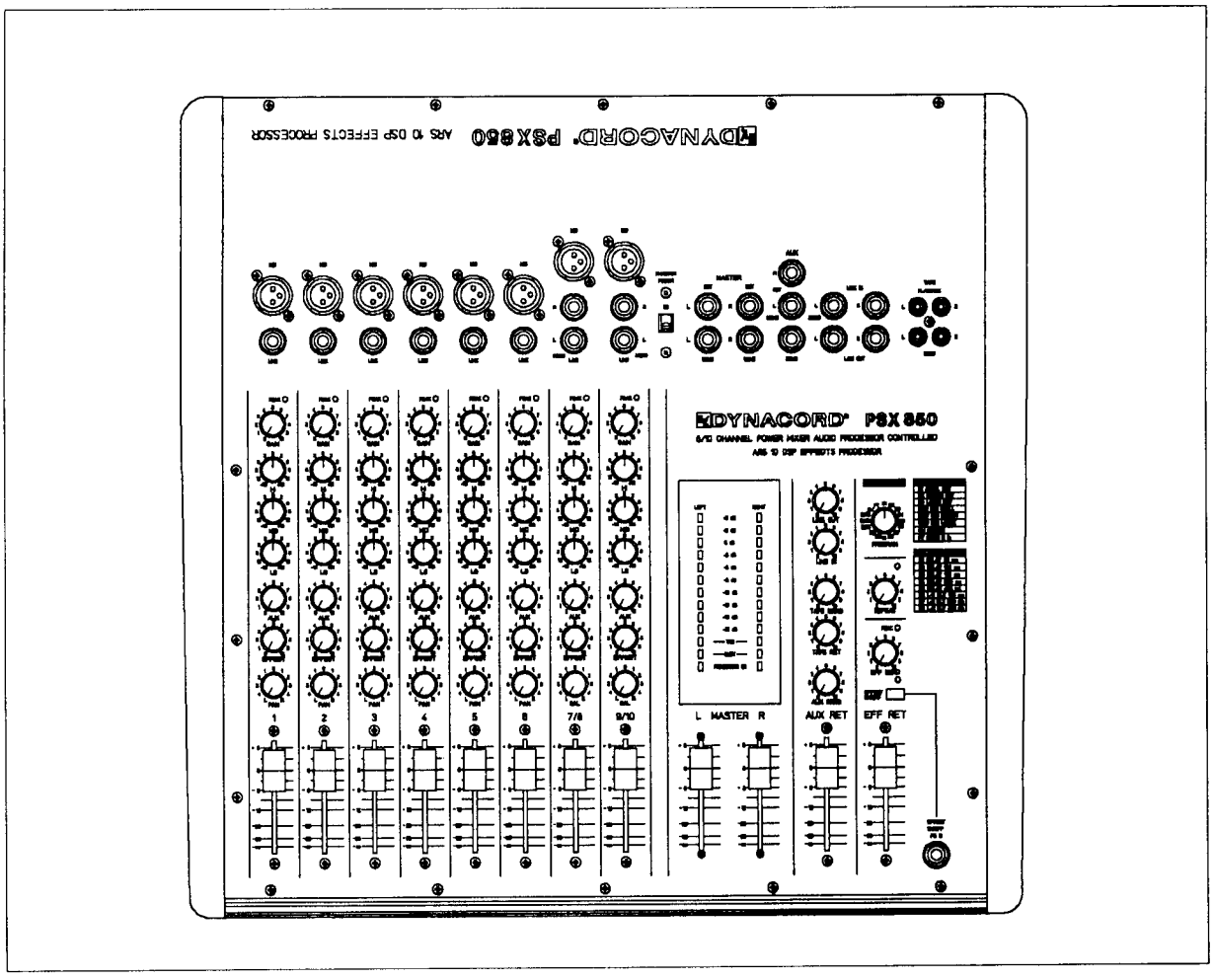
DYNACORD®

USER MANUAL



PSX 850

8/10 CHANNEL POWER MIXER

Table of Contents

Important Notes

CAUTION: The unit must be protected from humidity to prevent the risk of fire or electric shock.

1. Make sure that you have the correct mains voltage. Only operate with the unit with the mains voltage marked on the rear panel.
2. Ensure that no objects (in particular metal objects) are inserted into the unit. This could cause severe electric shock or give rise to malfunction.
3. If the unit is suddenly moved from a cold place to a warm place, e.g. transporting from outside into a heated room, condensation will occur. In this case you should not switch the unit on until it has warmed up to room temperature.
4. In the event of water or any other fluid being accidentally spilt on the unit, switch the unit off immediately and send it to a qualified service workshop for inspection.
5. Always ensure that the unit is well ventilated and never exposed to direct sunlight.
6. Do not use sprays to clean the unit as these may cause damage to it and could suddenly ignite.

PSX 850 - GENERAL OVERVIEW

- 8 Input channels = 6 x Mic/Line + 2x Mic / 2x Line Stereo
- 3 band equalizer in each input channel
- Digital 16 bit stereo effect unit with 6 reverb, 8 delay programs and 2 special effects
- 48 V Phantom Power
- 1 effect path
- 1 AUX/Monitor path
- Controllable Line In and Line Out path
- Controllable Tape Record and Tape Playback path
- Big 2 way LED Level Meter
- 2 x 250 Watts (RMS/4 Ohms) PCA processor power amplifiers

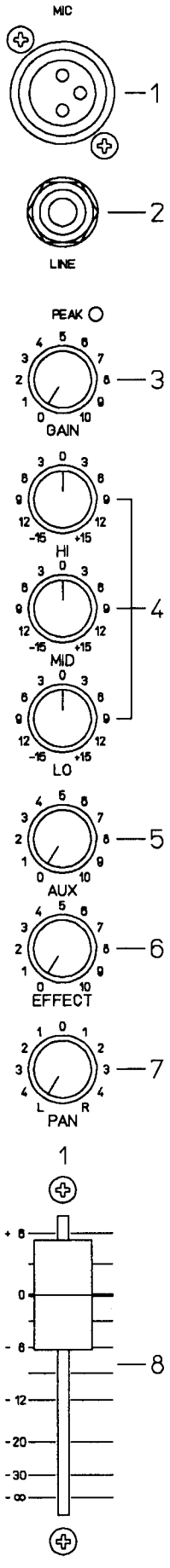
The mixer of the PSX compact power mixers is equipped with a wide range of features. The stereo input channels allow the connection of stereo program sources like keyboards, drum machines, tape recorders and additional mixing desks. Thus a lot more sound sources can be connected than with conventional power mixers. The stereo input channels can also be used as regular mic input channels. All mic inputs are electronically balanced and equipped with XLR sockets. 48 volt Phantom power can be switched to the mic sockets.

The effect section is equipped with a digital 16 bit stereo reverb/delay module. The effect unit generates different, extremely natural sounding stereo reverb programs, special stereo programs which combine the reverb programs with additional echoes, and a stereo chorus program especially structured for vocals, brass and woodwinds. In addition 8 different delay and echo programs with excellent quality are available from the ARS 10 DSP effects board. The number of echo repeats is front-panel controllable.

The master section is equipped very comprehensively with separate control functions, e.g. for tape playback and record, connection for an additional external stereo effect unit, separately controllable AUX/LINE output/input and big LED level meter for the power amplifiers.

The PCA processor power amplifiers are designed in advanced Hi-Power MOS technology. The frequency and phase response of the loudspeaker cabinets connected is linearized in the low-frequency region with a 2^{nd} order shelving eq. The corner frequencies of the 2^{nd} order shelving eq have been designed to match the characteristics of modern high-efficiency loudspeaker cabinets. A built-in fast acting limiter prevents excessive overdrive.

The power outputs of the power amps are equipped with speakon adapters. These connectors were developed especially for the peak performance of modern power amps and guarantee a safe and loss- free connection of loudspeaker cables with the greatest possible cable cross-sectional areas.

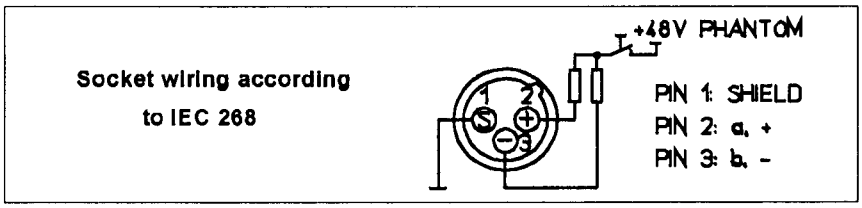


INPUT/MONO

1. Mic

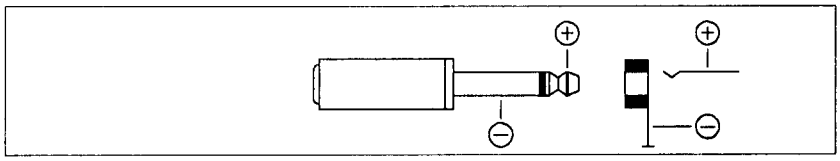
Electronically balanced XLR inputs 1-6 for connection of low- impedance microphones. Also phantom-powered microphones (condensor microphones) can be connected to these sockets.

For further information see: **38. Phantom Power.**



2. LINE

Unbalanced inputs 1-6 for instruments and other high level signal sources. The insertion of a plug into this socket will switch off the XLR input.



Please make sure that the respective channel fader or at least both master faders are closed before connecting signal sources, to protect your audience from annoying click noise.

3. GAIN + PEAK LED

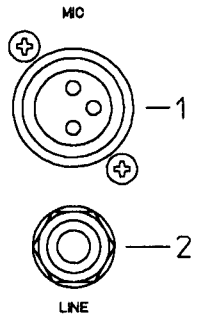
Control for adjusting the input sensitivity between -56 dBV (1.5 mV) and -20 dBV (95 mV).

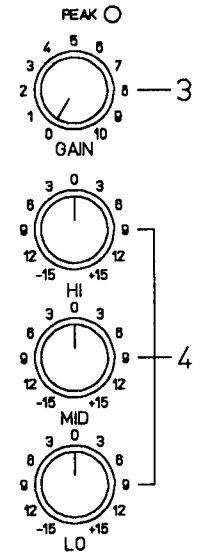
This control should be adjusted so that the PEAK LED lights up only briefly at level peaks. This will result in an optimum S/N ratio. If the PEAK LED lights up, the available headroom is 10 dB before the input signal is distorted audibly. Please note that the sound corrections with the EQ controls influence the input signal level as well. Check the correct setting of the GAIN control again after sound adjustment.

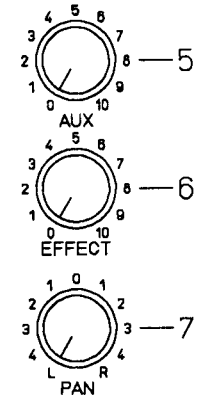
4. EQUALIZING

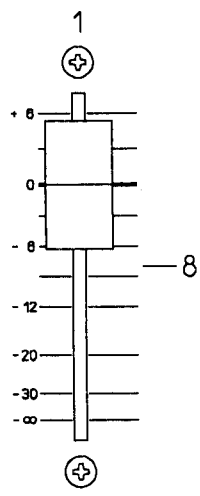
The EQ section allows for a very comprehensive and effective control of the input signal for the different frequency regions. Turning the control to the right increases the respective frequency region.

When adjusting you should always start in a neutral position, i.e. all controls are in central position. If possible, do not use extreme control positions; normally a small sound correction is enough and delivers the best sound quality. Take as orientation the naturalness of the reproduction and depend on your musically trained ear for sound checking. You can effectively avoid acoustic feedback by operating the mid control (MID) gently. Avoid too much gain especially in this frequency region; a light lowering allows an amplification of microphone signals with little danger of feedback.



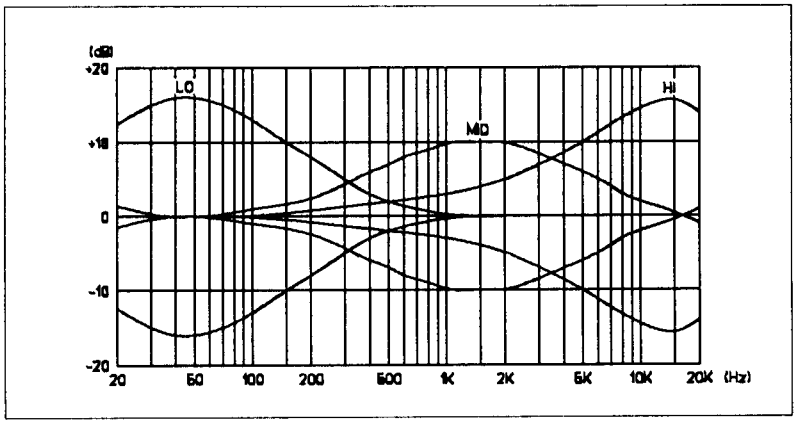






4. EQUALIZING (continuation of page 4)

Control	Variation	Frequency	Type
HI	+/-15 dB	15 kHz	shelving
MID	+/-10 dB	1.5 kHz	boost/cut
LO	+/-15 dB	50 Hz	shelving



5. AUX

Control for adjusting the AUX level. This control is electrically arranged after (post fader) the channel fader (8), so that the signal level depends on the position of the channel fader.

The AUX path can be used to send a signal to a separate external effect unit or to drive a separate monitor power amp.

For further information see : **26-29. AUX.**

6. EFFECT

Control for sending a signal to the built-in digital effect unit (reverb/delay). This control is also arranged after (post fader) the channel fader (8); the effect signal level depends on the position of the channel fader as well.

Please control the send signal to the integrated effect module carefully. The PEAK indication of the effect module (22) may only light up briefly at dynamic signal peaks. If the LED is lit continuously, the unit is being overdriven.

For further information see: **20-25. EFFECT**

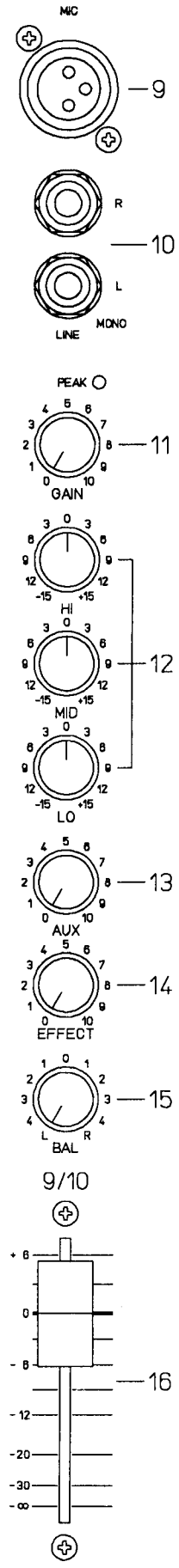
7. PAN

This control determines the stereo position of the input signal. In central position the signal is divided into equal parts on both master channels left and right.

