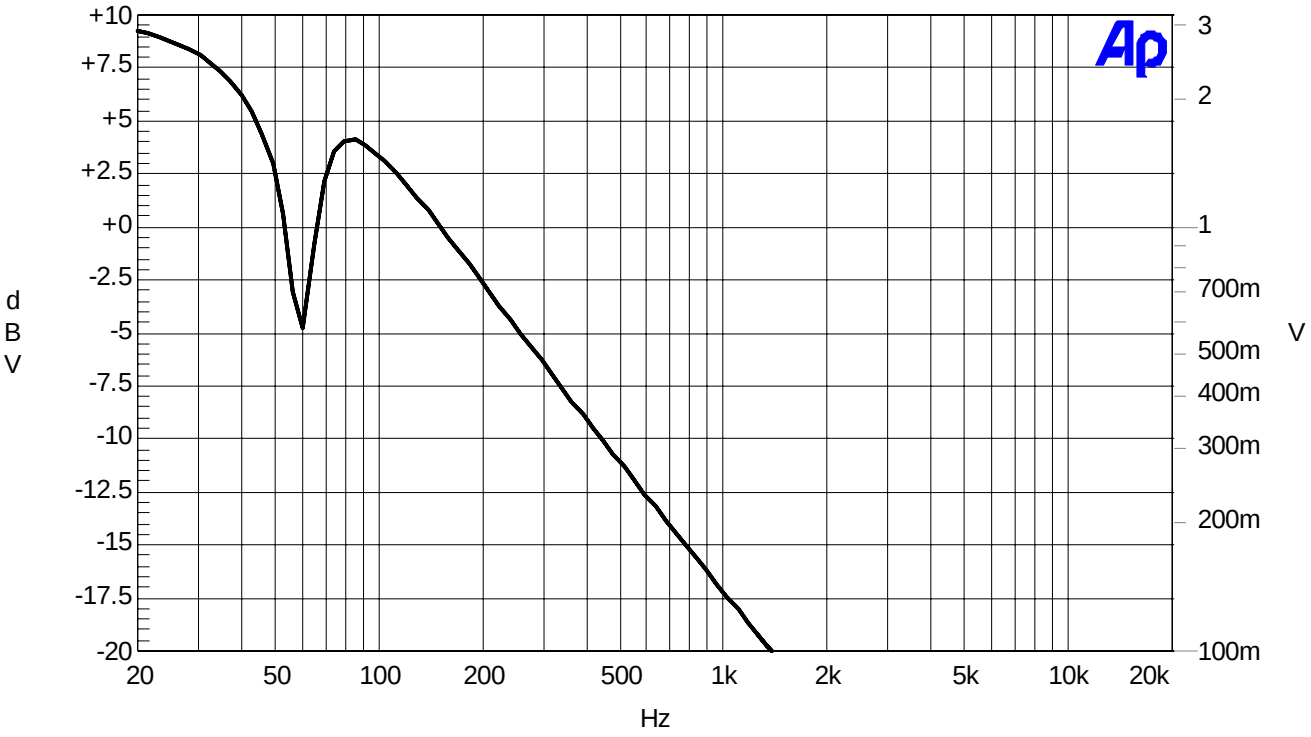
LT20-RT20



LT21-RT21



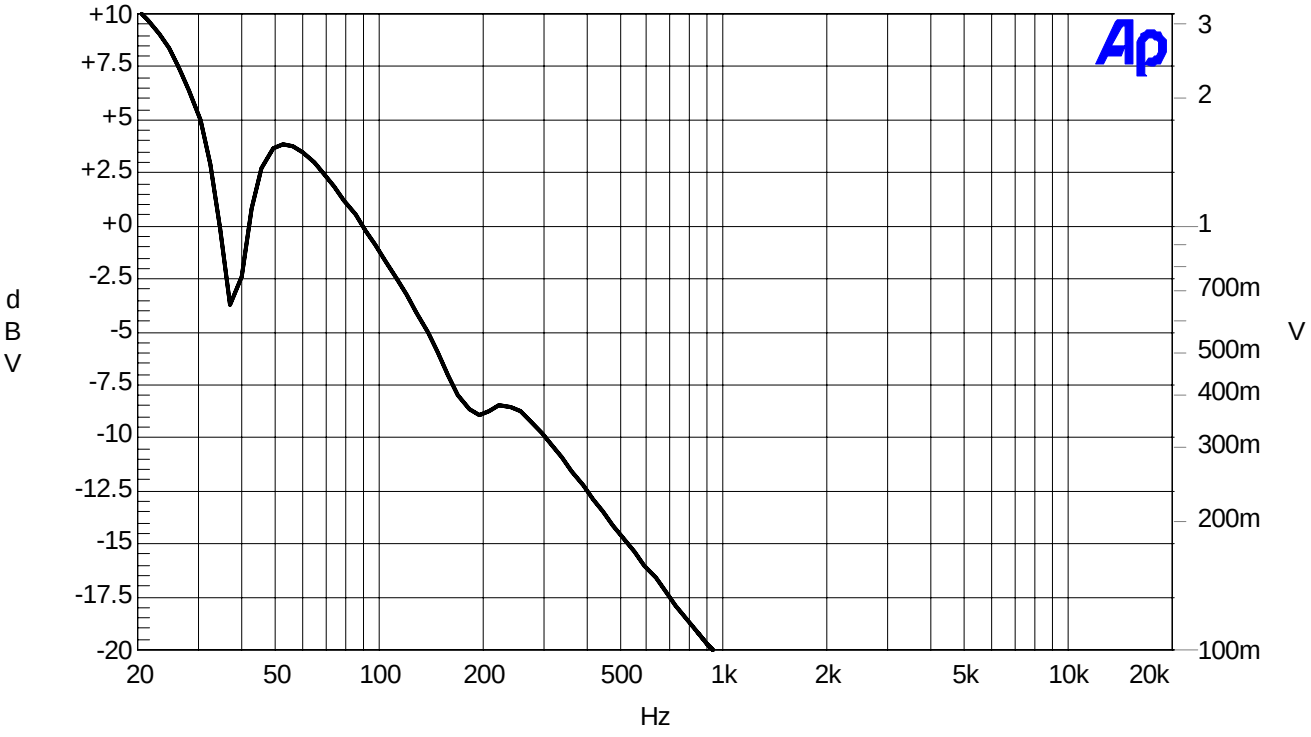
LT22-RT22



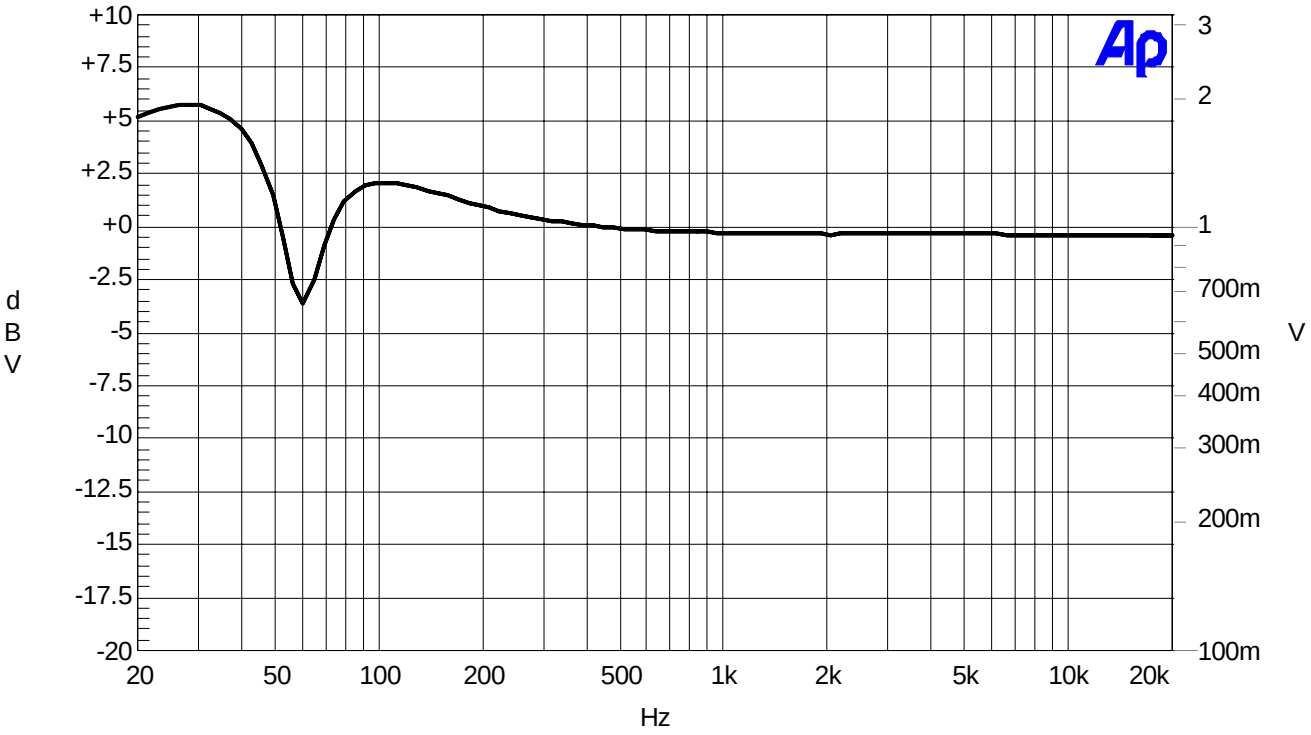
LT23-RT23-T24

Rectifier. Can't be checked with a frequency response

T25



T26


+10
+7.5
+5
+2.5
+0
-2.5
-5
-7.5
-10
-12.5
-15
-17.5
-20
dBV
3
2
1
700m
500m
400m
300m
200m
100m
V
20
50
100
200
500
1k
2k
5k
10k
20k
Hz

Part list rev AV1

Critical components

Due to the UL and CB scheme certifications the components marked ⚠ shall never be changed with an equivalent part (unless stated in the list below). In case of failure, the exact same type and reference shall be used. Failing to do so will void the warranty and the UL responsibility and certification.