8. Channel Fader

The channel fader is used to adjust the volume of the single channel and the volume balance between the individual channels.

Try to adjust the fader near the 0 dB position. This will also enable you to adjust the volume with sufficient control displacement even if you have great level differences between the different input channels. The master volume of the complete unit is controlled by the master faders (19).

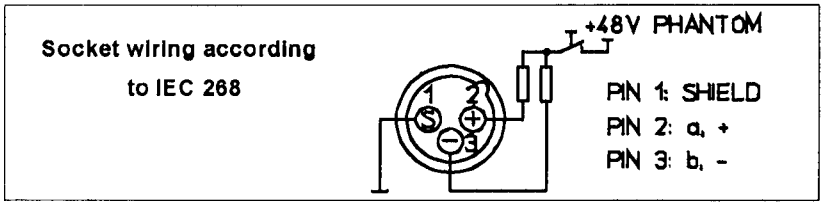


INPUT/STEREO

The input channels 7 and 8 are designed completely in stereo. You can connect all types of stereo signal sources (e.g. drums, synthesizers, samplers or submixers).

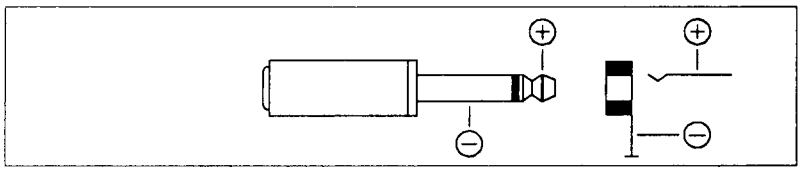
9. Mic

The stereo input channels can, of course, also be operated in mono. With low impedance microphones you should use the XLR socket MIC and with higher level signal sources the jack LINE L/MONO (10).



10. LINE

Unbalanced inputs L + R for instruments and other high level signal sources. The insertion of a plug into these sockets will switch off the XLR input.



Please make sure that the respective channel fader or at least both master faders are closed before connecting signal sources, to protect your audience from annoying click noise.

11. GAIN + PEAK LED

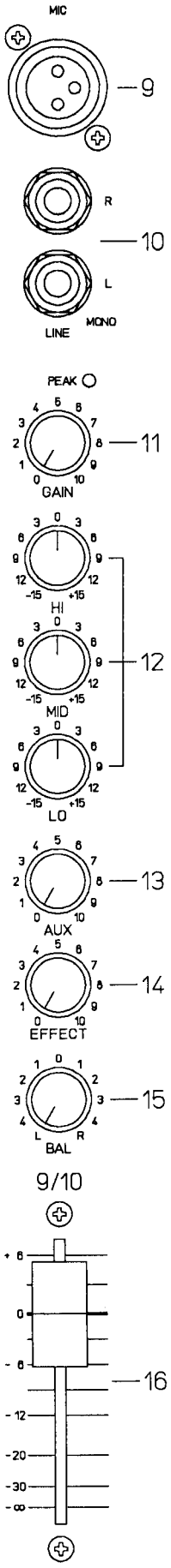
Control for adjusting the input sensitivity between -56 dBV (1.5 mV) and -20 dBV (95 mV).

This control should be adjusted so that the PEAK LED only lights up briefly at signal peaks. This will result in an optimum S/N ratio. If the PEAK LED lights up, the available headroom is 10 dB before the input signal is distorted audibly. Please note that the sound corrections with the EQ controls influence the input signal level as well. Check the correct setting of the GAIN control again after adjusting the sound.

12. EQUALIZING

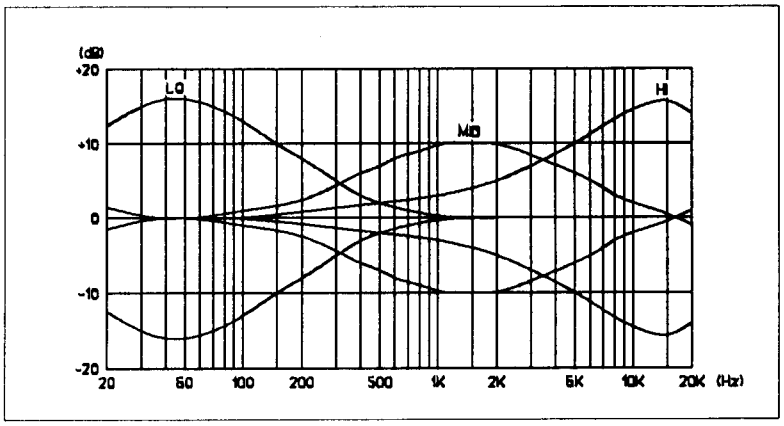
The EQ section allows for a very comprehensive and effective control of the input signal for the different frequency regions. Turning the control to the right increases the respective frequency region.

When adjusting you should always start at a neutral position, i.e. all controls are in central position. If possible, do not use extreme control positions; normally a small sound correction is enough and delivers the best sound quality. Take as orientation the naturalness of the reproduction and depend on your musical trained ear for sound checking. You can effectively avoid acoustical feedback by operating of mid control (MID) gently. Avoid too much gain especially in this frequency region; a slight lowering allows an amplification of microphone signals with little danger of feedback.



12. EQUALIZING (continuation of page 6)

Control	Variation	Frequency	Type
HI	+/-15 dB	15 kHz	shelving
MID	+/-10 dB	1.5 kHz	boost/cut
LO	+/-15 dB	50 Hz	shelving



13. AUX

Control for adjusting the AUX level. This control is electrically arranged after the channel fader (16), so that the signal level depends on the position of the channel fader.

The AUX path can be used to send a signal to a separate external effect unit or to drive a separate monitor power amp.

For further information see: **26-29. AUX.**

14. EFFECT

Control for sending a signal to the built-in digital effect unit (reverb/delay). This control is also arranged after the channel fader (8); the effect signal level also depends on the position of the channel fader.

Please carefully control the send signal to the integrated effect module. The PEAK indication of the effect module (22) may only light up briefly at dynamic peaks. If the LED lights continuously, the unit is being overdriven.

For further information see: **20-25. EFFECT**

15. BAL

This control determines the stereo position of the input signal. In central position the stereo signal is divided equally between both master channels left and right.

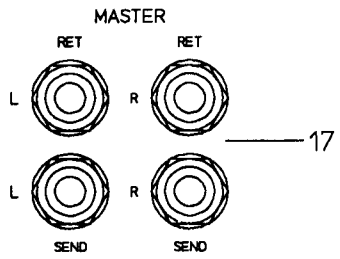
Please note that the right channel of a stereo signal connected to the input is attenuated if the BAL control is rotated to the left. The same applies for the left channel, if the BAL control is turned to the right.

16. Stereo Channel Fader

The channel fader is used to adjust the volume of the single channel and the volume balance between the individual channels.

Try to adjust the fader near the 0 dB position. This will also give you the possibility to adjust the volume with sufficient control displacement even if you have great level differences between the different input channels. The master volume of the complete unit is controlled by the master faders (19).

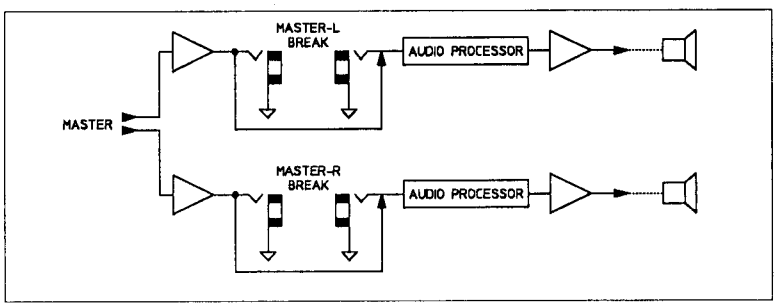
MASTER

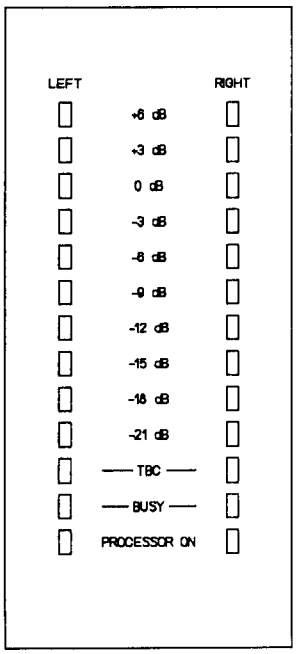


17. MASTER RET/SEND

These jacks are used for looping in an equalizer etc. into the master signal path.

The return jacks RET interrupt the master signal. The SEND jacks can also be used as master out e.g. for additional power amps.





18. LEFT + RIGHT LED Level Meter

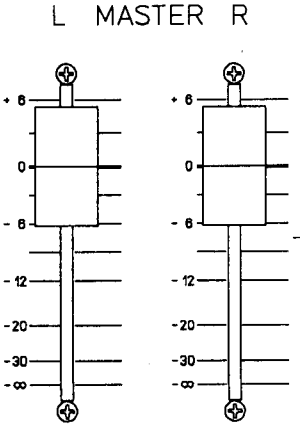
The two LED Level Meters show the power modulation of the two power amplifiers. The area from +3 dB to +6 dB indicates risk of overdriving.

Please avoid overdriving. The unit or connected loudspeaker cabinets could be damaged.

TBC

The short-term peak output power of the PCA power amps is considerably higher than the rated output power in order to give you excellent dynamic behaviour. The "dynamic headroom" (IHF-A) is 1.5 dB which is equivalent to approximately 350 Watts/4Ohms output power. The TBC circuit contains a simple 1st order voice coil model to simulate the thermal behaviour of a typical woofer. At continuous overdriving or modulation with square wave signals this part of the processor reduces the power output to the rated output (250 W / 4 ohms), to protect the connected loudspeaker system against thermal overload of the woofer's voice coil .

Please note that speakers with less power capability than the rated power cannot be protected completely by the "Thermal Brain Circuit".



BUSY

This indicator lights up if the limiter part of the processor is activated. Continuous lighting of the BUSY LED indicates danger of overdriving the amp and should be avoided by reducing the output volume.

PROCESSOR ON

These LED's indicate that the unit is ready for operation.

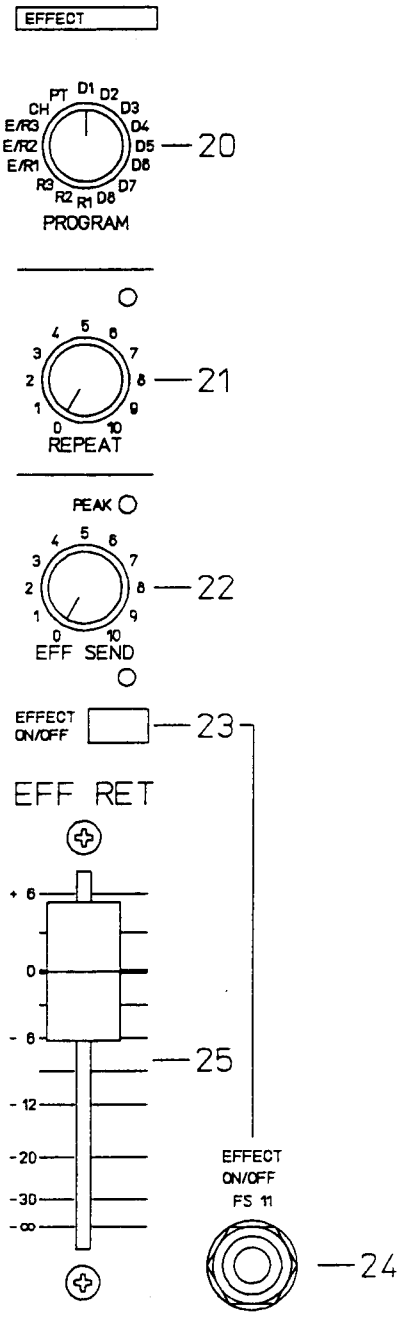
19. MASTER L + R

Master volume control for the left and right master output.

For further information see: **40. SPEAKER OUTPUTS**

Please make sure that the respective channel fader or at least both master faders are closed before connecting signal sources, to protect your audience from annoying click noise.

EFFECT



20. PROGRAM

Program switch for 16 effect programs

REVERB	CHARACTERISTICS:
R1 SMALL REV	SHORT REVERB TIME, SMALL ROOM
R2 MEDIUM REV	MEDIUM REVERB TIME, MEDIUM HALL
R3 LARGE REV	LARGE REVERB TIME, LARGE HALL
E/R1 E/R SMALL	ECHO/REVERB, SMALL ROOM
E/R2 E/R MEDIUM	ECHO/REVERB, MEDIUM HALL
E/R3 E/R LARGE	ECHO/REVERB, LARGE HALL
CH CHORUS	FOR VOCALS, BRASS, WOODWINDS
PT PITCH	DUAL PITCH SHIFTER

DELAY
D1 DELAY 60 ms
D2 DELAY 100 ms
D3 DELAY 170 ms
D4 DELAY 280 ms
D5 DELAY 460 ms
D6 L-R DLY 170 ms
D7 L-R DLY 280 ms
D8 L-R DLY 460 ms

21. REPEAT + LED

With this control the amount of echo repeats will be adjusted.

The green LED indicates that this control is active.

22. EFF SEND + PEAK LED

With this rotary control you can adjust the input level for the built-in effect unit. The PEAK LED indicates risk of overdriving the effect unit. Please adjust the control EFF SEND so that the LED only lights up breifly at dynamic signal peaks.

23. EFFECT ON/OFF + LED

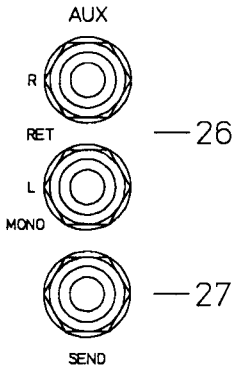
Pushing this button (green LED lights up) will switch on the effect module.

24. EFFECT ON/OFF FS-11

The effect can be switched on and off by the foot switch FS-11. The button EFFECT ON/OFF (23) must be pushed and a foot switch FS-11 has to be connected to the jack (24). The red LED in the foot switch lights up if the effect is ON.

25. EFF RET

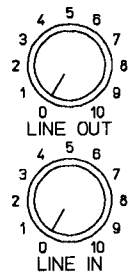
Stereo fader for adding the effect signal to the master signal.