DES	Description	Val	Manufacturer	Ref	UL
BG1	Bridge rectifier, V(RRM)=800V, Vr(RMS)=560V, Io=2A, I(FSM)=65A		International rectifier	IRC2KBP08	-
C202 C203	Ceramic Disk Capacitor, Safety, Class X1/Y2 440V/250V(AC), D12, S4.5, p=7.5mm	2.2n	Vishay	WKO222*CPC*0K	⚠
C10 C20 C7 C28	Aluminium Electrolytic capacitor, tol=20% p=5mm, 63V, 2500h / 85deg	1u	BC components	037rsm serie	-
C190-191	Aluminium Electrolytic capacitor, tol=20% p=5mm, 100V, 2500h / 85deg	2.2u	BC components	222203738228	-
C192	Aluminium Electrolytic capacitor, tol=20% p=5mm, 100V, 2500h / 85deg	3.3u	BC components	037rsm serie	-
C187	Aluminium Electrolytic capacitor, tol=20% p=2.5mm, 50V, 2000h / 105deg diam: 5mm	4.7u	BC Components	222211651478	-
	Aluminium Electrolytic capacitor, tol=20% p=5mm, 100V, 2500h / 85deg	4.7u	BC components	037rsm serie	-
C1-2 C5-6 C9 C22 C24 C31-32	Aluminium Electrolytic capacitor, tol=20% p=5mm, 63V, 2500h / 85deg	10u	BC components	037rsm serie	-
C185	Aluminium Electrolytic capacitor, tol=20% p=2.5mm, 25V, 2000h / 105deg diam: 5mm	47u	BC Components	222211656479	-
C14 C16 C18 C11 C26 C13	Aluminium Electrolytic capacitor, tol=20% p=5mm, 2500h / 85deg	47u	BC components	037rsm serie	-
C21 C15 C29	Condensateur alum electrolyt,tol=20% p=5.0mm 63v	100u	Lelon	REA101M1HTA08011	-
C35	Aluminum Electrolytic capacitor, SNAP in; 22x30, 5000h / 85degC, Tol= 20%; Voltage=400V, ESR=1.125R (100Hz), p=10	100u	BC components	222215756101	-
C136 C137 C138 C144 C122 C123	Aluminium Electrolytic capacitor Bi-POLAR, tol=20% p=5mm, d=8mm, rating 25V, 1000h / 85degminimum	100u	LELON	RNG101M1E0811-TAO	-
C198-201	Aluminum Electrolytic capacitor, Extremly Low impedance, rating=25V, 5000h / 105deg, p=5	470u	Nichicon	UPL1E 471 M HH 6	-
C54 C89	Polyester MKT Film Capacitor p=5mm tol 5%, rating 100Vdc/63Vac	47n	Arcotronics	R82DC2470CK6-J or DQ6-J	-
C85 C94 C90 C55	Polyester MKT Film Capacitor p=5mm tol 5%, rating 100Vdc/63Vac	68n	Arcotronics	R82EC2680CK6-J or DQ6-J	-

DES	Description	Val	Manufacturer	Ref	UL
C33 C34	Capacitor, MKP, class X2, 275Vac	100n	BC components	222233620104	
C69 C80	Polyester MKT Film Capacitor p=5mm tol 5%, rating 63Vdc/40Vac	100n	Arcotronics	R82DC3100xx5-J	-
C68 C79	Polyester MKT Film Capacitor p=5mm tol 5%, rating 63Vdc/40Vac	220n	Arcotronics	R82DC3220xx5-J	-
C4 C3	Polyester MKT Film Capacitor p=5mm tol 5%, rating 63Vdc/40Vac	330n	Arcotronics	R82DC3330CK6-J or DQ6-J	-
	Polyester MKT Film Capacitor p=5mm tol 5%, rating 63Vdc/40Vac	470n	Arcotronics	R82DC3470xx6-J	-
C66 C77 C129-130 C134-135 C139 C145 C102 C46	capacitor, COG (NPO) dielectric, 0805 size, tolerance 5%, rating 50V	33p	KEMET	C0805C330J5GAC	-
C45 C101 C76 C65	capacitor, COG (NPO) dielectric, 0805 size, tolerance 5%, rating 50V	220p	KEMET	C0805C221J5GAC	-
	capacitor, COG (NPO) dielectric, 0805 size, tolerance 5%, rating 50V	330p	KEMET	C0805C331J5GAC	-
C39-40 C51-52 C86-87 C105-106	capacitor, COG (NPO) dielectric, 0805 size, tolerance 5%, rating 50V	560p	KEMET	C0805C561J5GAC	-
C93 C83 C58 C59 C109	capacitor, COG (NPO) dielectric, 0805 size, tolerance 5%, rating 50V	1n	KEMET	C0805C102J5GAC	-
	capacitor, COG (NPO) dielectric, 0805 size, tolerance 5%, rating 50V	1.5n	KEMET	C0805C152J5GAC	-
C168 C152 C209-C214 C81 C56	capacitor, COG (NPO) dielectric, 1206 size, tolerance 5%, rating 50V	2.2n	KEMET	C1206C222J5GAC	-
	capacitor, COG (NPO) dielectric, 1206 size, tolerance 5%, rating 50V	3.3n	KEMET	C1206C332J5GAC	-
C159 C175-176 C158	capacitor, COG (NPO) dielectric, 1206 size, tolerance 5%, rating 50V	4.7n	KEMET	C1206C472J5GAC	-
C47 C103 C57 C82 C97 C72 C43 C71	capacitor, COG (NPO) dielectric, 1210 size, tolerance 5%, rating 100V	6.8n	KEMET	C1210C682J5GAC	-
C49 C92 C88 C53 C118 C100 C44 C104 C42 C146-149 C141	capacitor, COG (NPO) dielectric, 1210 size, tolerance 5%, rating 50V	10n	KEMET	C1210C103J5GAC	-
	Ceramic capacitor; size=1206; Tol=5%; voltage=100V; X7R	15n	KEMET	C1206C153J1RAC	-
C140 C151 C154 C165 C170	Ceramic capacitor; size=1206; Tol=5%; voltage=100V; X7R	22n	KEMET	C1206C223J1RAC	-
C166 C169 C171 C183 C114 C153 C155 C205-C208 R324 R403	Ceramic capacitor; size=1206; Tol=5%; voltage=100V; X7R	33n	KEMET	C1206C333J1RAC	-
C113 C116 C150 C162 C174 C179	Ceramic capacitor; size=1206; Tol=5%; voltage=100V; X7R	47n	KEMET	C1206C473J1RAC	-
C131 C108 C110	Ceramic capacitor; size=1206; Tol=5%; voltage=100V; X7R	68n	KEMET	C1206C683J1RAC	-

DES	Description	Val	Manufacturer	Ref	UL
C184 C186 C61 C50 C107 C115 C120 C121 C125 C127 C133 C143 C70 C163 C60 C180 CD1-58 R193 C75 C74 C63 C64 C84 C172 C156	Ceramic capacitor; size=1206; Tol=10%; voltage=50V; X7R	100n	KEMET	C1206C104K1RAC	-
C128 C119 C111 C117 C164 C178 C161 C181 C41 C182 C165 C195	Ceramic capacitor; size=1206; Tol=5%; voltage=50V; X7R	220n	KEMET	C1206C224J5RAC	-
C30 C12 C132 C142 C23 C193-194	Condensateur alum electrolyt,tol=20% p=2.0mm 50v	NC		not connected	-
C73 C78 C188-189 C95-96 C98-99 C112 C67 C62 C126 C173 C157	Condensateur CMS 1206 COG 5% 50v	NC		not connected	-
	Polyester MKT Film Capacitor p=5,08mm tol 5%	NC		not connected	-
C196-C197	Ceramic disc Capacitor class 1; dielectric N1500; voltage=500V; p=5.08	220p	BCE Sud passive components	R221G43P3LxxAP(2222...70221)	-
C36	Ceramic Capacitor class 2; K2000 ; voltage=500V ; p=5.08	2.2n	BC Components	2222 655 xx222	-
U19 U26 U30	LOW POWER LOW OFFSET VOLTAGE QUAD COMPARATORS		MOTOROLA	LM339D	-
ST2	AC Inlet		O.HEIL	1001-X-4460	
XLR1-2	3 pole female chassis connector, plastic housing, pin 1 separated from chassis and ground, horizontal PCB mount.		NEUTRIK	NC3FAH2	
XLR3-5	3 pole male chassis connector, plastic housing, horizontal PCB mount.		NEUTRIK	NC3MAH-0	
D64 D65	Dual, ultra-fast, epitaxial rectifier diodes; case=TO220, V(RRM)=200V, Io(AV)=10A (both), trr=25ns		Philips	BYQ28EX-200 / BYQ28E-200	-
D2-29 D31 D34-42 D44-55 D57-63	Small Signal Diode; case MiniMELF (SOD-80C)		Philips	PMLL4148	-
CR1-CR10	Diode, TRANSIL, bidirectional, 15V	15V	SGS-THOMSON	SM6T15CA	-
D32-33 D43 D56 D30	DIODE, not connected	NC		not connected	-
	User Manual		SHANGAI ABOCHI PRINTING	manualPS SERIES 170/80gr Black/Whit	-
F1	5x20 fuse, Temporised, High Breaking capacity, 1A	T1AH250V	Cooper/Bussmann	S505-1A	
	Fuse Holder, P=22.5mm		SCHURTER	OG 0751.0110	-
ST1	3 points Header		E TEC	SL1.003.S116/01.99	-
S1	Header; right angle solder pin, 1.2 X 1.2 mm; 6 pole		WAGO	231-466/001-000	
MED64 MED63	HeatsinkTO220, dim=13.21*19.05*9.53, Thermal resistance 30degC/W, with pin	30degC/W	Schaffner	WA627-002	-

DES	Description	Val	Manufacturer	Ref	UL
KK3	Heatsink TO220, Thermal resistance = 14degC/W, dim=35*12.7*25	14degC/W	THERMALLOY	THERMALLOY 513002B02500G#041829	-
L2 L3	Inductor, DR9X12 3.3uH 800mA(DC) Tol=20%	3.3uH	BIPOLAR	RI0912U-3R3M	-
	Insulation sheet located around the power supply, FR700, 0.4mm		DIUA	0000002231(000005) analogue/a	
ST1b	Jumper				-
LED2	MICROLED SMT RED, 100mW	RED	Dialight	597-3001-207	-
LED1	MICROLED SMT GREEN	GRE	Dialight	597-3301-207	-
LED4 LED6-7 LED9-10	MICROLED SMT YELLOW 100mW	YEL	Dialight	597-3401-207	-
LED3 LED5 LED8	MICROLED SMT BICOLOR RED/GREEN 100mW	REDGRE	Dialight	597-7701-207	-
G_L5-6	microLED OptoPipe 3 x 5.5mm 3 Array Light Pipe	3	Dialight	515-1000	-
G_L1-4	microLED OptoPipe 3 x 5.5mm Single Light Pipe	1	Dialight	515-1001	-
L1	Line Filter 2*36.5mH, 650mA(Ac)	2*36.5mH	BIPOLAR	FL20363-2-651-4	
U1 U10	HIGH COMMON-MODE REJECTION DIFFERENTIAL LINE RECEIVER		Burr Brown	INA134UA	-
	Top Panel Analogue TD		GAULT INDUSTRIES	SMD TOP PANEL TD CONTROLLER	-
	Rear Panel Analogue TD		GAULT INDUSTRIES	SMD REAR PANEL TD CONTROLLER	-
	Main Frame Analogue TD		GAULT INDUSTRIES	SMD CONTROLLER BOX TD CONTROLLER	-
	Hex nut M3 nominal heigth 0.8d, steel, zinc plated, property class 8, DIN934	M3	Bossard	BN117	-
U16 U21 U23	High Performance, low noise, Dual Operatinnal amplifier		JRC	NJM2114M	-
U4-9 U13 U14	Operational Amplifier, Quad, Low noise		ON SEMI	MC33079D	-
U17-18 U22 U24-25 U27-29 U31	LOW-POWER J FET INPUT QUAD OP-AMPS		Texas Instruments	TL064CD	-
U3 U12	LOW-NOISE J FET INPUT QUAD OP-AMPS		STM	TL074BC	-
IC2	NPN-Output dc-Input Optocoupler; Isolation 0,4mm, CTR=100-300%, Umax(peak)=630V		TOSHIBA	TLP621 GR	
	Container				-
	PCB, V-0, 130deg		GF CHINE	NEXO project TDMK3	
	FEMALE PLUG; 6 POLE; PIN SPACING 5 MM / 0.197 IN		WAGO	231-106/026-000	
TR1 TR6	10mm Potentiometer, vertical mount-horizontal adjust	1k	PIHER	PT10LH01102A2020	-
P1	Potentiometer, 16mm, carbon, spindle 6x20mm	47K	RADIOHM	P160ZCS 47KA CZ10x8 axe F5 6x20	-