AUX

26. AUX RET R + L/MONO

Jacks for feeding a stereo signal into the master bus. When using e.g. an external stereo effect unit, connect the output socket of this unit to the jacks AUX RET R + L. If you have a mono unit, use the jack AUX RET L/MONO.



The control AUX RET (28) controls the volume of the signal added to the master bus.

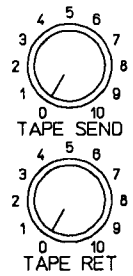
27. AUX SEND

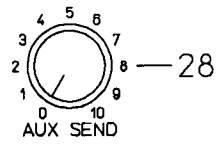
28. AUX SEND CONTROL

An AUX signal can be fed e.g. to an external effect unit or a separate monitor power amp via the AUX SEND jack (27).

The master send level is controlled by the AUX SEND control (28).

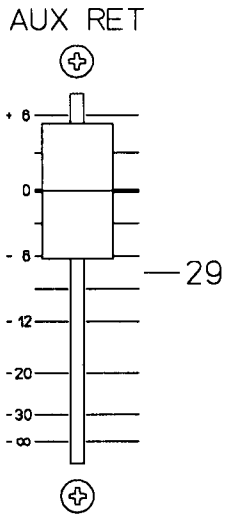
The AUX controls of the input channels (5, 13) allow a separate adjustment of the aux signal level of the respective channel.

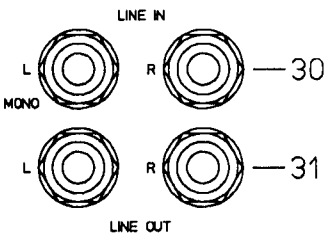


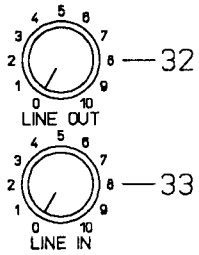


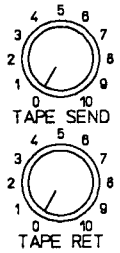
29. AUX RET

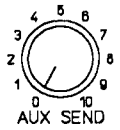
Stereo volume control for mixing the AUX return signal into the master signal (e.g. effect volume).

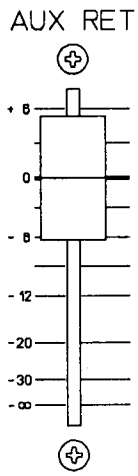












LINE

30. LINE IN L/MONO + R

You can feed in a stereo signal, e.g. from submixers via these jacks. This signal is fed to the master bus (like the other input channels).

31. LINE OUT L + R

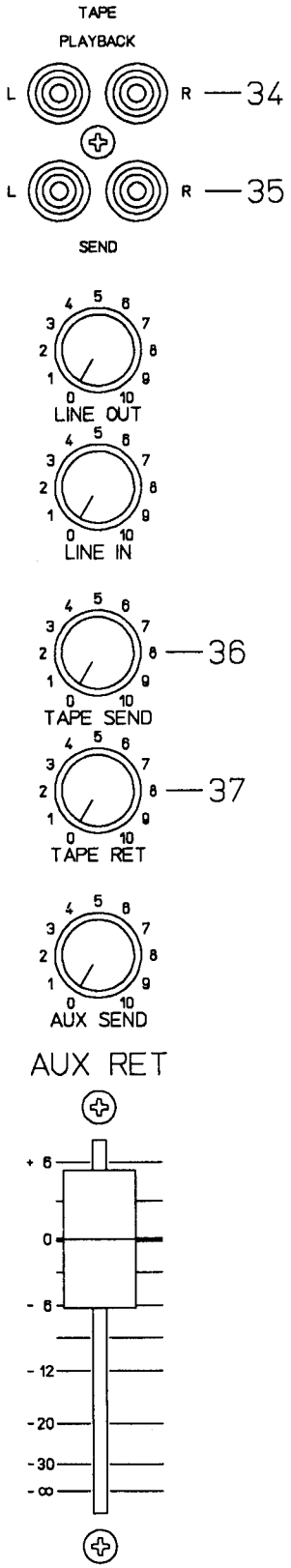
You can take the master bus signal (pre master fader) from these sockets. The LINE OUT signal therefore does not depend on the position of the MASTER L + R faders (19). You can feed via these jacks a separately controllable master bus signal e.g. to a master mixing desk or into an separate amplifier / speaker circuit for monitor purposes.

32. LINE OUT control

With this stereo control knob you can adjust the output signal for the LINE OUT jacks (31).

33. LINE IN control

With this stereo control knob you can control the input signal, coming from the LINE IN jacks (30) and the mixing in of this signal into the master bus. The master volume depends on the position of the MASTER L + R faders (19).



TAPE

34. TAPE PLAYBACK

You can playback a tape or cassette recording via these sockets. The volume is controlled by the TAPE RET control (37) and is not dependent on the position of the master faders (19).

35. TAPE SEND

From these sockets you can take the master bus signal for tape recording. The recording level is controlled by the TAPE SEND control (36) and is not dependent on the position of the master fader (19).

36. TAPE SEND control

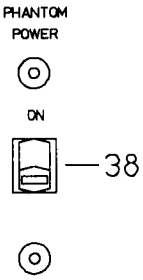
With this stereo control knob you can control the output signal of the TAPE SEND sockets (35). This control is for driving a connected tape recorder or cassette player.

37. TAPE RET control

This stereo control adjusts the volume of the tape playback. This tape signal is fed in after the Master L + R faders (19) and is therefore not dependent on the position of the MASTER L + R faders (19).

You can play back tape signals at any volume without altering the master volume.

MASTER



38. PHANTOM POWER

Central switch for the 48 V phantom power supply for the MIC sockets (1, 9).

If you are using phantom powered microphones (e.g. condensor microphones), they can be supplied by the PSX power supply. Separate batteries for the microphones are not necessary.

Please only switch the phantom power supply on and off if the PSX 850 is switched off.

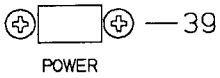
With PHANTOM POWER ON you must not connect unbalanced signal sources (keyboards, mixers) to the XLR sockets. These units could be damaged or destroyed by the phantom voltage.

ATTENTION! Important Note!

Basically speaking, phantom-powered microphones and balanced dynamic microphones can be operated simultaneously.

However, there are some balanced dynamic microphones, which are especially sensitive and could possibly be damaged by the phantom voltage. Please read the operating manuals of your microphones carefully.

For reasons of safety, always ensure that the PSX 850 is switched off (39. POWER), if balanced dynamic microphones are to be connected to the mic input sockets. You will thus avoid possible damage of these especially sensitive dynamic microphones.

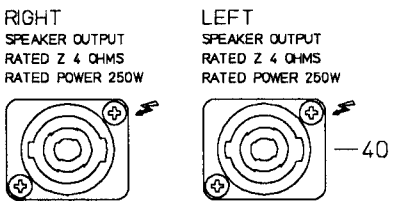


39. POWER

Mains switch for switching the unit on and off.

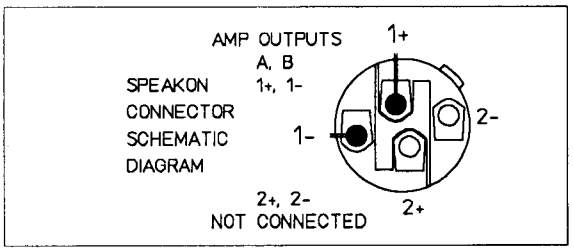
The unit is ready for operation if both PROCESSOR ON LEDs (18) are lit and the power relays have switched the output stages to the speaker outputs.

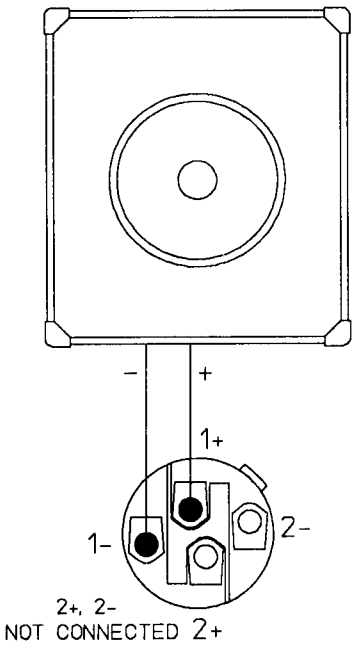
Make sure that both master volume faders are closed when you switch the unit on. You will protect your audience and your equipment from unnecessary inconvenience caused by unwanted amplification and possible feedback.



40. SPEAKER OUTPUT RIGHT + LEFT

The PSX power mixers are supplied with professional SPEAKON high power connectors. This mechanically and electrically safe connection complies with all safety demands and regulations and allows the use of high-powered loudspeaker cables up to a cross-sectional area of 4 x 2,5 mm^2.





Check the polarity of the connected speaker cabinets

To prevent acoustic cancellation problems, the polarity of the loudspeaker cabinets connected to the outputs must be equal. Otherwise the bass can sound muddy, supresssed and unprecise and weird midrange lobing problems can occur.

A very simple checking method involves a 9 V battery. If the + pole of the battery is connected to the + pole of the loudspeaker connector, the cone of the woofer should move outwards.

The correct polarity of mid-range and high-range speakers cannot be checked in this way, because some crossover networks change the polarity of speakers in the mid-range and high-range region.

E-V loudspeaker cabinets are internally wired correctly and do not need any polarity check procedure.

SPECIFICATIONS

OVERALL TEST DATA PSX 850

Standard specifications: IEC 268 part 3

0 dB = 1 V (RMS)

A. POWER SUPPLY

1. Mains:	AC
2. Rated voltage:	120 V
3. Rated frequency:	50 - 60 Hz
4. Rated power consumption:	1100 watts
5. Normal power consumption:	320 watts
6. Tolerance of mains voltage:	± 10%

B. INPUT CHARACTERISTICS

Input sockets	Rated Input Level	*1 Max. Input Level
MIC	-56dB (1.5 mV)	-2dB (780 mV)
LINE (Mono)	-38dB (13 mV)	+18dB (7.6 V)
LINE (L + R)	-38dB (13 mV)	+18dB (7.6 V)
TAPE-PLAYBACK (L+R)	-15dB (180 mV)	+12dB (4.0 V)
LINE-IN/MASTER (L+R)	-10dB (300 mV)	+11dB (3.8 V)
AUX-RETURN (L + R)	-8dB (400 mV)	+11dB (3.8 V)
MASTER BREAK/RETURN	0dB (1.0 V)	n.V.

C. OUTPUT CHARACTERISTICS

Output sockets	Rated Load Impedance	Output Level *2	
		Rated Value	Max. Level before Clipping
SPEAKER (L + R)	4 ohms	250 watts	n.v.
	8 ohms	180 watts	n.v.
MASTER BREAK (L+R)	10 kohms	0dB (1.0 V)	[+13dB (4,5 V)]
AUX SEND	10 kohms	+8dB (2,6 V)	+17dB (7,5 V)
LINE OUT (L+R)	10 kohms-2dB (800 mV)	+12dB (3,8 V)	
TAPE RECORD (L+R)	47 kohms-2dB (800 mV)	+ 12dB (3,8 V)	

Output Sockets	Stabilizing
SPEAKER (L + R)	2% (0.17dB)

SPECIFICATIONS

SINGLE CHANNEL OUTPUT POWER
(measured with "Dynamic Headroom" test signal according IHF-A: 1 kHz Tone burst, 20 ms ON, 480 ms OFF)

SPEAKER (L or R), 4 ohms 355 watts
DYNAMIC HEADROOM 1,5 dB

C. FREQUENCY RESPONSE
-3 dB referenced to mid-band level
1. MIC — SPEAKER : 8 Hz - 55 kHz
2. LINE — SPEAKER : 8 Hz - 30 kHz

D. AMPLITUDE NON-LINEARITIES

1. Rated Total Harmonic Distortion k ≤ 0,3 %
2. Norm Total Harmonic Distortion k ≤ 0,03 %
   (power amp only : measured from
   BREAK RETURN to SPEAKER OUT)
3. Norm Total Harmonic Distortion k2 < 0,018 %
   (mixer only: measured on BREAK SEND)
   all higher distortion products lower than measuring limit (measured with spectrum analyzer)

E. NOISE LEVEL

- R(Q) = 200 Ohms between pin 2 and pin 3 of the XLR input socket
- U(F) = Noise voltage, unweighted with B = 20 Hz ... 20 kHz, quasi peak-weighted (IEC 268-1)
- U(G) = Noise voltage, frequency weighting filter according CCIR, quasi peak-weighted (IEC 268-1)
- U(A) = Noise voltage, dB(A) frequency-weighted, RMS (IEC 268-1)
- S/N ratio ref. rated output voltage (power)

1. Rated noise level (typ.)

	Noise-Voltage	S/N-Ratio	equiv. input noise voltage	equiv. input noise level
1.1 U(F)	40 mV	58 dBq	1,9 µV	-114 dB
1.2 U(G)	82 mV	52 dBqp	3.9 µV	-108 dB(G)
1.3 U(A)	16 mV	66 dBp	0,76 µV	-122 dB(A)

2. Residual output noise
2.1 U(F) = 1,7 mV (85 dBq)
2.2 U(G) = 3,1 mV (80 dBqp)
2.3 U(A) = 0,7 mV (93 dBp)

F. Crosstalk attenuation

1. Input channel to input channel lower than noise level

2. Stereo channel: R ----> L 50 dB
L ----> R 50 dB

G. Dimensions

Height : 200 mm
Width : 500 mm
Depth : 502 mm

H. Weight

19 kg (41,8 lbs)

*1 : All frequency-dependent level controls full open
*2 : All output levels measured with the measurement signal connected to a MIC input

Subject to modification without notice!

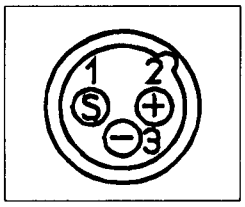
SERVICE

SPECIFICATIONS: PSX 850 complete unit

General measuring conditions if not noted elsewhere otherwise:

* Measuring Tolerance: /\X = æ 1.5 dB
* Measuring Frequency: f = 1 kHz
* All Levels related to: Eo = 775 mV (0dBu)
* Gain controls fully to the right
* EQ controls into center position
* PAN controls into center position
* Pinning of the XLR - socket:

PIN 1 = SHIELD
PIN 2 = + INPUT
PIN 3 = - INPUT



* Source impedance for XLR input:

R(Q) = 200 Ohms

1. Mains Voltage: **E(P) = 220V / 50Hz**

- can be soldered to 110 V or 240V

3. Power consumption:

3.1. Without load **P(P) = 60 W**

3.2. At rated power **P(P) = 1100 W**

4. Adjustments:

4.1. INTERNAL OFFSET:

* Adjust channel R with R055 on TP CN12 to 0 Volt ± 50 mV.
* Adjust channel L with R122 on TP CN19 to 0 Volt ± 50 mV.

4.2. PROCESSOR CONTROL VOLTAGE:

* Check voltage drop on R066 (channel R) and R133 (channel L): E = min 1.2 V ... 1.5 V

4.3. PROCESSOR ADJUSTMENT:

* Drive both channels until E(O) = 16 V, close service switch channel R = S003, channel L = S004 and adjust output voltage with R024 and R029 to minimum.

f = 1 kHz, attenuation > 40 dB –> E(O) = 160 mV

4.4. PROCESSOR OFFSET:

Open and close service switches S003 and S004 rhythmically and adjust with R028 and R033 to a minimum offset (with oscilloscope to minimum peak) on the amplifier output.

4.5. ADJUSTMENT OF IDLE CURRENT:

The idle current measurement of the amplifier PCB 84120 can be performed indirectly. Remove the fuse in the + or - power supply (F01/F02 or F03/F04) and replace it with a 0.1Ohms resistor. Adjust voltage drop to 5 mV (= 50 mA).

4.6. PROCESSOR TEST:

Drive both channels until E(O) = 31.6 V; rise input voltage by 10 dB -> BUSY LED will light up, output voltage will rise about 2 dB to 40 V.

4.7. TBC TEST:

Switch unit off. Switch it on again after approx. 10 sec. (TBC circuit is empty) with E(I) + 10 dB. BUSY LED lights up, E(O) = 40 V. After approx. 30 sec. the TBC safety circuit will respond and reduce the output voltage to approx. 31.6 V (TBC LED lights up).

4.8. POWER ON DELAY:

After approx 2 sec. the relays E002 (current limiting), E003 and E004 (AF Output) will pick up together.

4.9. FAN CONTROL:

Both fans normally run "slow"!

Switch up from slow ---> fast at E = 9.6 V on CN20 Pin 8 (approx. 80° C)

Switch back from fast ---> slow at E = 11.4 V on CN20 Pin 8 (approx. 60° C)

4.10. SHORT CIRCUIT TEST:

Drive both channels seperately to 31.6 V at 4 Ohms . Connect a 1Ohms load-resistor parallel. The power consumption will rise to approx. 1100 W and falls then continuous to approx. 700 W (30 sec.). BUSY LED lights up!

5. Meter Adjustment

Feed in a signal via an input channel, so that on Master Out E(O) = 775 mV can be measured. Adjust meter with trim resistors R101 and R102 (on Master Meter PCB 82165), so that all green LED's light up.

6. Input channel Mono

* Gain control fully to the right
* EQ controls and PAN control into center position
* CHANNEL and MASTER FADER L/R fully opened
* AUX control fully to the right

Input	E(I)	Test point	E(O)	Comment
MIC	1.3 mV	MASTER SEND L/R	1.05 V	
LINE	13 mV	MASTER SEND L/R	1.05 V	
LINE	57 mV	----------	-----	PEAK lights up
LINE	13 mV	AUX SEND	2.6 V	AUX SEND control fully opened

7. Input channel Stereo

* Gain control fully to the right
* EQ controls and PAN control into center position
* CHANNEL and MASTER FADER L/R fully opened
* AUX control fully to the right

Input	E(I)	Test point	E(O)	Comment
MIC	1.3 mV	MASTER SEND L/R	1.05 V	
LINE/L	13 mV	MASTER SEND L/R	1.05 V	
LINE/L	57 mV	----------	-----	PEAK lights up
LINE/R	13 mV	MASTER SEND R	1.05 V	
LINE/L	13 mV	AUX SEND	2.6 V	AUX SEND control fully opened

8. AUX/LINE/TAPE

* Open the control, mentioned under comment, fully.

Input	E(I)	Test point	E(O)	Comment
PLAYB L/R	180 mV	MASTER SEND L/R	1.05 V	TAPE RETURN
AUX RET L	400 mV	MASTER SEND L/R	1.05 V	AUX RET/MASTER
AUX RET R	400 mV	MASTER SEND R	1.05 V	AUX RET/MASTER
LINE IN L	300 mV	MASTER SEND L/R	1.05 V	LINE IN/MASTER
LINE IN R	300 mV	MASTER SEND R	1.05 V	LINE IN/MASTER

- Make following settings in the input channel:

* Gain control fully to the right
* EQ controls and PAN control into center position
* CHANNEL FADER fully opened
* AUX control fully to the right

Input	E(I)	Test point	E(O)	Comment
LINE/CHANNEL	13 mV	REC SEND L/R	780 mV	TAPE SEND
LINE/CHANNEL	13 mV	LINE OUT L/R	780 mV	LINE OUT

9. EFFECT

9.1. TEST EFFECT BUS

- Make following settings in the input channel:

* Gain control fully to the right
* EQ controls and PAN control into center position
* CHANNEL FADER fully opened
* EFFECT control fully to the right

- E(I) = 6.8 mV to LINE INPUT --> EFF PEAK LED lights up

- Plug in a microphone, make proper level settings in the input channel, switch EFFECT ON and check the function of the effect unit by your ear.

9.2. REPEAT LED

With the Delay programs (D1...D8) the REPEAT LED must light up.

9.3. EFFECT ON/OFF

* EFFECT ON button pushed ---> EFFECT ON LED lights up

* Connect a foot switch FS11 to socket FS ---> LED EFFECT ON and LED in the FS switch on and off together when pushing the foot switch.

10. Frequency responses

10.1. EQ Input Channel Mono/Stereo

- E(I) to LINE - Eingang
- E(O) on MASTER SEND L/R
- not mentioned EQ controls into center position
- Plot 1: LO control fully to the right
- Plot 2: LO control fully to the left
- Plot 3: MID control fully to the right
- Plot 4: MID control fully to the left
- Plot 5: HI control fully to the right
- Plot 6: HI control fully to the left
- Plot 7: all controls into center position

10.2. MIC --- power amplifier L/R

- E(I)to XLR socket Pin 2 (Pin 1, Pin 3 to ground)
- E(O) on SPEAKER OUT L/R
- EQ control into center position

10.3. Power amplifier L/R 20 Hz - 20 kHz

- E(I) to MASTER RETURN L/R
- E(O) on SPEAKER OUT L/R

10.4. Power amplifier L/R 200 Hz - 200kHz

- E(I) to MASTER RETURN L/R
- E(O) on SPEAKER OUT L/R

11. Noise voltages

- measured on SPEAKER OUT L/R
- measured with Sennheiser UPM 550-1
- R(Q) = 150 Ohm between Pin 2 and Pin 3 of the XLR input socket
- E(F) = Noise voltage, unweighted with B = 20 Hz .... 20 kHz
- E(G) = Noise voltage, frequency weighting filter according CCIR 468
- Voltages peak weighted (if not mentioned otherwise)

11.1 - All faders closed

E(F) ≤ 2.1 mV

E(G) ≤ 3.5 mV

11.2 - MASTER Fader opened

E(F) ≤ 3.2 mV

E(G) ≤ 5.5 mV

11.3 - In addition EFF.RET. fader opened, EFFECT ON and program selector to program 3

Caution: Voltage here in rms

E(F) ≤ 8.5 mV

11.4 - EFFECT OFF, but MONO CHANNEL fader and Gain control fully opened

E(F) ≤ 45 mV

E(G) ≤ 85 mV

11.5 - EFFECT OFF, but STEREO CHANNEL fader and Gain control fully opened

E(F) ≤ 45 mV

E(G) ≤ 85 mV

11.6 - MASTER fader closed, TAPE RET. opened

E(F) ≤ 5.7 mV

E(G) ≤ 4 mV

11.7 - MASTER fader opened, LINE IN opened

E(F) ≤ 7 mV

E(G) ≤ 6 mV

11.7 - MASTER fader opened, AUX RET. opened

E(F) ≤ 2.8 mV

E(G) ≤ 4.7 mV

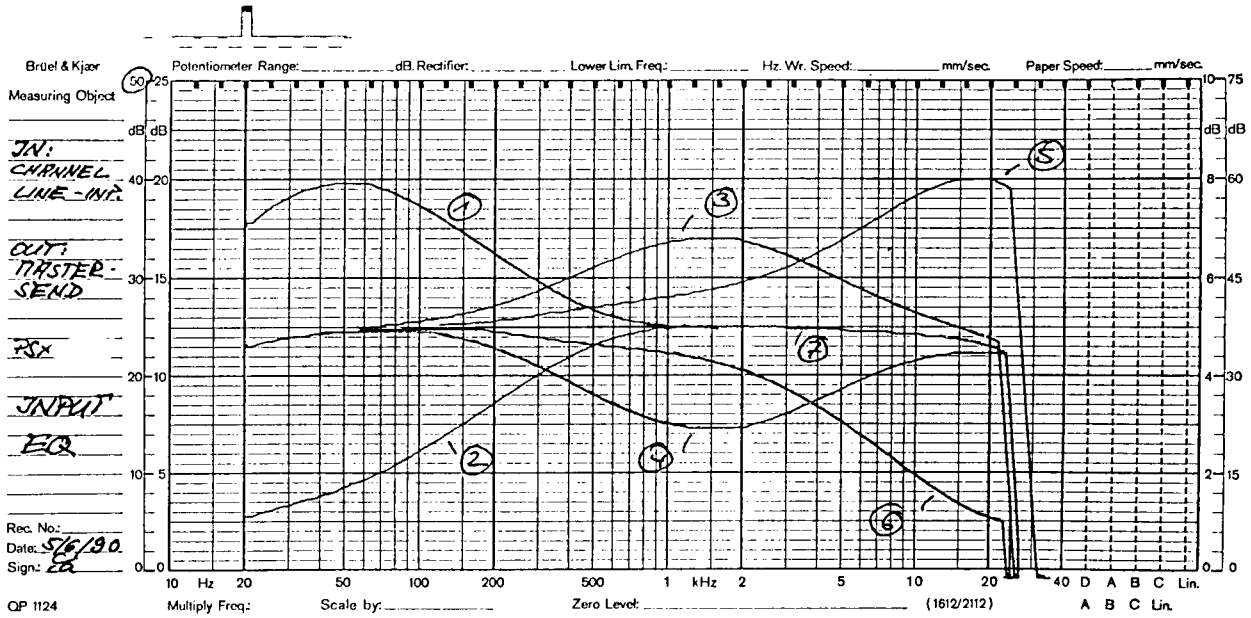
12. Phantom Power

If the slide switch PHANTOM POWER is ON, you can measure between PIN 2 and PIN 1 respectively PIN 3 and PIN 1 of the XLR socket an DC voltage: E(DC) = + 48 V

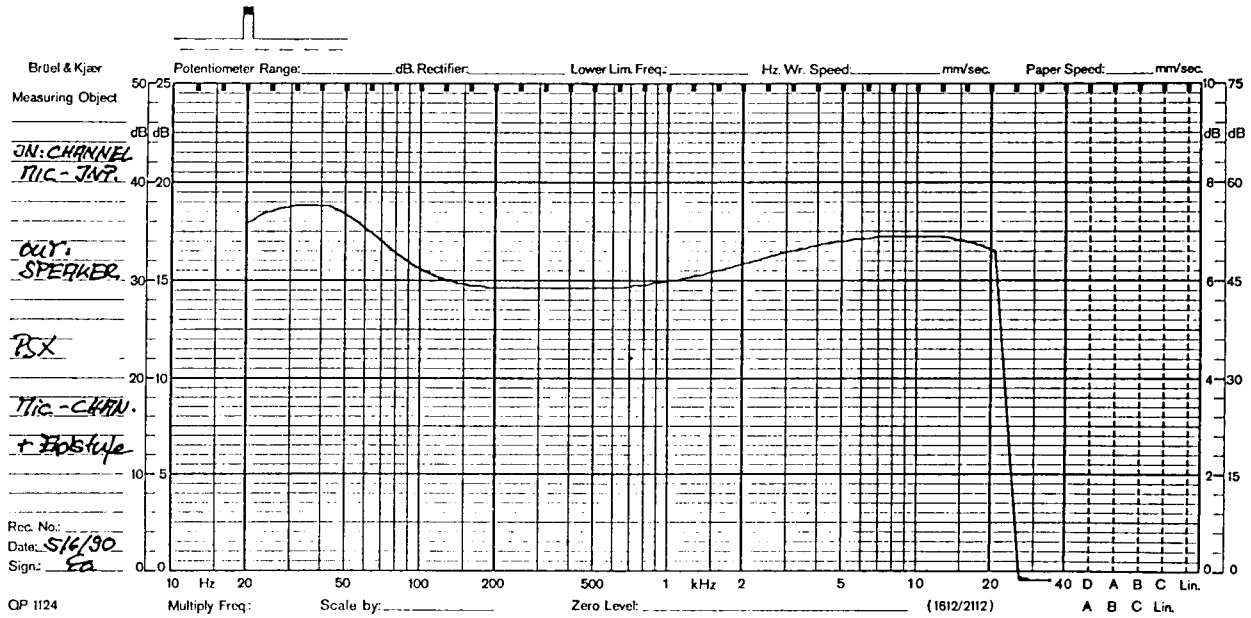
13. Power Amplifier

Input	E(I)	Test point	E(O)	Comment
MASTER RET. L/R	1.05 V	SPEAKER L/R	31.6 V	R(L) = 4 Ohms