DES	Description	Val	Manufacturer	Ref	UL
	Power cord 3x0.75mm 10/16amp straigth plug, black, 2m, IEC60320, UL94V0				-
SW1	PUSH-BOUTTON SWITCHES SERIE F4	F4	ITT CANON	F4UEE	
SW3	PUSH-BOUTTON SWITCHES SERIE F2	F2	ITT CANON	F2UEE	
SW0001A SW0003A	Solid button for push button serie F, black, diam 8.8mm, L=10.5mm		IIT CANON	F02-01 / 21125	-
IC1	Three-Terminal Off-Line PWM Switch		Power Integration	TOP223Y	-
D1	General Purpose High-Speed/Fast Rectifier; 600V, 1A, t(rr)=50-75ns, -65degC to +175degC, R(TH(JL))=13degC/W	R(TH(JL))=13degC/W	MOTOROLA	MURS160T3G	-
U15	Regulator, positive, 3 terminals, 12V, soic narrow 8 pin	12V	National semiconductor	LM78L12ACM	-
U20	Regulator, negative, 3 terminals, 12V, soic narrow 8 pin	12V	National semiconductor	LM79L12ACM	-
REG1-5	Regulator,adjustable, 3 Terminal, soic narrow 8 pin		National semiconductor	LM317LM	-
U32	Positive Adjustable Voltage Regulator; 0degC-70degC, 2,5V-36V	2-36V	Texas Instruments	TL431ACD	-
D66 D67	General-Purpose Reference/Regulator Diode; DO-214AC(SMA), A=5%-Tol, 1Watt			SML4746A (not connected)	-
R28 R2828	Resistor, Power, 2W, rating 500V, IEC 60115-1 IEC 60115-4	1M	BC components	2306 198 03 015	-
R470 R471	resistor, case 1206, rating 0.25 Watt, tolerance 1%, temperature coef 100ppm/degC	5R1	Philips	RC02H serie (2322 724 ....)	-
R464	resistor, case 1206, rating 0.25 Watt, tolerance 1%, temperature coef 100ppm/degC	100R	Philips	RC02H serie (2322 724 ....)	-
R469	resistor, case 1206, rating 0.25 Watt, tolerance 1%, temperature coef 100ppm/degC	330R	Philips	RC02H serie (2322 724 ....)	-
R472-R474	resistor, case 1206, rating 0.25 Watt, tolerance 1%, temperature coef 100ppm/degC	2k21	Philips	RC02H serie (2322 724 ....)	-
R468	resistor, case 1206, rating 0.25 Watt, tolerance 1%, temperature coef 100ppm/degC	4k7	Philips	RC02H serie (2322 724 ....)	-
R466 R467	resistor, case 1206, rating 0.25 Watt, tolerance 1%, temperature coef 100ppm/degC	6k81	Philips	RC02H serie (2322 724 ....)	-
R459 R460	resistor, case 1206, rating 0.25 Watt, tolerance 1%, temperature coef 100ppm/degC	36.5k	Philips	RC02H serie (2322 724 ....)	-
R463	resistor, case 1206, rating 0.25 Watt, tolerance 1%, temperature coef 100ppm/degC	1k0	Philips	RC02H serie (2322 724 ....)	-

DES	Description	Val	Manufacturer	Ref	UL
R118-119 R133 R138 R140 R183 R188 R72 R204 R248 R253 R255 R79 R260-261 R288 R297 R308 R337 R8 R23 R372 R383 R386 R417 R59 R361 R284 R434 C8 C17 C25 C27 C19 R156	Resistor Metal film, tol 1%, case 1206 (or 0806)	0R			-
R454-458 R461 R462	resistor, case 1206, rating 0.25 Watt, tolerance 1%, temperature coef 100ppm/degC	10R	Philips	RC02H serie (2322 724 ....)	-
R218 R230 R239 R241 R266 R209	Resistor Metal film, tol 1%, case 1206 (or 0806)	51R			-
R254 R275 R229	Resistor Metal film, tol 1%, case 1206 (or 0806)	130R			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	187R			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	215R			-
R154 R398	Resistor Metal film, tol 1%, case 1206 (or 0806)	220R			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	274R			-
R371 R296	Resistor Metal film, tol 1%, case 1206 (or 0806)	390R			-
R277	Resistor Metal film, tol 1%, case 1206 (or 0806)	470R			-
R34 R99-100 R122 R10-11 R123 R33	Resistor Metal film, tol 1%, case 1206 (or 0806)	510R			-
R265 R240 R165 R283 R465	resistor, case 1206, rating 0.25 Watt, tolerance 1%, temperature coef 100ppm/degC	560R	Philips	RC02H serie (2322 724 ....)	-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	680R			-
R226	Resistor Metal film, tol 1%, case 1206 (or 0806)	750R			-
R276	Resistor Metal film, tol 1%, case 1206 (or 0806)	910R			-
R207 R310 R125 R327 R142 R385 R155 R397 R406	Resistor Metal film, tol 1%, case 1206 (or 0806)	1k			-
R336 R416 R115 R280 R164 R264 R251	Resistor Metal film, tol 1%, case 1206 (or 0806)	1.2k			-
R348 R346 R362 R430 R286 R432 R205	Resistor Metal film, tol 1%, case 1206 (or 0806)	1.3k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	1.5k			-
R333 R412	Resistor Metal film, tol 1%, case 1206 (or 0806)	1.8k			-
R147 R381 R306	Resistor Metal film, tol 1%, case 1206 (or 0806)	2k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	2.2k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	2.4k			-
R203	Resistor Metal film, tol 1%, case 1206 (or 0806)	2.61k			-
R281 R162 R279	Resistor Metal film, tol 1%, case 1206 (or 0806)	3k			-

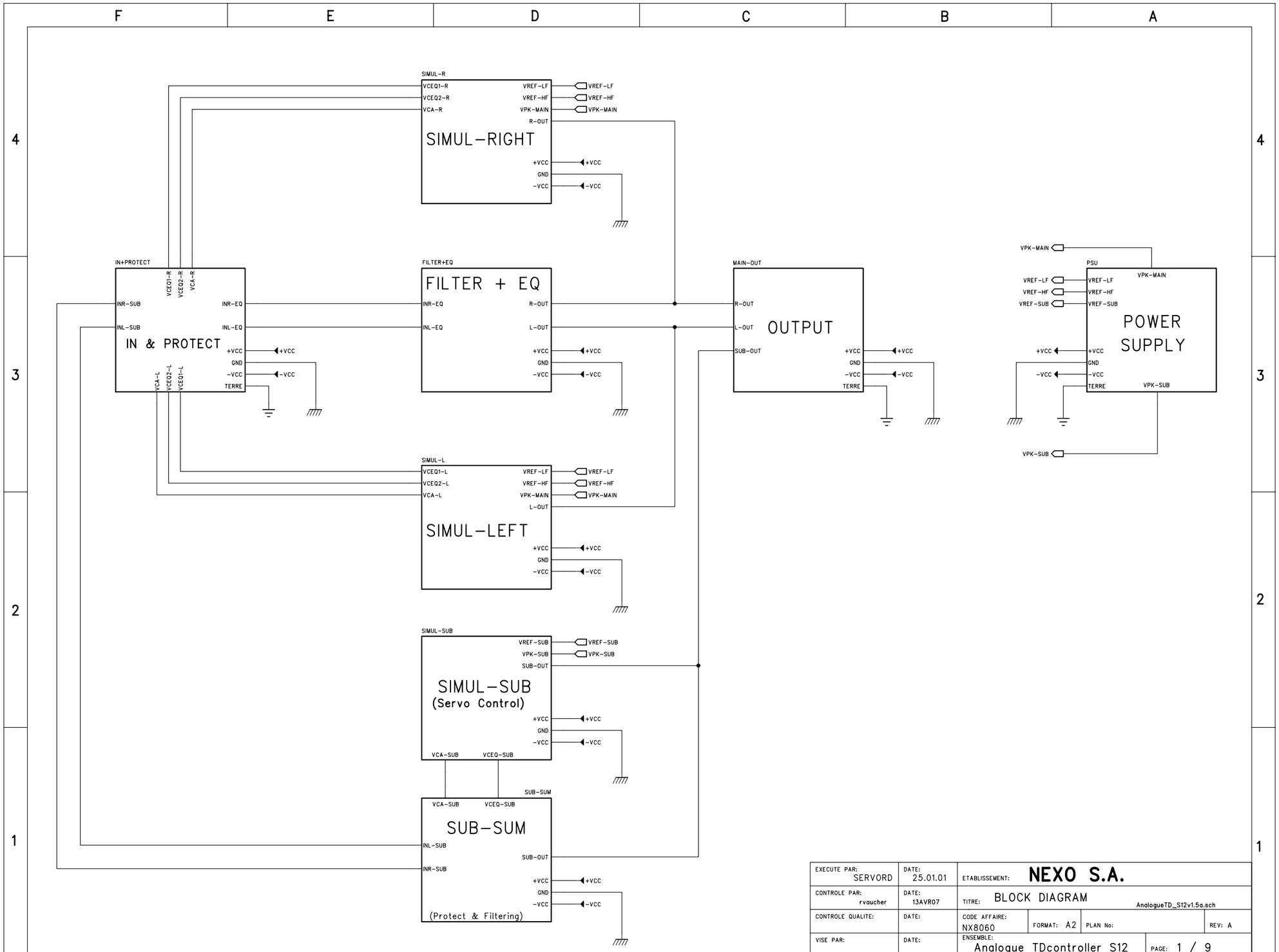
DES	Description	Val	Manufacturer	Ref	UL
R243 R6 R269 R136 R145 R4	Resistor Metal film, tol 1%, case 1206 (or 0806)	3.3k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	3.6k			-
R232 R235 R211 R214 R159	Resistor Metal film, tol 1%, case 1206 (or 0806)	3.92k			-
R268 R244 R120	Resistor Metal film, tol 1%, case 1206 (or 0806)	4.3k			-
R71 R475 R156 R197	Resistor Metal film, tol 1%, case 1206 (or 0806)	4.7k			-
R149 R181 R328 R407 R148 R107 R41 R51 R263	Resistor Metal film, tol 1%, case 1206 (or 0806)	5.1k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	5.36k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	5.49k			-
R307 R382	Resistor Metal film, tol 1%, case 1206 (or 0806)	5.6k			-
R31 R166 R170	Resistor Metal film, tol 1%, case 1206 (or 0806)	6.8k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	7.15k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	7.5k			-
R330 R408 R410 R329 R331 R367 R292	Resistor Metal film, tol 1%, case 1206 (or 0806)	8.2k			-
R409 R95 R49	Resistor Metal film, tol 1%, case 1206 (or 0806)	8.25k			-
R38 R104 R98 R32	Resistor Metal film, tol 1%, case 1206 (or 0806)	9.1k			-
R90 R206 R210 R213 R216-217 R231 R234 R237-238 R40 R303 R311 R106 R70 R378 R175 R24 R415 R111 R418 R421 R352 R355 R189 R192 301 376 R271 R274 R320 R391 R366 R291 R172 R250 R196	Resistor Metal film, tol 1%, case 1206 (or 0806)	10k			-
R387 R316	Resistor Metal film, tol 1%, case 1206 (or 0806)	11k			-
R314 R395	Resistor Metal film, tol 1%, case 1206 (or 0806)	12k			-
R128 R180 R18 R116 R76 R56 R91 R44 R436 R350	Resistor Metal film, tol 1%, case 1206 (or 0806)	13k			-
R342 R349 R400 R435 R46 R92 R317 R388	Resistor Metal film, tol 1%, case 1206 (or 0806)	15k			-
R201 R427 R343 R219 R114 R27	Resistor Metal film, tol 1%, case 1206 (or 0806)	16k			-
R199 R131 R21 R441 R447 R370 R295	Resistor Metal film, tol 1%, case 1206 (or 0806)	18k			-
R62 R64 R67 R82 R84 R87 R141 R167 R200 R2 R440 R1 R446 R359 R426 R236 R215	Resistor Metal film, tol 1%, case 1206 (or 0806)	20k			-
R242 R267	Resistor Metal film, tol 1%, case 1206 (or 0806)	22k			-