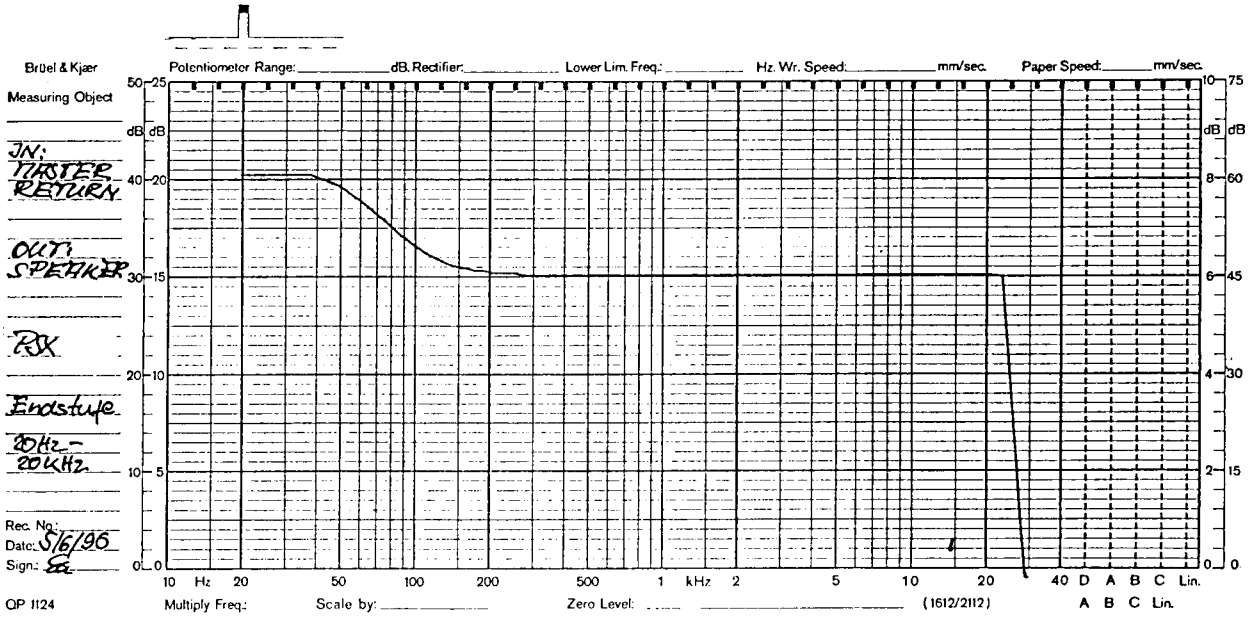
to 10.1. EQ - input channel Mono/Stereo



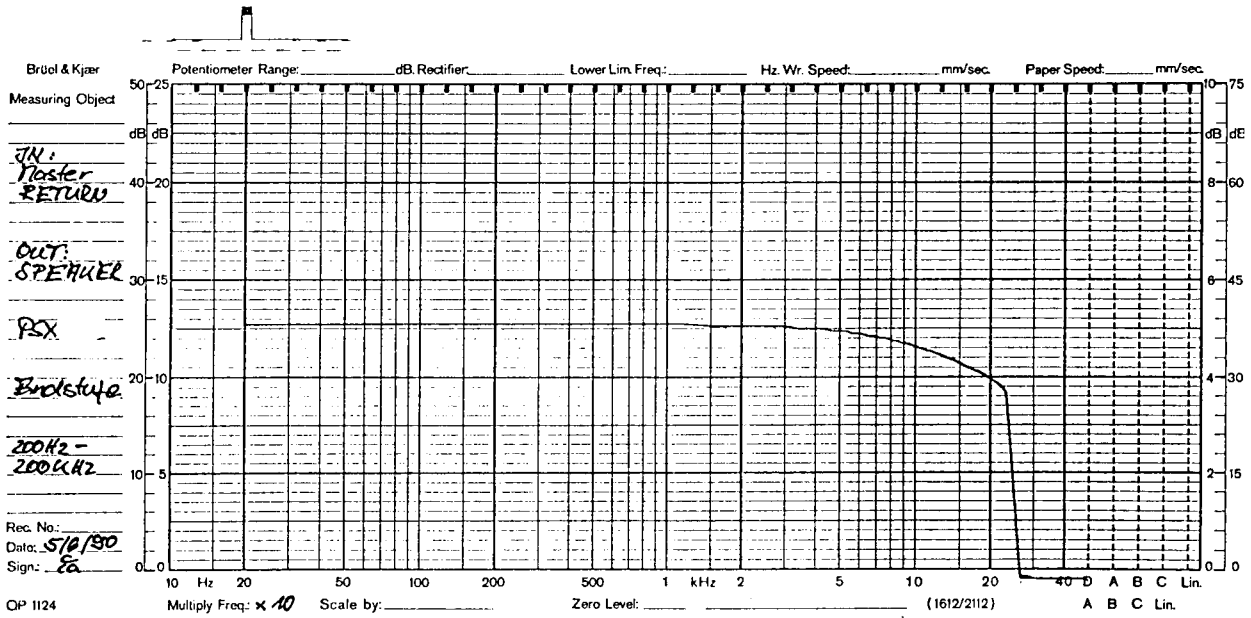
to 10.2. MIC --- power amp L/R

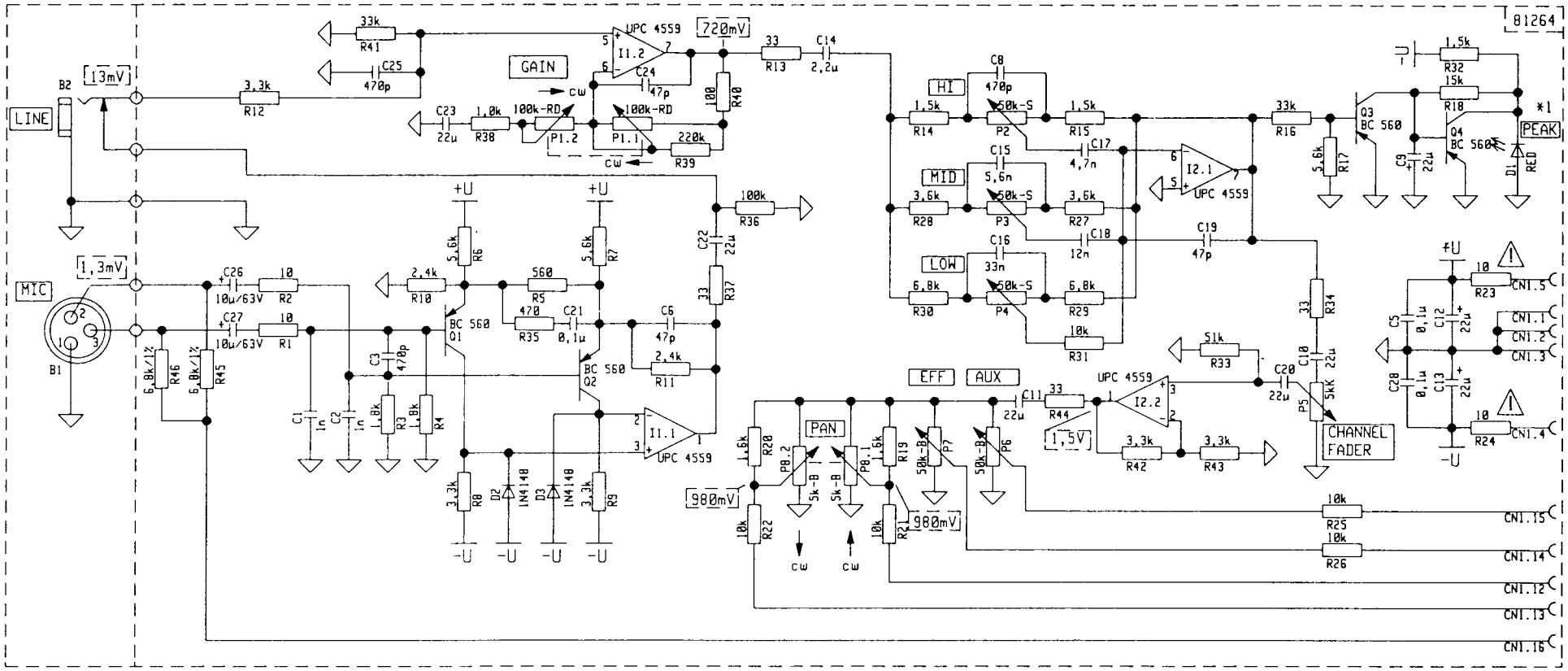


to 10.3. Power amp L/R 20 Hz - 20 kHz



to 10.4. Power amp L/R 200 Hz - 200kHz



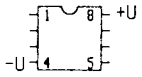


⚠ SICHERHEITSBAUTEIL, DARF NUR DURCH GLEICHWERTIGES BAUTEIL ERSETZT WERDEN
SAFETY COMPONENT (MUST BE REPLACED BY ORIGINAL PART)
ELEMENT DE SECURITE PEUT SEULEMENT ETRE REMPLACE PAR UN ELEMENT EQUIVALENT

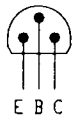
[- - -] WECHSELSPANNUNG 1000 Hz GEMESSEN MIT ROHRENVOLTMETER
[- - -] AC VOLTAGE 1000 Hz MEASURED WITH VTVM
TENSION ALTERNATIF 1000 Hz MESURE AVEC VOLTMETER D'LAMPES

*1 : PEAK leuchtet ab > 50 mV am LINE-Eingang

I1, I2



Q1 - Q4



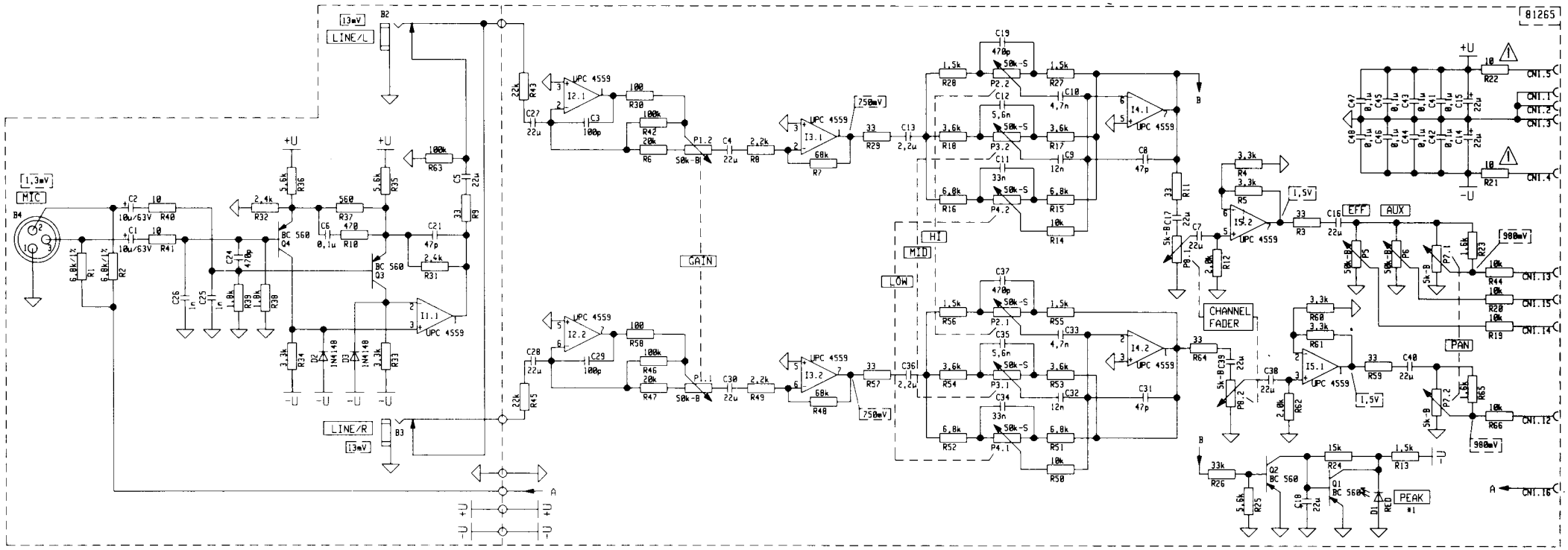
Aenderungen vorbehalten! ALTERATIONS RESERVED! MODIFICATIONS RESERVEES!

INPUT-CHANNEL-MONO
81264

STROMLAUFPLAN

343 781

DYNACORD



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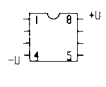
SAFETY COMPONENT (MUST BE REPLACED BY ORIGINAL PART)
ELEMENT DE SECURITE PEUT SEULEMENT ETRE REMPLACE PAR UN ELEMENT EQUIVALENT

WECHSELSPANNUNG 1000 Hz GEMESSEN MIT ROHRENVOLTMETER
AC VOLTAGE 1000 Hz MEASURED WITH VTVM
TENSION ALTERNATIF 1000 Hz MESURE AVEC VOLTMETER D'LAMPES

Q1 - Q4

I1 - I5



*1 : PEAK leuchtet ab > 50 mV am LINE/L-Eingang

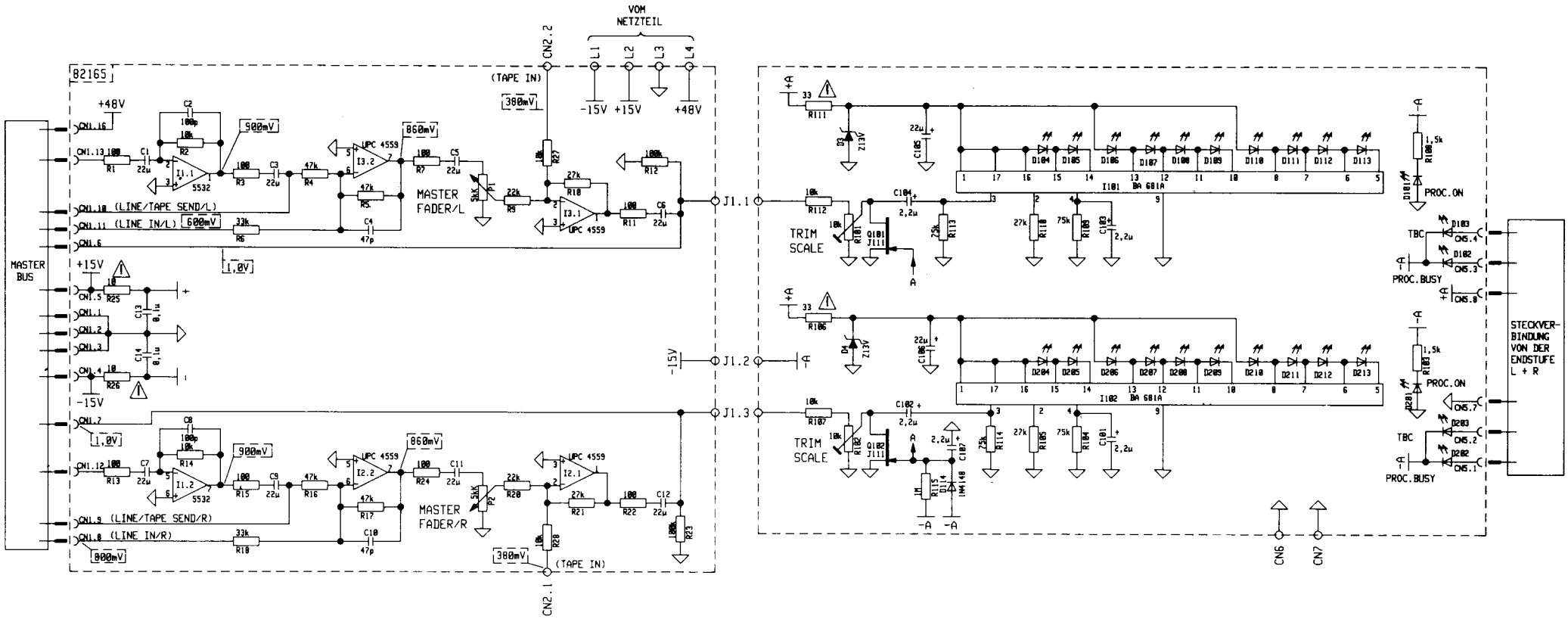
Aenderungen vorbehalten! ALTERATIONS RESERVED! MODIFICATIONS RESERVEES!

STEREO-LINE/MIC-CHANNEL
81265

STROMLAUFPLAN

343 782

DYNACORD



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SAFETY COMPONENT (MUST BE REPLACED BY ORIGINAL PART)
ELEMENT DE SECURITE PEUT SEULEMENT ETRE REMPLACE PAR UN ELEMENT EQUIVALENT

WECHSELSPANNUNG 1000 Hz GEMESSEN MIT RÖHRENVOLTMETER
AC VOLTAGE 1000 Hz MEASURED WITH VTVM
TENSION ALTERNATIF 1000 Hz MESURE AVEC VOLTMETER D'LAMPES

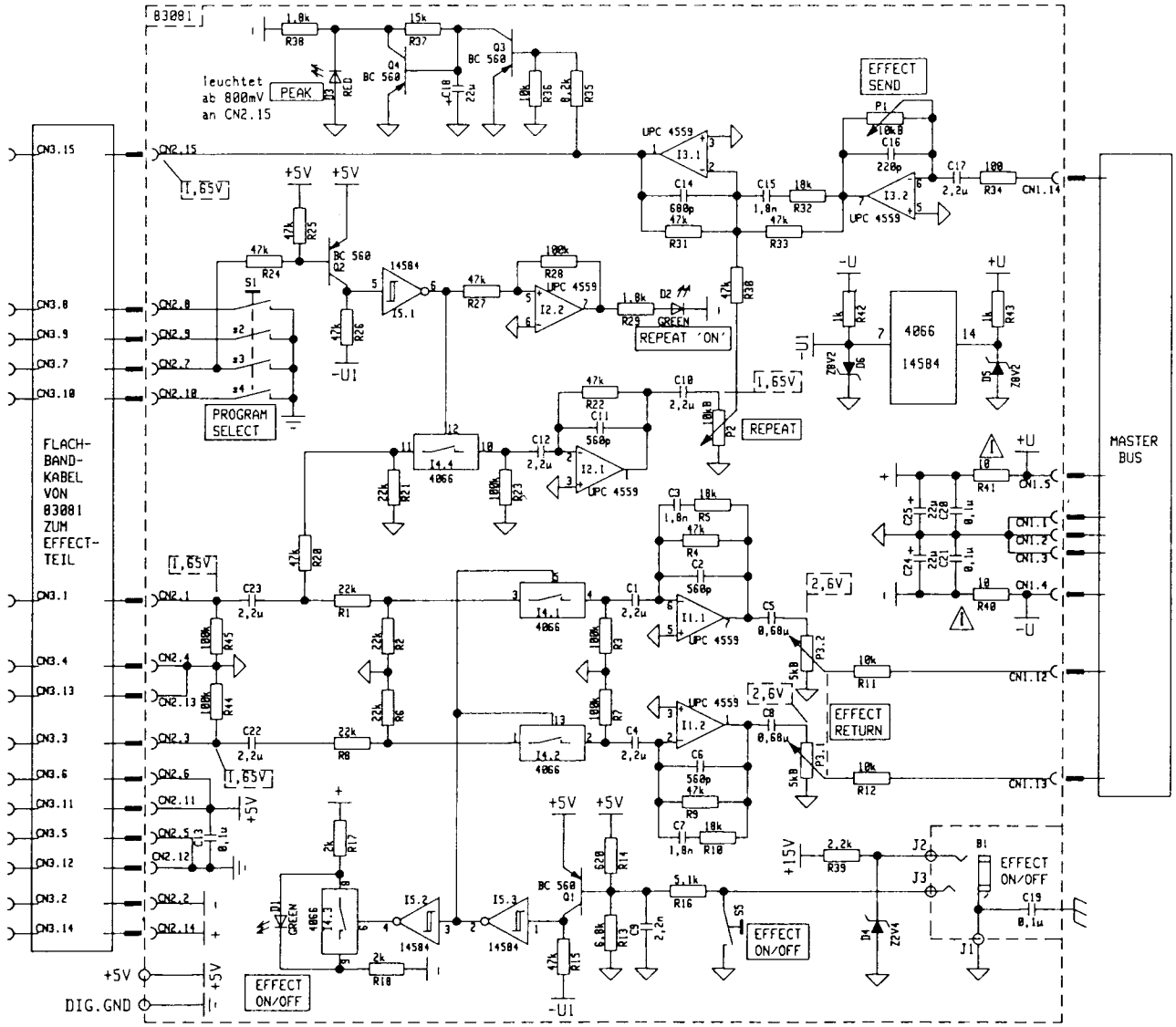
Aenderungen vorbehalten! ALTERATIONS RESERVED! MODIFICATIONS RESERVEES

MASTER + ANZEIGE

STROMLAUFPLAN

342 466

DYNACORD



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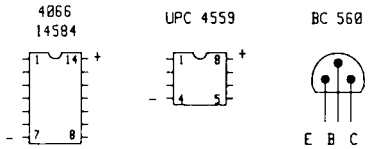
SAFETY COMPONENT (MUST BE REPLACED BY ORIGINAL PART)
ELEMENT DE SECURITE PEUT SEULEMENT ETRE REMPLACE PAR UN ELEMENT EQUIVALENT

[ ] WECHSELSPANNUNG 1000 Hz GEMESSEN MIT RÖHRENVOLTMETER
[ ] AC VOLTAGE 1000 Hz MEASURED WITH VTVM
[ ] TENSION ALTERNATIF 1000 Hz MESURE AVEC VOLTMETER D'LAMPES

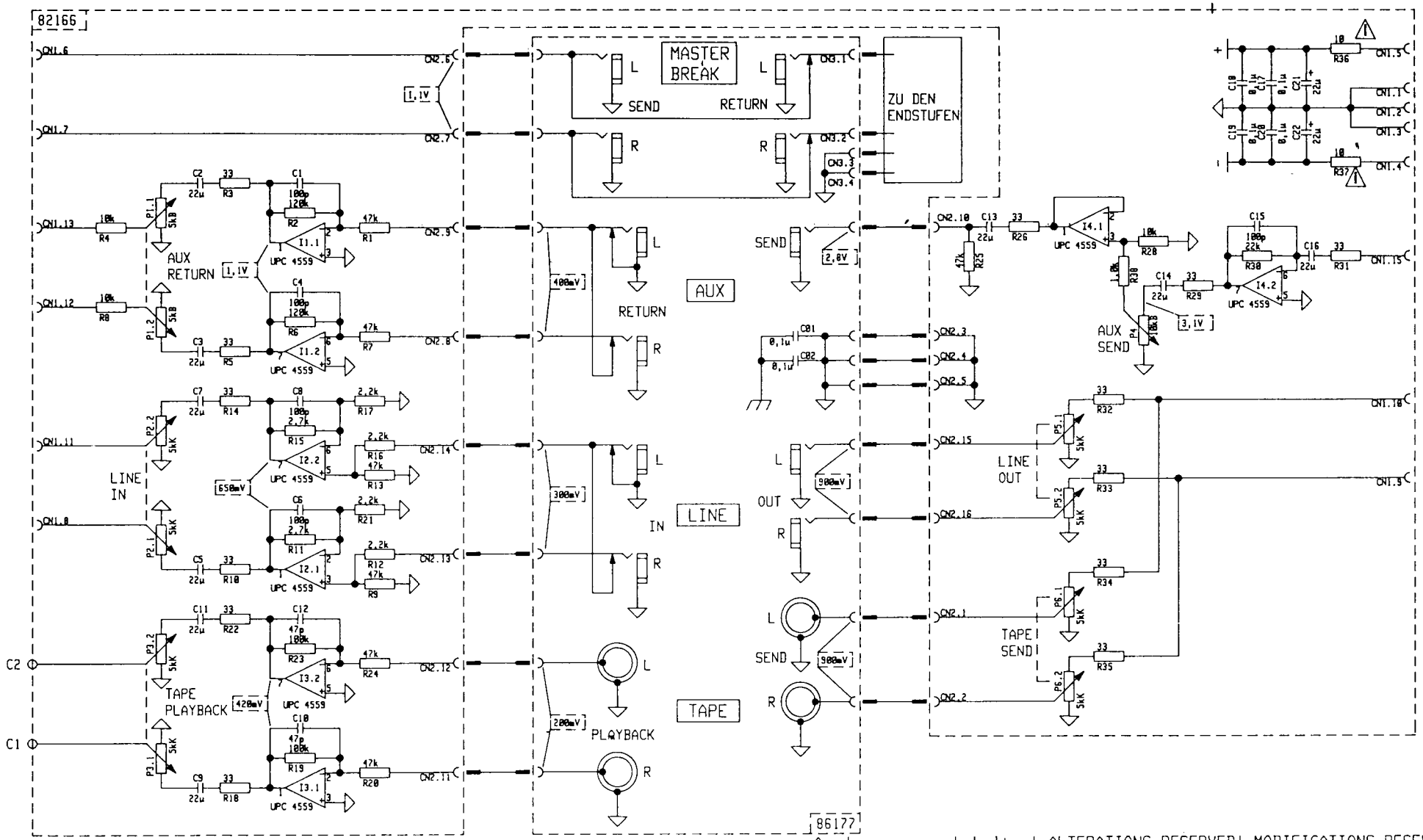


EFFECT-SUMME

STROMLAUFPLAN

343 223

DYNACORD



Aenderungen vorbehalten! ALTERATIONS RESERVED! MODIFICATIONS RESERVEES!

⚠ SICHERHEITSBAUTEIL, DARF NUR DURCH GLEICHWERTIGES BAUTEIL ERSETZT WERDEN
SAFETY COMPONENT (MUST BE REPLACED BY ORIGINAL PART)
ELEMENT DE SECURITE PEUT SEULEMENT ETRE REMPLACE PAR UN ELEMENT EQUIVALENT

WECHSELSPANNUNG 1000 Hz GEMESSEN MIT RÖHRENVOLTMETER
AC VOLTAGE 1000 Hz MEASURED WITH VTVM
TENSION ALTERNATIF 1000 Hz MESURE AVEC VOLTMETER D'LAMPES

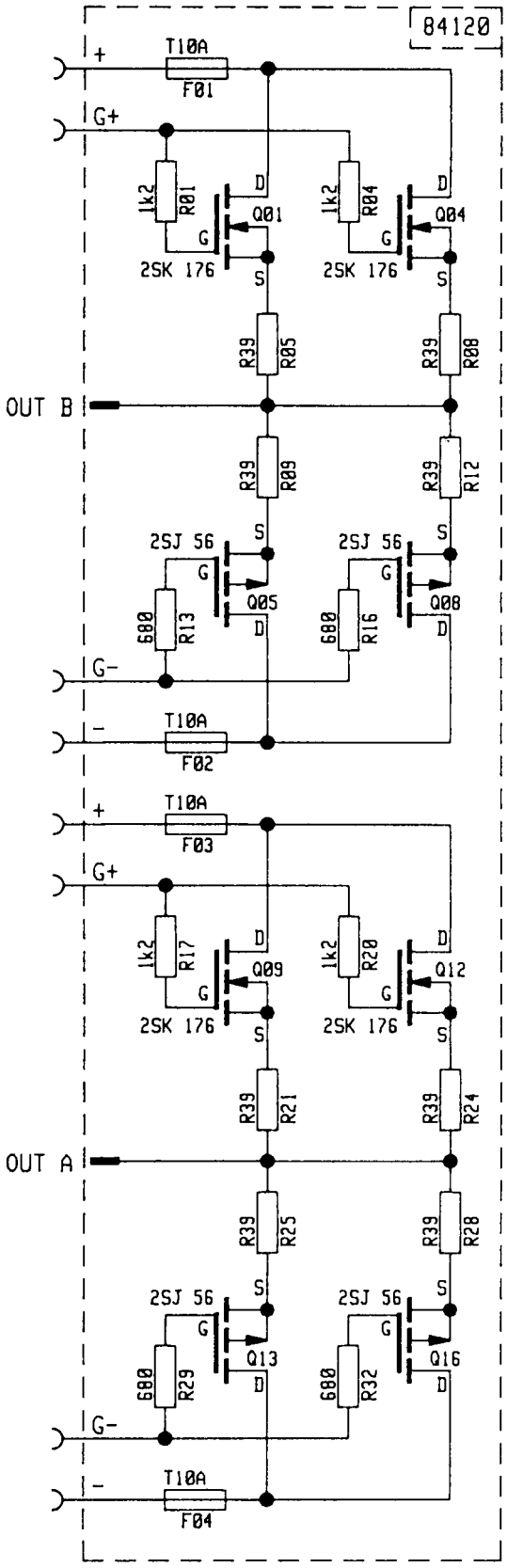
UPC 4559

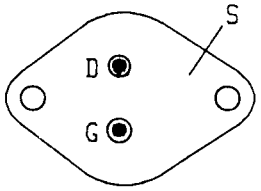
AUX + TAPE + LINE

STROMLAUFPLAN

342 465

DYNACORD





Aenderungen vorbehalten! ALTERATIONS RESERVED! MODIFICATIONS RESERVEES!