DES	Description	Val	Manufacturer	Ref	UL
R15 R53 R52 R168 R9 R233 R212	Resistor Metal film, tol 1%, case 1206 (or 0806)	24k			-
R137 R7 R173	Resistor Metal film, tol 1%, case 1206 (or 0806)	24.9k			-
R245 R270 R450 R77 R57 R80 R60	Resistor Metal film, tol 1%, case 1206 (or 0806)	27k			-
R85-86 R65 R121 R299 R351 R374 R66 R437 R74 R124 R12	Resistor Metal film, tol 1%, case 1206 (or 0806)	30k			-
R177 R182 R208 R309 R356 R384 R422	Resistor Metal film, tol 1%, case 1206 (or 0806)	33k			-
R227 R304 R379 R146	Resistor Metal film, tol 1%, case 1206 (or 0806)	36k			-
R75 R83 R55 R63 R451	Resistor Metal film, tol 1%, case 1206 (or 0806)	39k			-
R392 R321 R73 R68 R293	Resistor Metal film, tol 1%, case 1206 (or 0806)	43k			-
R132 R334 R160 R22 R413	Resistor Metal film, tol 1%, case 1206 (or 0806)	47k			-
R305 R380 R176 R43 R109	Resistor Metal film, tol 1%, case 1206 (or 0806)	51k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	56k			-
R81 R61	Resistor Metal film, tol 1%, case 1206 (or 0806)	62k			-
R377 R228 R129 R174 R302 R47 R126 R19 R93	Resistor Metal film, tol 1%, case 1206 (or 0806)	68k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	75k			-
R30 R39 R105 R153 R290 R365	Resistor Metal film, tol 1%, case 1206 (or 0806)	82k			-
C124 C160 C177 R37 R69 R89 R103 R171 R178 R184 R187 R194 R246 R256 R259 R300 R318 R326 R341 R375 R389 R399 R405 R444 R445 R433 R360	Resistor Metal film, tol 1%, case 1206 (or 0806)	100k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	110k			-
R108 R52	Resistor Metal film, tol 1%, case 1206 (or 0806)	120k			-
R54 R102 R36 R396 R315 R294 R369	Resistor Metal film, tol 1%, case 1206 (or 0806)	150k			-
R247 R97	Resistor Metal film, tol 1%, case 1206 (or 0806)	180k			-
R278 R282 R101 R130 R191 R20 R353 R354 R144 R364 R190 R163 R419 R420 R35 R289	Resistor Metal film, tol 1%, case 1206 (or 0806)	200k			-
R16 R285	Resistor Metal film, tol 1%, case 1206 (or 0806)	220k			-
R127 R17	Resistor Metal film, tol 1%, case 1206 (or 0806)	240k			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	249k			-
R319 R390 R117 R25 R112	Resistor Metal film, tol 1%, case 1206 (or 0806)	270k			-
R325 R404 R179 R249	Resistor Metal film, tol 1%, case 1206 (or 0806)	330k			-

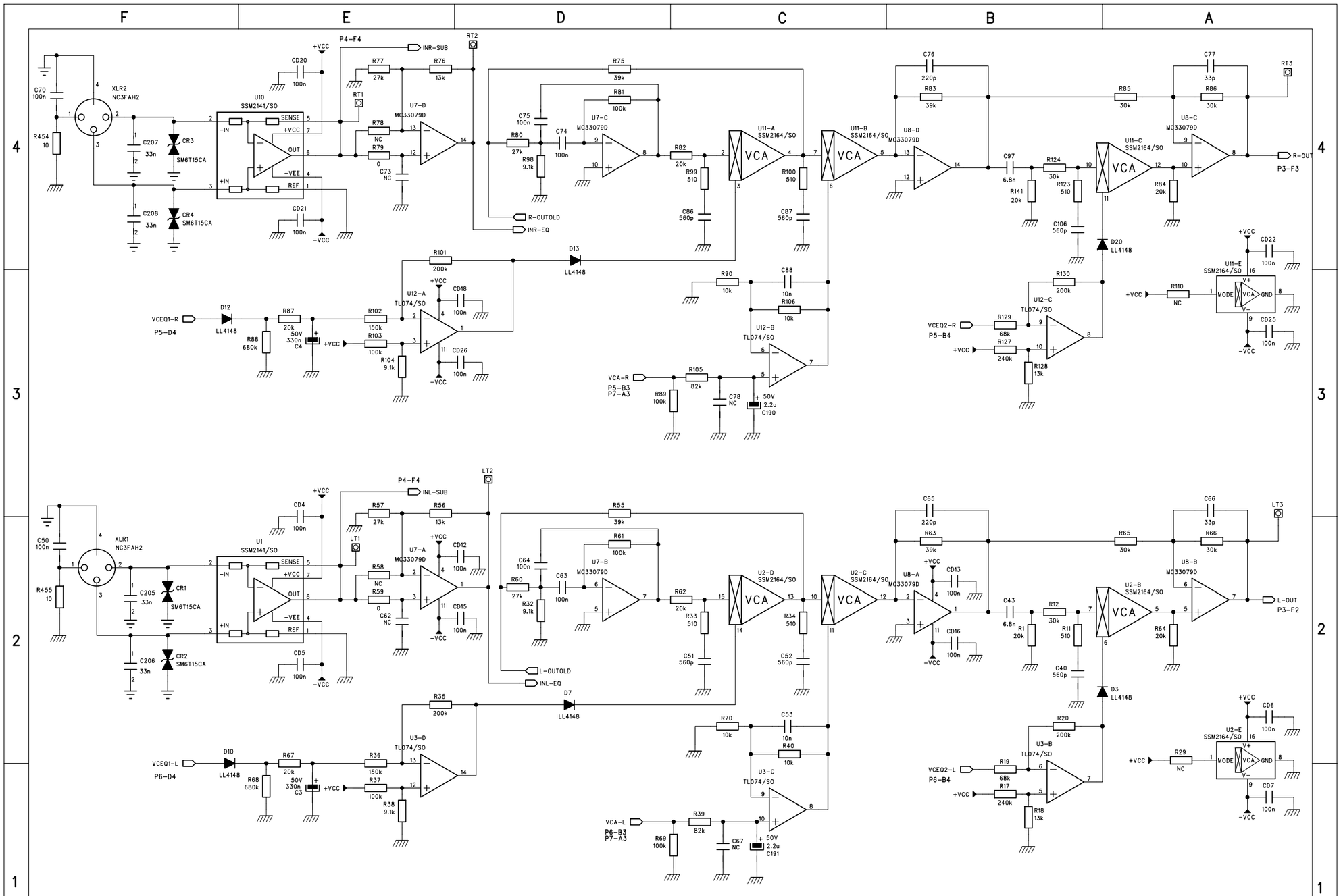
DES	Description	Val	Manufacturer	Ref	UL
R195 R401 R322	Resistor Metal film, tol 1%, case 1206 (or 0806)	470k			-
R414 R335 R116 R26	Resistor Metal film, tol 1%, case 1206 (or 0806)	510k			-
R272-273	Resistor Metal film, tol 1%, case 1206 (or 0806)	620k			-
R88 R68 R169	Resistor Metal film, tol 1%, case 1206 (or 0806)	680k			-
R13 R48 R94	Resistor Metal film, tol 1%, case 1206 (or 0806)	750k			-
R157	Resistor Metal film, tol 1%, case 1206 (or 0806)	820k			-
R332 R411	Resistor Metal film, tol 1%, case 1206 (or 0806)	910k			-
R287 R150 R220 R323 R143 R363 R402 R14 R202	Resistor Metal film, tol 1%, case 1206 (or 0806)	1M			-
	Resistor Metal film, tol 1%, case 1206 (or 0806)	2M			-
R151-152 R221 R312-313 R339-340 R393-394 R424-425 R3	Resistor Metal film, tol 1%, case 1206 (or 0806)	2.2M			-
R357-358 R338 R423 R438-439	Resistor Metal film, tol 5%, case 1206 (or true hole MSR25 serie)	22M	ASJ	CR21 226JL	-
R5 R78 R96 R110 R134 R135 R139 R161 R185-186 R29 R198 R222-225 R252 R50 R257-258 R262 R298 R344-345 R347 R373 R45 R58 R428-429 R431 R442-443 R448-449 R452-453	Resistor Metal film, tol 1%, case 1206 (or 0806)	NC		not connected	-
	Hexalobular (TORX) pan head thread forming screws 3x6 DIN7500, steel case hardened, 450HV0.4		Bossard	BN13916	-
	Socket button head cap screws M3x5, ISO7380, property class 10.9, steel,	M3x5	Bossard	BN19	-
	Hexalobular (TORX) flat head thread forming screws 3x6 DIN7500, steel case hardened, 450HV0.3		Bossard	BN11288	-
	Pan Head eco-syn screws M3x10 with cross recess type Z (Pozidriv) for thermoplastics, steel case hardened 450HV, black	M3x10	Bossard	BN82428	-
	Socket button head cap screws M3x12, ISO7380, property class 10.9, steel	M3x12	Bossard	BN19	-
	Front panel Sticker		DIAMETRIC		-
	WARNING FCC STICKER				
	Serial number sticker on package				
	Sticker fragile			AVERY L 7363	-
SW2	three pole four circuit switch		EUROPE ELECTRONIQUE	34BL	-
R476	Surge Limiter, NTC thermistor, R(K)=10 Ohm/ 25degC; Imax=2A, 2W		AMETHERM	SL08 10002	-

DES	Description	Val	Manufacturer	Ref	UL
Tr7	Transfomer		SIM - SDTIE ELMO	SIM UEC 25.L	
Q6-7 Q9-12 Q3 Q14 Q5 Q16	Low-Frequency Low-Power Silicon PNP BJT		Philips	BC857A or B	-
Q1 Q4 Q8	NPN Switching transistor		Philips	BSV52	-
VR1	Metalloxid-Varistor TNR, Disk		EPCOS	S07K300	-
U2 U11	Low Cost Quad Voltage Controlled Amplifier, 16pin narrow SOIC		Analog devices	SSM2164S	-
	Serrated lock washer for M3 screws, externally thoothed. Material : spring steel, zinc plated.	M3	Bossard	BN781	-
C48 C91	capacitor, COG (NPO) dielectric, 0805 size, tolerance 5%, rating 50V	150p	KEMET	C0805C151J5GAC	-
P1-B	CAPUCHON NOIR T859 H 09				-
P1-A	BOUTON NOIR				-
	SCREW CB POZI 3*8 ACZI				-
	SCREW CB TAPT POZI 3*5 NOIRE				-
	ECROU NYLSTOP M3 INOX A2				-
	PACK BAG GRIP 60*80mm				-

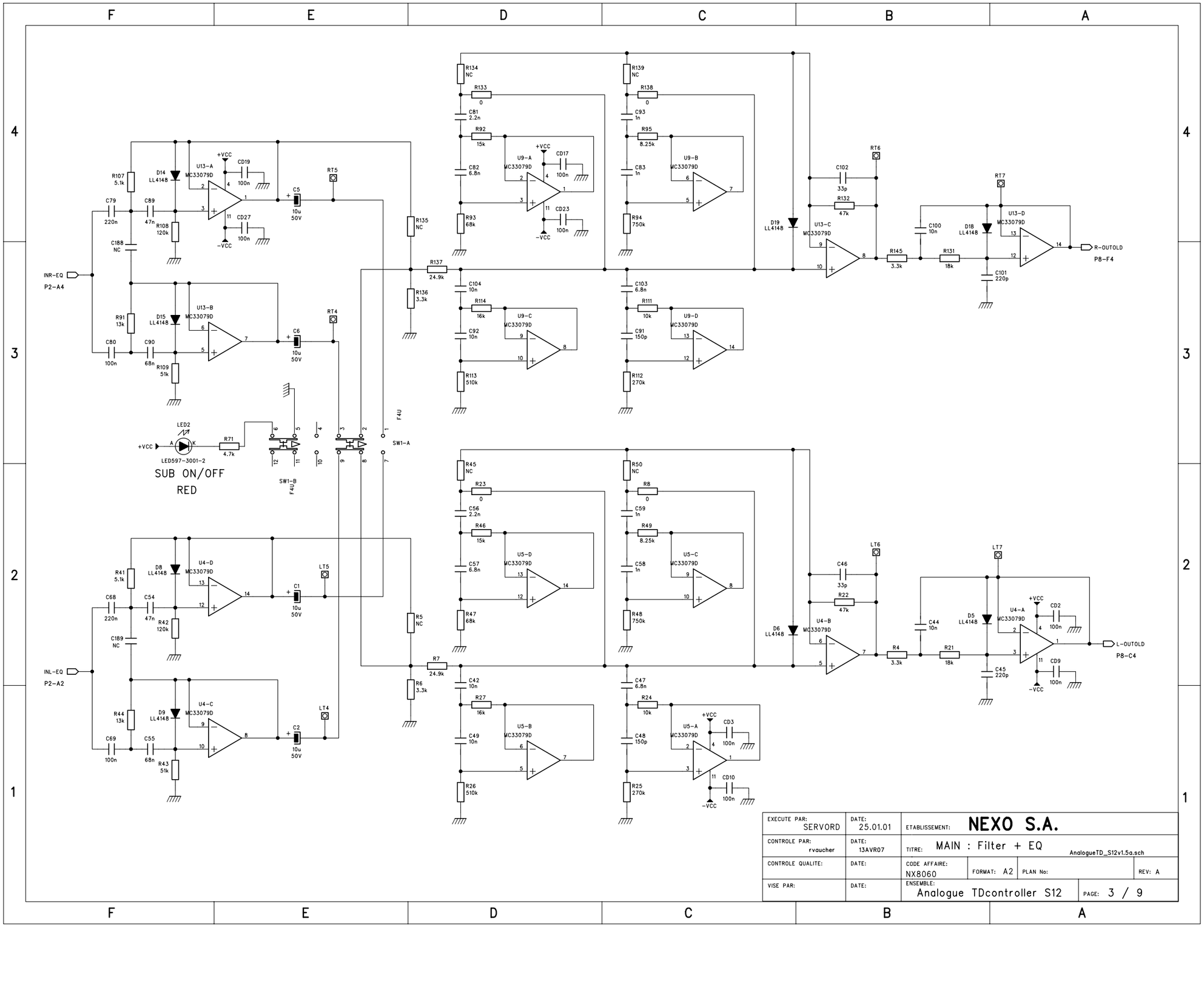
Schematics



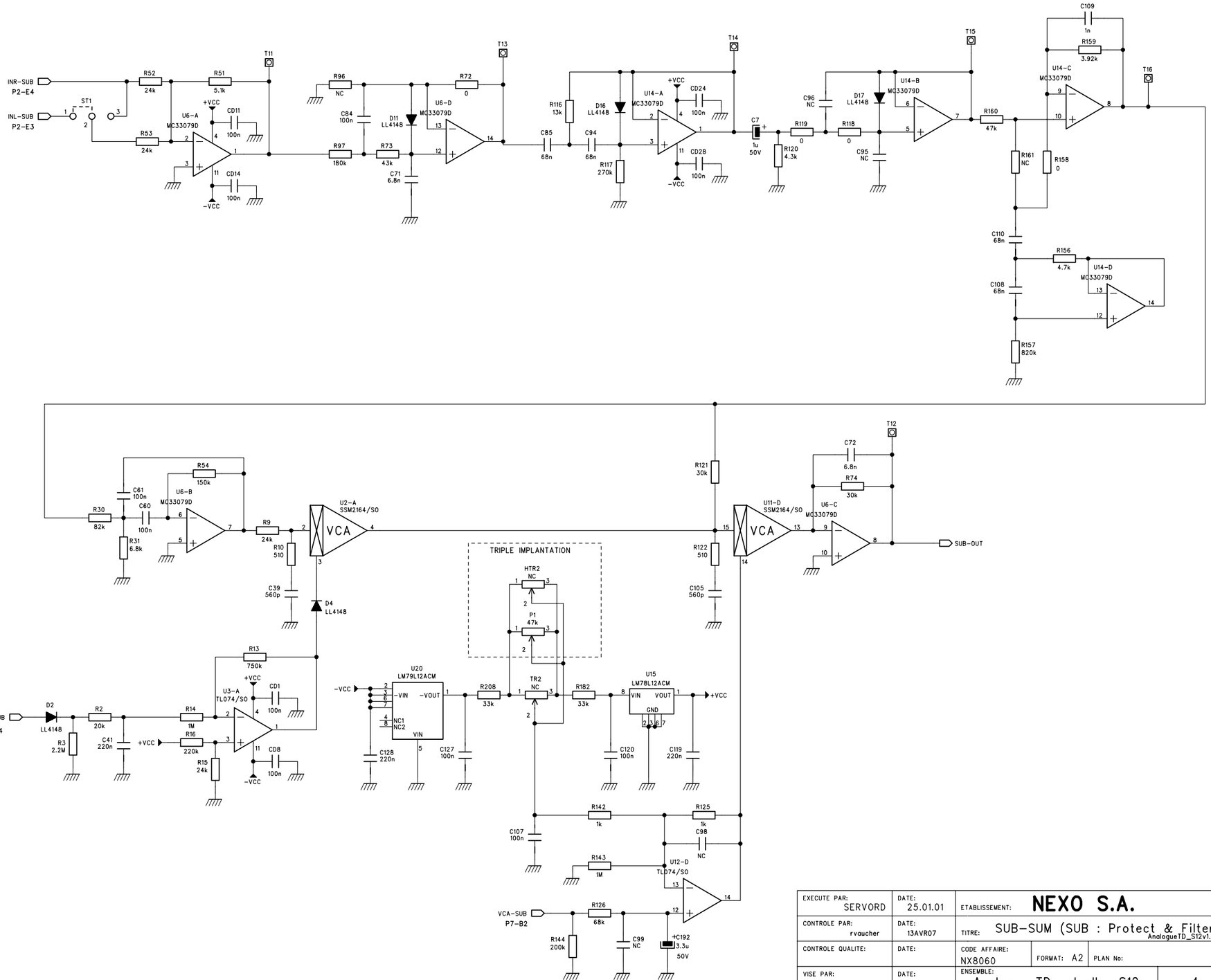
EXECUTE PAR: SERVORD	DATE: 25.01.01	ETABLISSEMENT: **NEXO S.A.**	
CONTROLE PAR: rvaucher	DATE: 13AVR07	TITRE: BLOCK DIAGRAM AnalogueTD_S12v1.5a.sch	
CONTROLE QUALITE:	DATE:	CODE AFFAIRE: NX8060	FORMAT: A2 / PLAN No: / REV: A
VISE PAR:	DATE:	ENSEMBLE: Analogue TDcontroller S12	PAGE: 1 / 9



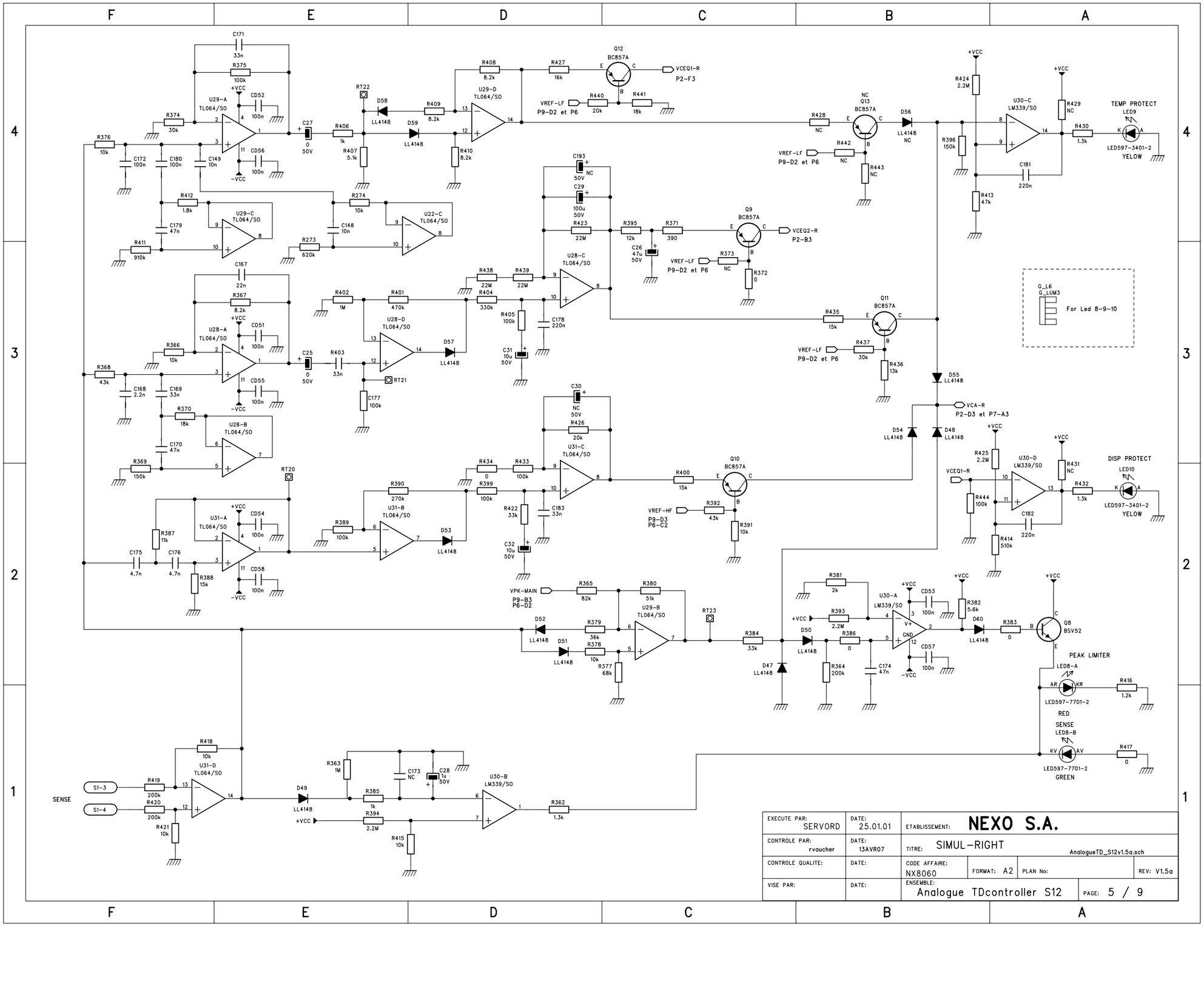
EXECUTE PAR: SERVORD	DATE: 25.01.01	ETABLISSEMENT: **NEXO S.A.**	
CONTROLE PAR: rvaucher	DATE: 13AVR07	TITRE: MAIN : Input & Protect AnalogueTD_S12v1.5a.sch	
CONTROLE QUALITE:	DATE:	CODE AFFAIRE: NX8060	FORMAT: A2 / PLAN No: / REV: A
VISE PAR:	DATE:	ENSEMBLE: Analogue TDcontroller S12	PAGE: 2 / 9