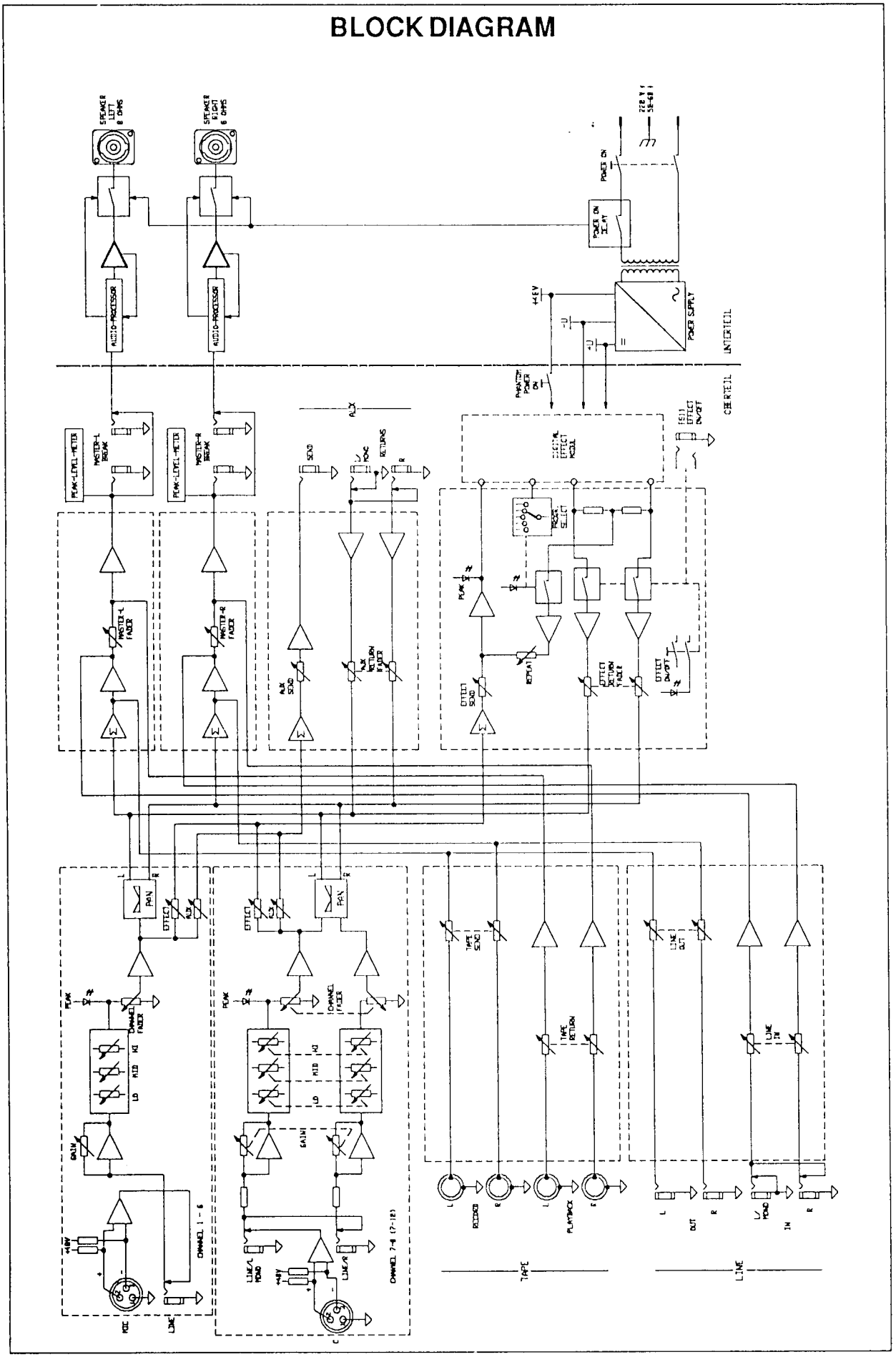
STEREO MOSFET POWER BLOCK

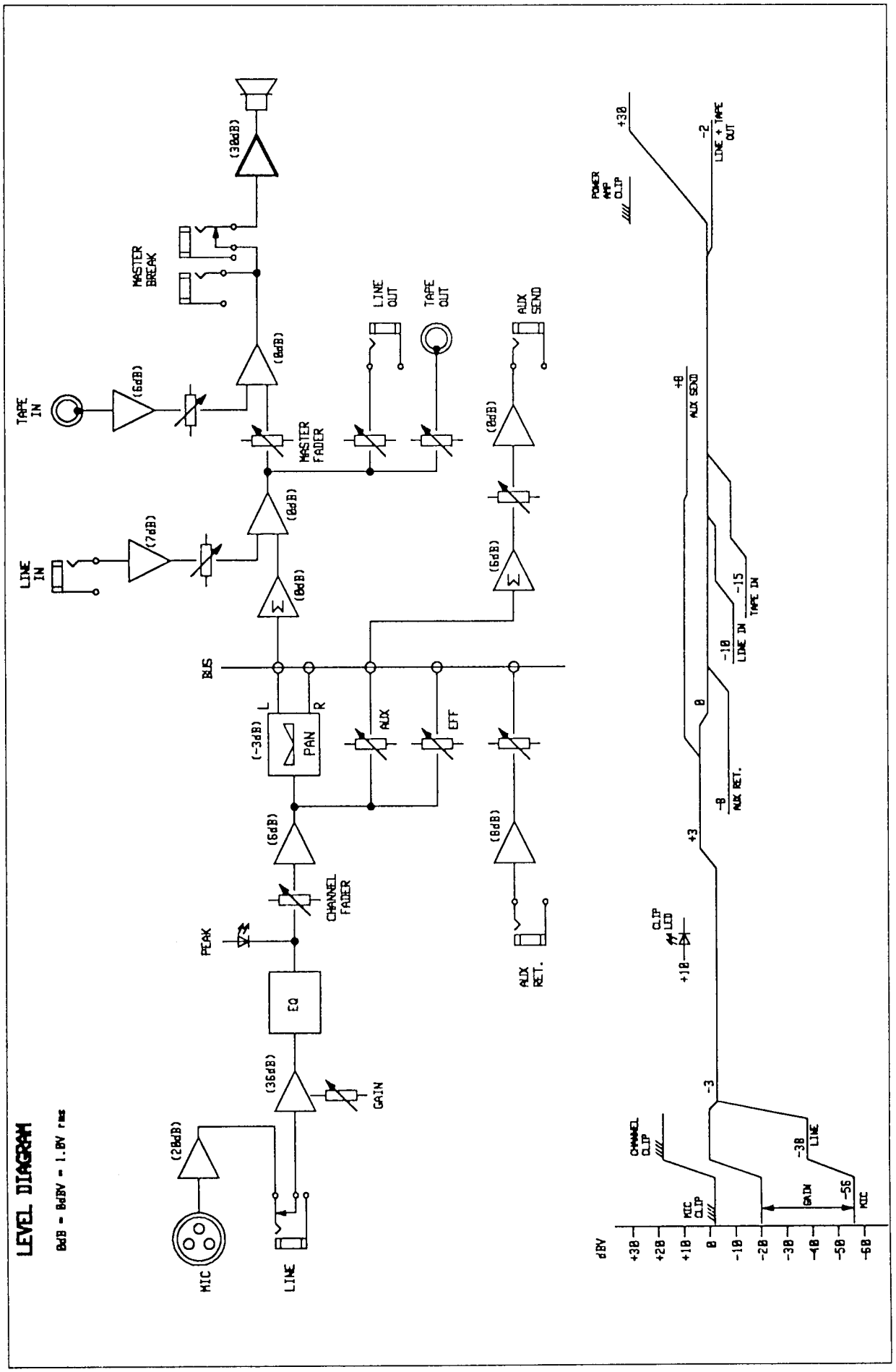
STROMLAUFPLAN

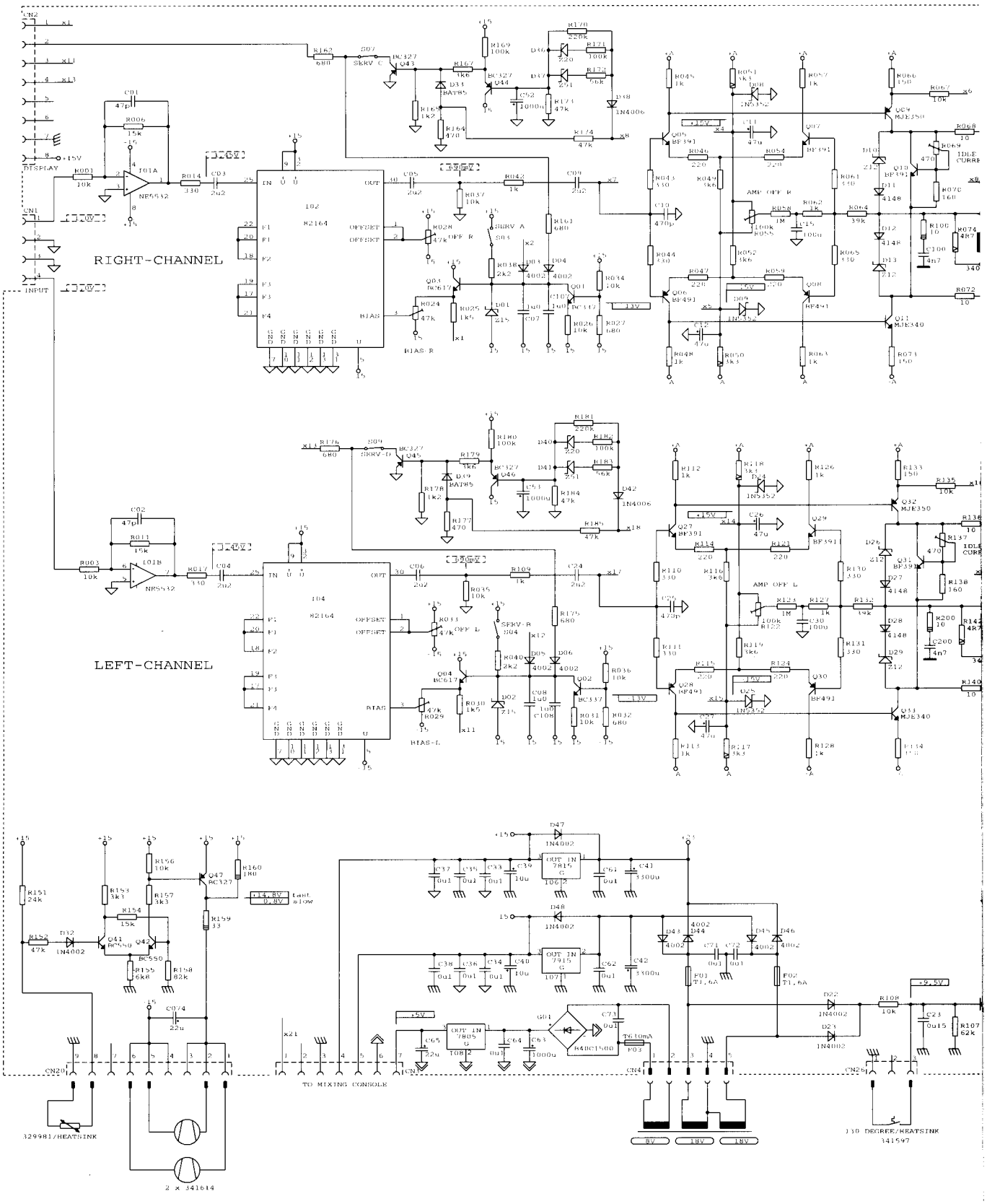
343 783

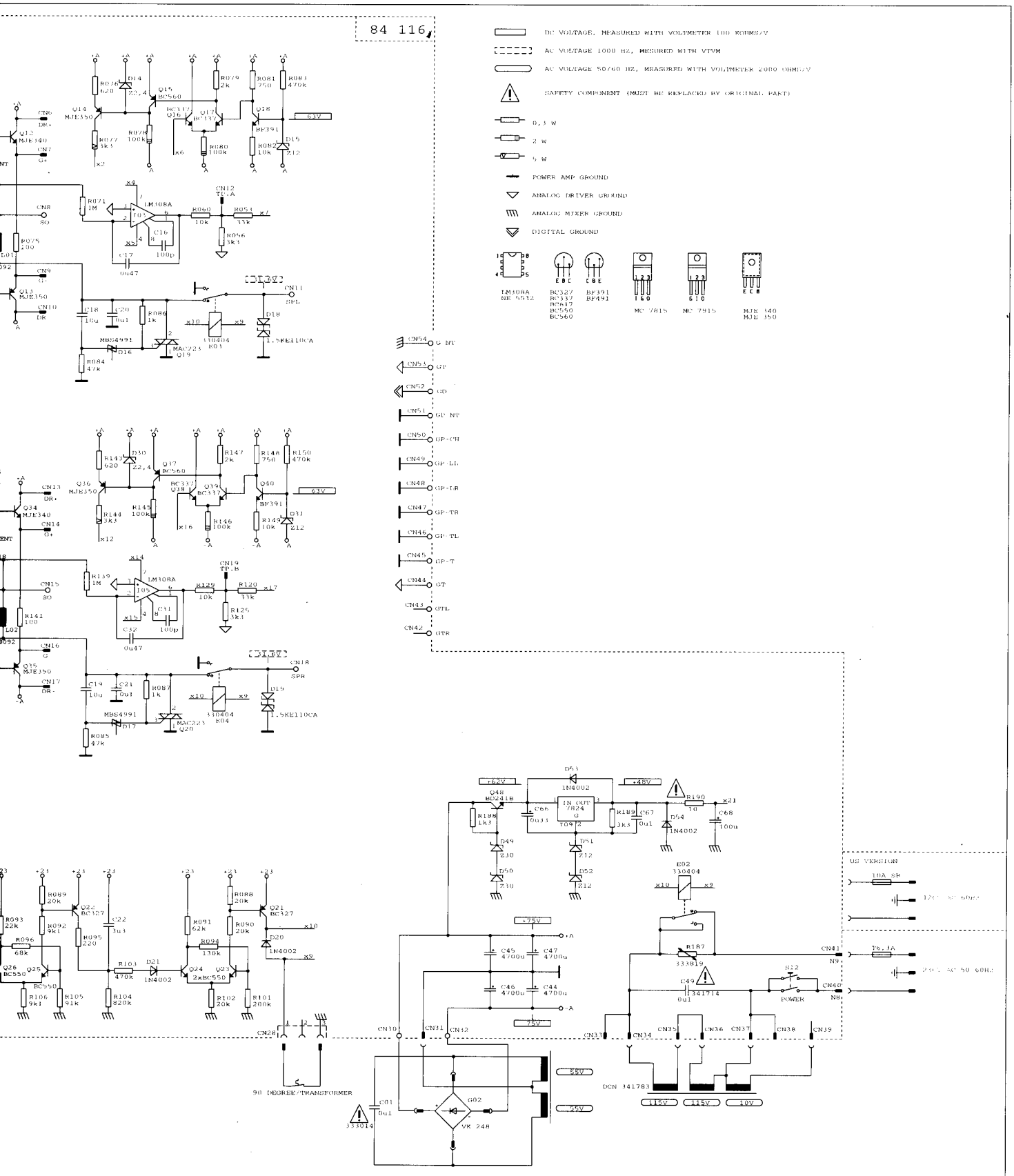
DYNACORD

BLOCK DIAGRAM

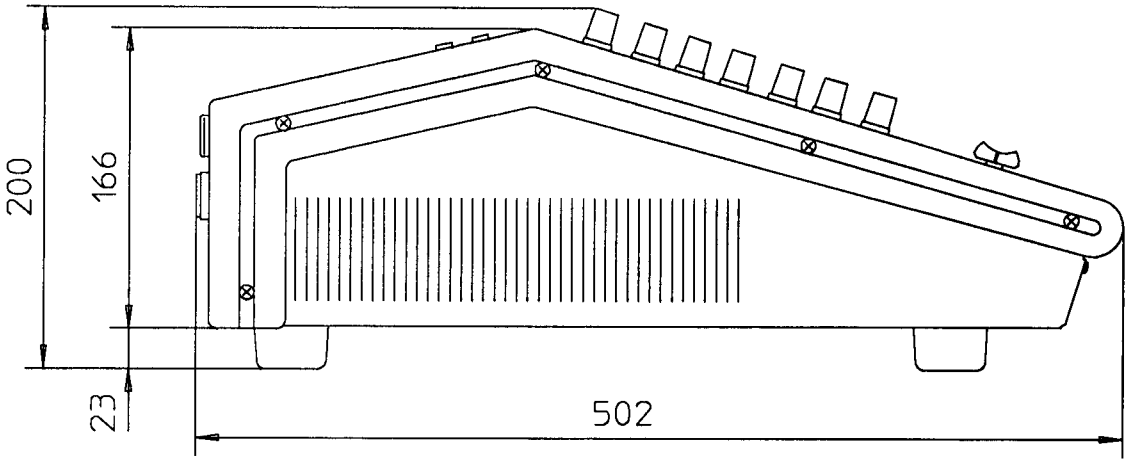


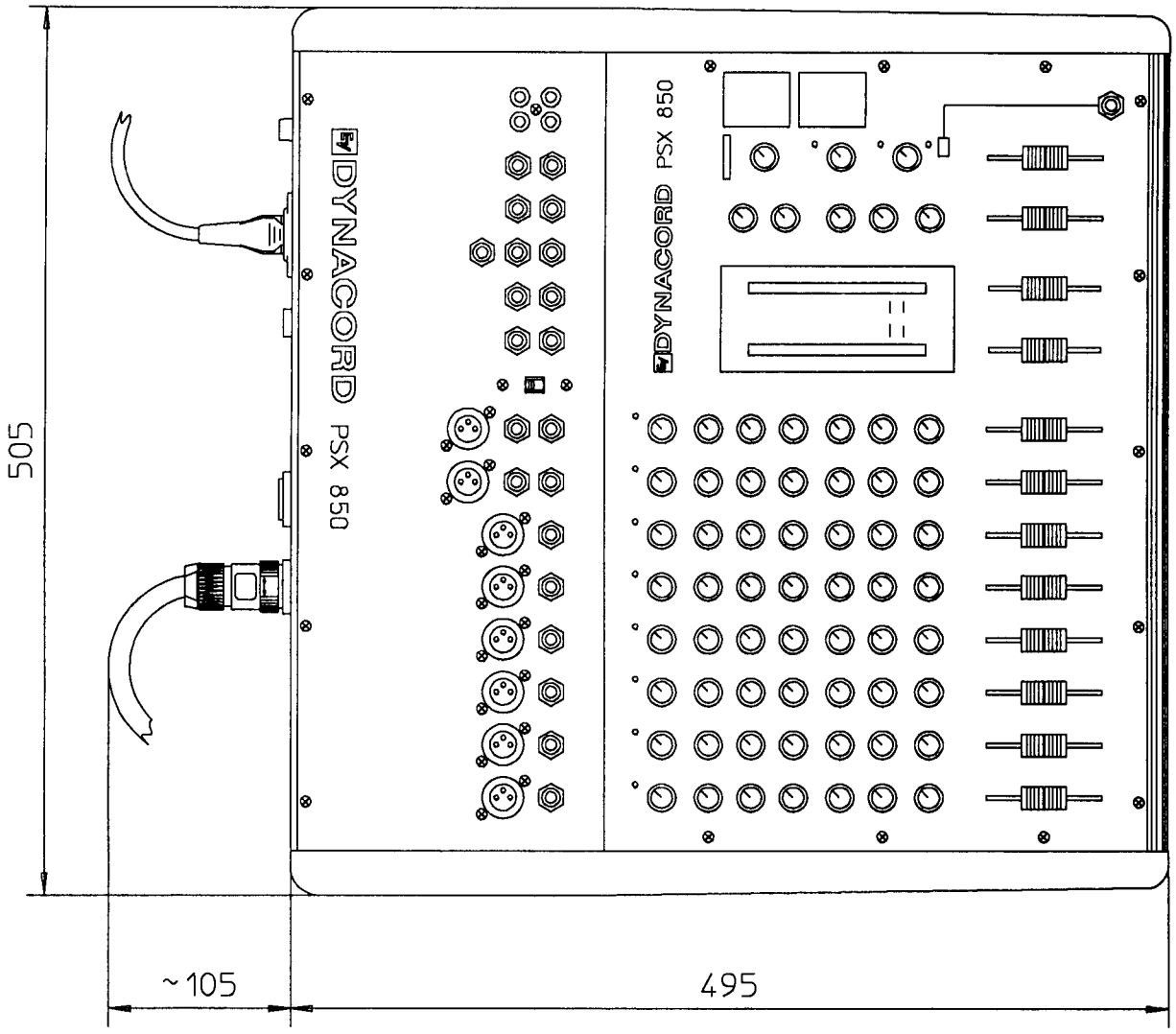




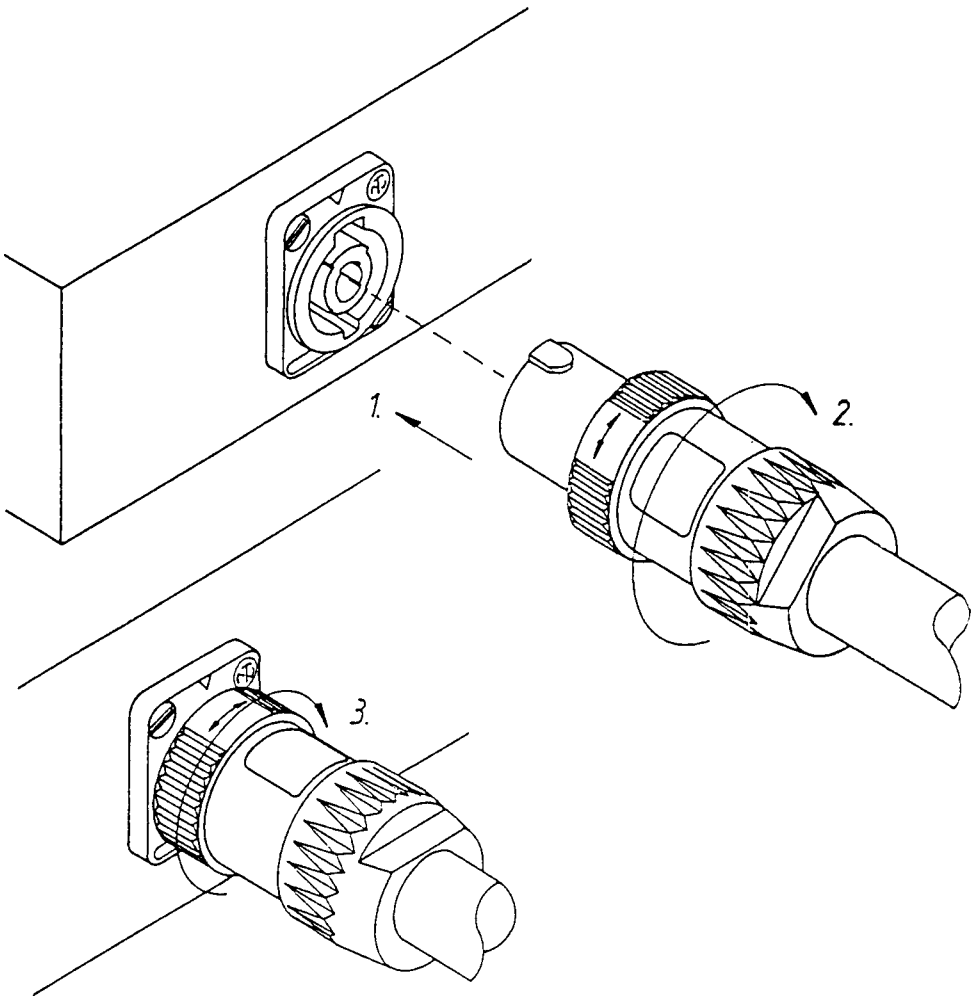


DIMENSIONS (in mm)





SPEAKON PLUG CONNECTORS



1. Insert plug into socket.
2. Turn main body by 30° , electrical contact will be made after turning only.
3. Turn security ring by 180°, to secure the connection.

Pos. in diagram	description	Part-No.
C 001	KO-KER 0.1MF 50V	329201
C 002	KO-KER 0.1MF 50V	329201
C 003	KO-KER 0.1MF 50V	329201
C 004	KO-KER 0.1MF 50V	329201
S 001	sliding switch	335941
00010	plexiglas panel PSX 802	342783
00020	rotary knob bl/red 14	343160
00030	rotary knob bl/wt 14	343139
00040	rotary knob bl/li 14	343161
00050	fader knob bl/wt	343162
00060	fader knob bl/red	343163
00070	fader knob bl/red 4mm	343164
B 001	mains connector	303076
B 002	speaker socket 4pol.	341343
B 003	speaker socket 4pol.	341343
C 001	capacitor SO 0.10 MF/250V	333014
00160	switch	334628
00180	push button black 12,5x7	337059
00210	fuseholder	330605
00220	cap of fuse holder	330632
00010	fan TYP 8314 24V/DC	341614
00860	rubber foot	302815
00010	side part right PSX 802	343632
00020	side part left PSX 802	343633
58000	PCB power amp	343185
Q 001	trans. 2SK 176	337637
Q 004	trans. 2SK 176	337637
Q 005	trans. 2SJ 56	337636
Q 008	trans. 2SJ 56	337636
Q 009	trans. 2SK 176	337637
Q 012	trans. 2SK 176	337637
Q 013	trans. 2SJ 56	337636
Q 016	trans. 2SJ 56	337636
R 186	safety component	329981
S 005	thermal cut out switch	339137
10000	PCB	841208
R005	wire-wound resistor 0,39ohm	341711
R008	wire-wound resistor 0,39ohm	341711
R009	wire-wound resistor 0,39ohm	341711
R012	wire-wound resistor 0,39ohm	341711
R021	wire-wound resistor 0,39ohm	341711
R024	wire-wound resistor 0,39ohm	341711
R025	wire-wound resistor 0,39ohm	341711
R028	wire-wound resistor 0,39ohm	341711
0005	fuse holder	306838
00005	transformer power	341783
00045	switch thermo UP6 90C	332753
00010	PCB	812648
B0001	socket XLR 3pol.	341825
B0002	socket HLJ 0268-01	340984

Pos. in diagram	description	Part-No.
C0001	socket HLJ 0268-01	301556
C0002	socket HLJ 0268-01	301556
C0009	KO-EL 22MF 25V	327815
C0012	KO-EL 22MF 25V	327815
C0013	KO-EL 22MF 25V	327815