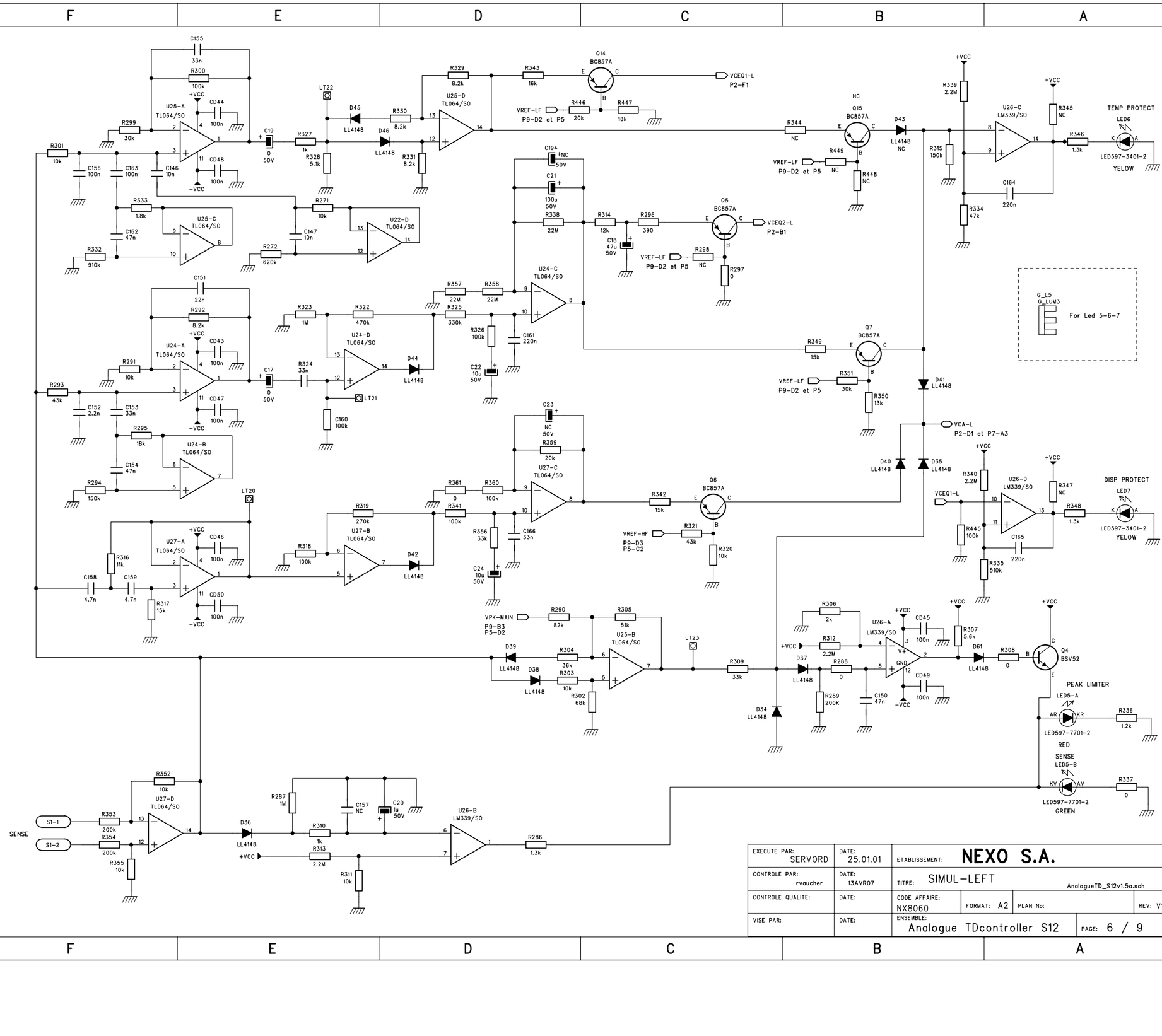


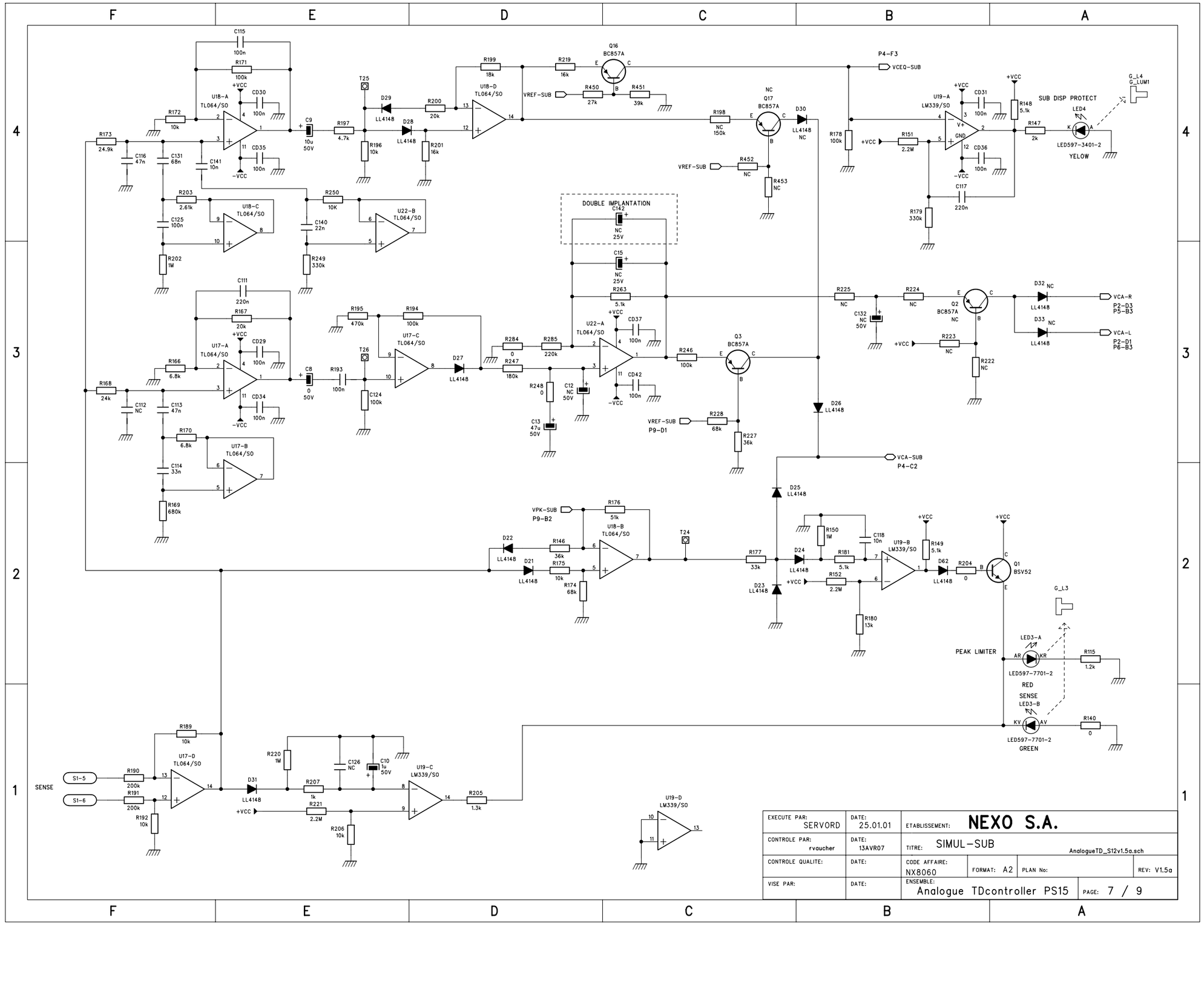
EXECUTE PAR: SERVORD	DATE: 25.01.01	ETABLISSEMENT: **NEXO S.A.**	
CONTROLE PAR: rvaucher	DATE: 13AVR07	TITRE: MAIN : Filter + EQ AnalogueTD_S12v1.5a.sch	
CONTROLE QUALITE:	DATE:	CODE AFFAIRE: NX8060	FORMAT: A2 PLAN No: REV: A
VISE PAR:	DATE:	ENSEMBLE: Analogue TDcontroller S12	PAGE: 3 / 9



EXECUTE PAR: SERVORD	DATE: 25.01.01	ETABLISSEMENT: **NEXO S.A.**	
CONTROLE PAR: rvaucher	DATE: 13AVR07	TITRE: SUB-SUM (SUB : Protect & Filtering) AnalogueTD_S12v1.5a.sch	
CONTROLE QUALITE:	DATE:	CODE AFFAIRE: NX8060	FORMAT: A2 / PLAN No: / REV: AV1
VISE PAR:	DATE:	ENSEMBLE: Analogue TDcontroller S12	PAGE: 4 / 9


F
E
D
C
B
A
4
3
2
1
C171 33n
R375 100k
+VCC
U29-A TL064/SO
CD52 100n
R374 30k
R376 10k
C172 100n
C180 100n
C149 10n
-VCC
CD56 100n
C27 0 50V
R406 1k
RT22
D58 LL4148
D59 LL4148
R407 5.1k
R409 8.2k
R408 8.2k
U29-D TL064/SO
R410 8.2k
R427 16k
Q12 BC857A
VCEQ1-R
P2-F3
VREF-LF
P9-D2 et P6
R440 20k
R441 18k
R428 NC
NC Q13 BC857A
D56 LL4148 NC
R442 NC
R443 NC
R424 2.2M
U30-C LM339/SO
R429 NC
TEMP PROTECT
LED9
LED597-3401-2
YELOW
R430 1.3k
R396 150k
C1B1 220n
R413 47k
R412 1.8k
U29-C TL064/SO
C179 47n
R411 910k
R274 10k
C148 10n
R273 620k
U22-C TL064/SO
C193 NC 50V
C29 100u 50V
R423 22M
U28-C TL064/SO
R395 12k
R371 390
Q9 BC857A
VCEQ2-R
P2-B3
C26 47u 50V
R373 NC
R372 0
G_L6
G_LUM3
For Led 8-9-10
C167 22n
R367 8.2k
U28-A TL064/SO
CD51 100n
R366 10k
R368 43k
C168 2.2n
C169 33n
C25 0 50V
R403 33n
R402 1M
R401 470k
U28-D TL064/SO
RT21
D57 LL4148
C177 100k
R438 22M
R439 22M
R404 330k
R405 100k
C178 220n
C31 10u 50V
R435 15k
Q11 BC857A
R437 30k
R436 13k
D55 LL4148
VCA-R
P2-D3 et P7-A3
R370 18k
U28-B TL064/SO
C170 47n
R369 150k
RT20
C30 NC 50V
R426 20k
U31-C TL064/SO
R434 0
R433 100k
R399 100k
R422 33k
C183 33n
C32 10u 50V
R400 15k
Q10 BC857A
VREF-HF
P9-D3
P6-C2
R392 43k
R391 10k
D54 LL4148
D48 LL4148
R425 2.2M
U30-D LM339/SO
R431 NC
DISP PROTECT
LED10
LED597-3401-2
YELOW
R444 100k
C182 220n
R414 510k
R432 1.3k
R387 11k
C175 4.7n
C176 4.7n
R388 15k
CD54 100n
CD58 100n
R390 270k
R389 100k
U31-B TL064/SO
D53 LL4148
VPK-MAIN
P9-B3
P6-D2
R365 82k
R380 51k
U29-B TL064/SO
D52 LL4148
D51 LL4148
R379 36k
R378 10k
R377 68k
RT23
R384 33k
R381 2k
R393 2.2M
U30-A LM339/SO
CD53 100n
CD57 100n
D50 LL4148
R386 0
R364 200k
C174 47n
D47 LL4148
R382 5.6k
D60 LL4148
R383 0
Q8 BSV52
PEAK LIMITER
LED8-A
LED597-7701-2
RED
SENSE
LED8-B
LED597-7701-2
GREEN
R416 1.2k
R417 0
R418 10k
U31-D TL064/SO
SENSE
S1-3
S1-4
R419 200k
R420 200k
R421 10k
D49 LL4148
R363 1M
C173 NC
C28 1u 50V
R385 1k
R394 2.2M
R415 10k
U30-B LM339/SO
R362 1.3k
EXECUTE PAR: SERVORD
DATE: 25.01.01
ETABLISSEMENT: NEXO S.A.
CONTROLE PAR: rvaucher
DATE: 13AVR07
TITRE: SIMUL-RIGHT
AnalogueTD_S12v1.5a.sch
CONTROLE QUALITE:
DATE:
CODE AFFAIRE: NX8060
FORMAT: A2
PLAN No:
REV: V1.5a
VISE PAR:
DATE:
ENSEMBLE: Analogue TDcontroller S12
PAGE: 5 / 9


C155 33n
R300 100k
+VCC
U25-A TL064/SO
CD44 100n
R299 30k
R301 10k
C156 100n
C163 100n
C146 10n
CD48 100n
-VCC
C19 0 50V
LT22
R327 1k
R328 5.1k
D45 LL4148
D46 LL4148
R330 8.2k
R331 8.2k
R329 8.2k
U25-D TL064/SO
R343 16k
Q14 BC857A
VCEQ1-L P2-F1
VREF-LF P9-D2 et P5
R446 20k
R447 18k
R344 NC
Q15 BC857A
R449 NC
R448 NC
D43 LL4148 NC
R339 2.2M
R315 150k
R334 47k
U26-C LM339/SO
R345 NC
R346 1.3k
TEMP PROTECT
LED6
LED597-3401-2 YELOW
C164 220n
R333 1.8k
C162 47n
R332 910k
U25-C TL064/SO
R271 10k
C147 10n
R272 620k
U22-D TL064/SO
C194 +NC 50V
C21 100u 50V
R338 22M
R314 12k
R296 390
Q5 BC857A
VCEQ2-L P2-B1
C18 47u 50V
R298 NC
R297 0
VREF-LF P9-D2 et P5
C151 22n
R292 8.2k
U24-A TL064/SO
CD43 100n
R291 10k
R293 43k
C152 2.2n
C153 33n
R295 18k
C154 47n
R294 150k
U24-B TL064/SO
-VCC
C17 0 50V
R324 33n
U24-D TL064/SO
D44 LL4148
LT21
C160 100k
R323 1M
R322 470k
R357 22M
R358 22M
R325 330k
R326 100k
C22 10u 50V
C161 220n
U24-C TL064/SO
C23 NC 50V
R359 20k
U27-C TL064/SO
R361 0
R360 100k
R341 100k
R356 33k
C24 10u 50V
C166 33n
R342 15k
Q6 BC857A
VREF-HF P9-D3 P5-C2
R321 43k
R320 10k
R319 270k
R318 100k
U27-B TL064/SO
D42 LL4148
LT20
U27-A TL064/SO
CD46 100n
R316 11k
C158 4.7n
C159 4.7n
R317 15k
CD50 100n
VPK-MAIN P9-B3 P5-D2
R290 82k
R305 51k
U25-B TL064/SO
D39 LL4148
D38 LL4148
R304 36k
R303 10k
R302 68k
LT23
R309 33k
R306 2k
R312 2.2M
R288 0
D37 LL4148
R289 200K
C150 47n
D34 LL4148
U26-A LM339/SO
CD45 100n
CD49 100n
R307 5.6k
D61 LL4148
R308 0
Q4 BSV52
PEAK LIMITER
LED5-A
LED597-7701-2 RED
R336 1.2k
SENSE
LED5-B
LED597-7701-2 GREEN
R337 0
G_L5
G_LUM3
For Led 5-6-7
Q7 BC857A
R349 15k
R351 30k
R350 13k
D41 LL4148
VCA-L P2-D1 et P7-A3
D40 LL4148
D35 LL4148
R340 2.2M
R445 100k
R335 510k
U26-D LM339/SO
R347 NC
R348 1.3k
DISP PROTECT
LED7
LED597-3401-2 YELOW
C165 220n
VCEQ1-L
S1-1
S1-2
SENSE
R353 200k
R354 200k
R355 10k
R352 10k
U27-D TL064/SO
D36 LL4148
R287 1M
C157 NC
C20 1u 50V
R310 1k
R313 2.2M
R311 10k
U26-B LM339/SO
R286 1.3k
EXECUTE PAR: SERVORD
DATE: 25.01.01
ETABLISSEMENT: NEXO S.A.
CONTROLE PAR: rvaucher
DATE: 13AVR07
TITRE: SIMUL-LEFT
AnalogueTD_S12v1.5a.sch
CONTROLE QUALITE:
DATE:
CODE AFFAIRE: NX8060
FORMAT: A2
PLAN No:
REV: V1.5a
VISE PAR:
DATE:
ENSEMBLE: Analogue TDcontroller S12
PAGE: 6 / 9



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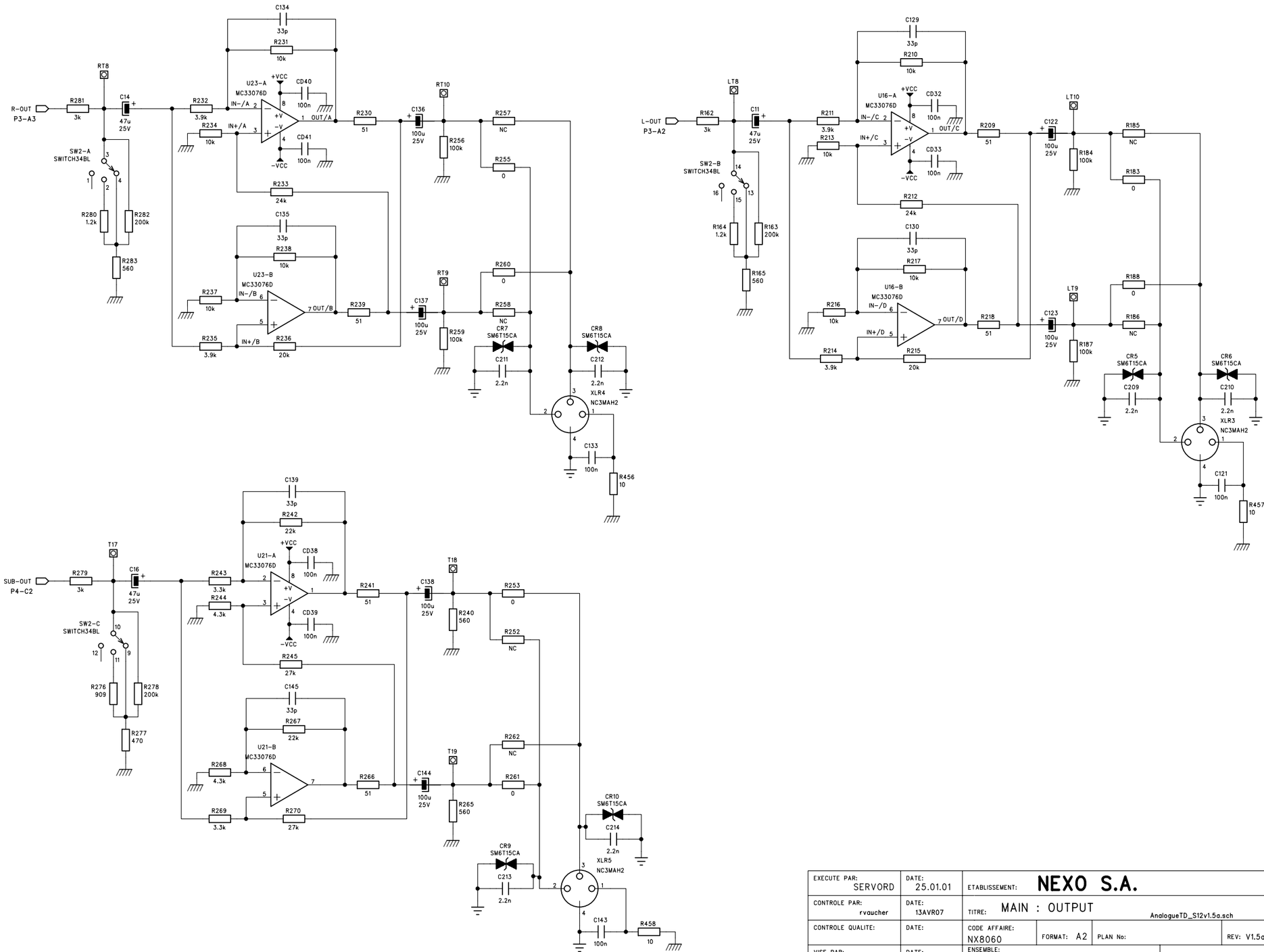
CONTROLE PAR: rvaucher	DATE: 13AVR07	TITRE: SIMUL-SUB AnalogueTD_S12v1.5a.sch	
CONTROLE QUALITE:	DATE:	CODE AFFAIRE: NX8060	FORMAT: A2 / PLAN No: / REV: V1.5a
VISE PAR:	DATE:	ENSEMBLE: Analogue TDcontroller PS15	PAGE: 7 / 9



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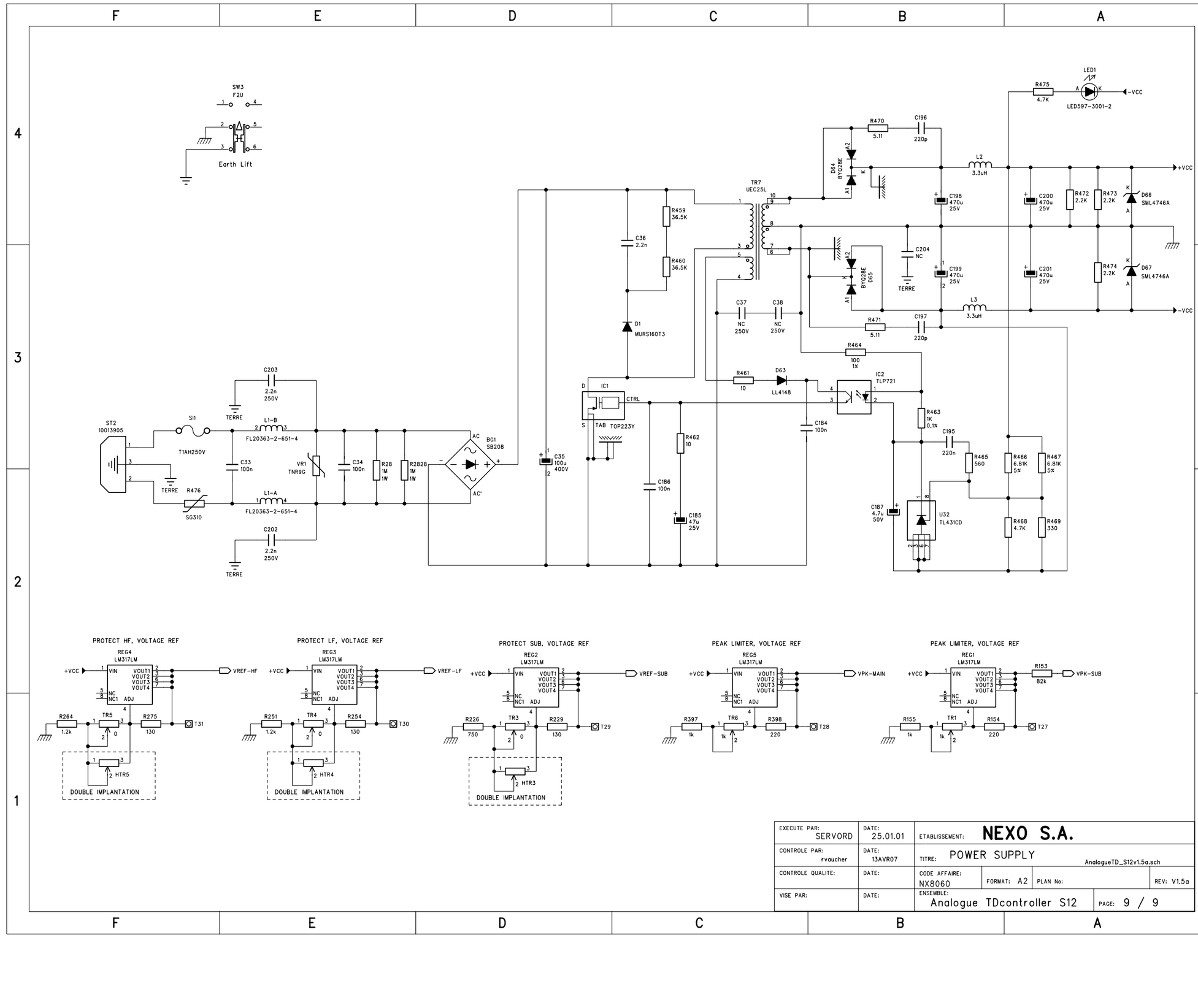
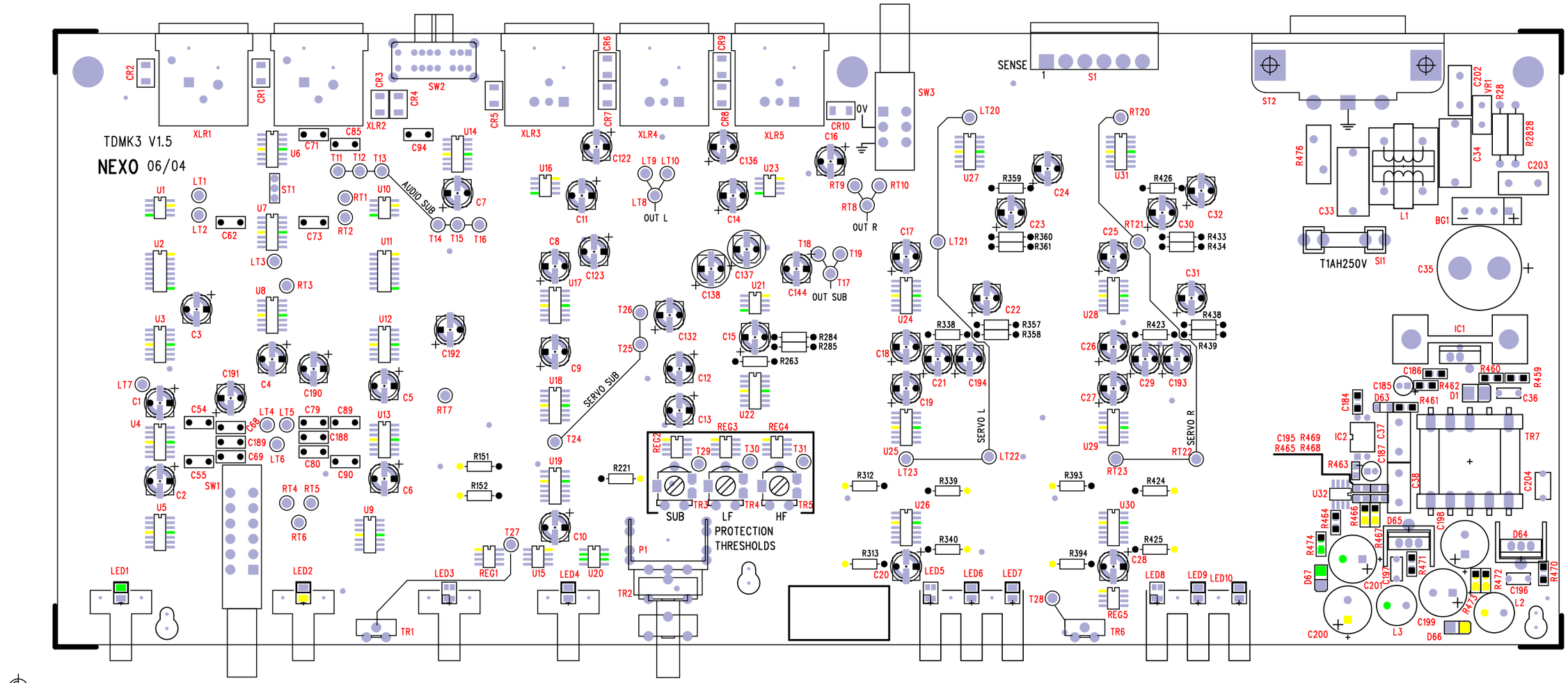
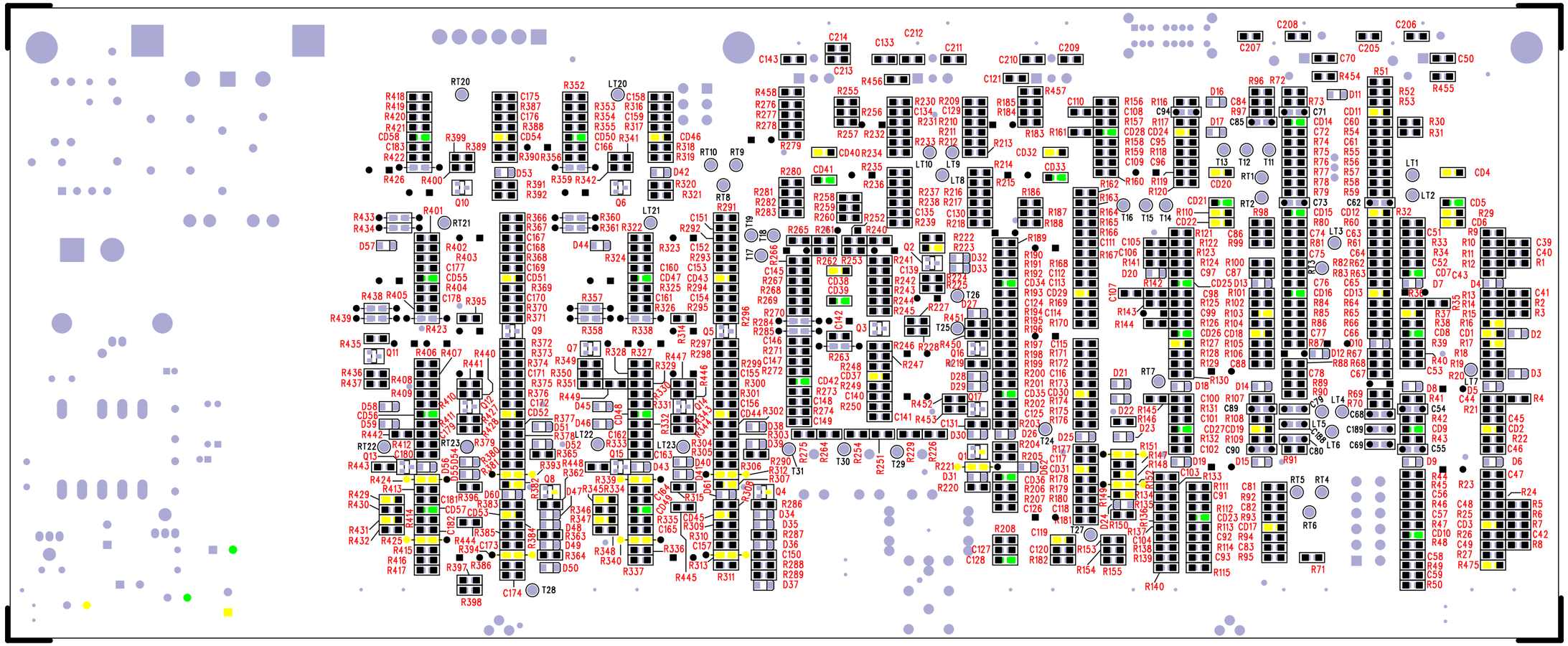
CONTROLE PAR: rvaucher	DATE: 13AVR07	TITRE: MAIN : OUTPUT AnalogueTD_S12v1.5a.sch	
CONTROLE QUALITE:	DATE:	CODE AFFAIRE: NX8060	FORMAT: A2 / PLAN No: / REV: V1.5a
VISE PAR:	DATE:	ENSEMBLE: Analogue TDcontroller S12	PAGE: 8 / 9



EXECUTE PAR: SERVORD	DATE: 25.01.01	ETABLISSEMENT: **NEXO S.A.**	
CONTROLE PAR: rvaucher	DATE: 13AVR07	TITRE: POWER SUPPLY AnalogueTD_S12v1.5a.sch	
CONTROLE QUALITE:	DATE:	CODE AFFAIRE: NX8060	FORMAT: A2 / PLAN No: / REV: V1.5a
VISE PAR:	DATE:	ENSEMBLE: Analogue TDcontroller S12	PAGE: 9 / 9



NX4080 NEXO CARTE TDMK3 V1.5
SERVORD PLAN D'EQUIPEMENT ET SERIGRAPHIE FACE ELEMENTS



PLAN D'EQUIPEMENT ET SERIGRAPHIE FACE SOUDURE

NEXO CARTE TDMK3 V1.5

NX4080
SERVORD

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