D0001	LED red 3mm	342073
D0002	diode 1N 4148	301254
D0003	diode 1N 4148	301254
I0001	IC UPC 4559 C	327364
I0002	IC UPC 4559 C	327364
P0001	potentiometer 2x100kohm log	333801
P0002	potentiometer 50kohm W(S)	334734
P0003	potentiometer 50kohm W(S)	334734
P0004	potentiometer 50kohm W(S)	334734
P0005	fader 5kOhm A (log)	336292
P0006	potentiometer 50kohm lin	331230
P0007	potentiometer 50kohm lin	331230
P0008	potentiometer 2x 5kohm lin	331233
Q0001	trans. BC 560 C	343431
Q0002	trans. BC 560 C	343431
Q0003	trans. BC 560 B	306928
Q0004	trans. BC 560 B	306928
R0023	safety resistor 10 ohm	329215
R0024	safety resistor 10 ohm	329215
00020	PCB	812658
B0001	socket XLR 3pol.	341825
B0002	socket HLJ 0268-01	340984
B0003	socket HLJ 0268-01	340984
C0014	KO-EL 22MF 25V	327815
C0015	KO-EL 22MF 25V	327815
C0018	KO-EL 22MF 25V	327815
C0025	KO-EL 22MF 25V	301556
C0026	KO-EL 22MF 25V	301556
D0001	LED red 3mm	342073
D0002	diode 1N 4148	346335
D0003	diode 1N 4148	346335
I0001	IC UPC 4559 C	327364
I0002	IC UPC 4559 C	327364
I0003	IC UPC 4559 C	327364
I0004	IC UPC 4559 C	327364
I0005	IC UPC 4559 C	327364
P0001	potentiometer 2x 50kohm lin	332947
P0002	potentiometer 2x 50kohm lin	332947
P0003	potentiometer 2x 50kohm lin	332947
P0004	potentiometer 2x 50kohm lin	332947
P0005	potentiometer 50kohm lin	331230
P0006	potentiometer 50kohm lin	331230
P0007	potentiometer 2x 5kohm lin	331233
P0008	fader 2x 5kohm A lin	336293
Q0001	trans. BC 560 B	306928
Q0002	trans. BC 560 B	306928
Q0003	trans. BC 560 C	343431

Pos. in diagram	description	Part-No.
Q0004	trans. BC 560 C	343431
R0021	safety resistor 10 ohm	329215
R0022	safety resistor 10 ohm	329215
00030	PCB	821658
C0101	KO-EL 2.2MF 50V	304986
C0102	KO-EL 2.2MF 50V	304986
C0103	KO-EL 2.2MF 50V	304986
C0104	KO-EL 2.2MF 50V	304986
C0105	KO-EL 22MF 25V	327815
C0106	KO-EL 22MF 25V	327815
C0107	KO-EL 2.2MF 50V	304986
D0003	diode zener BZX 85C 13V	304363
D0004	diode zener BZX 85C 13V	304363
D0101	LED red 2,5x5mm	334694
D0102	LED red 2,5x5mm	334694
D0103	LED red 2,5x5mm	334694
D0104	LED green 2,5x5mm	334693
D0105	LED green 2,5x5mm	334693
D0106	LED green 2,5x5mm	334693
D0107	LED green 2,5x5mm	334693
D0108	LED green 2,5x5mm	334693
D0109	LED green 2,5x5mm	334693
D0110	LED yellow 2,5x5mm	343413
D0111	LED yellow 2,5x5mm	343413
D0112	LED red 2,5x5mm	334694
D0113	LED red 2,5x5mm	334694
D0114	diode 1N 4148	301254
D0201	LED red 2,5x5mm	334694
D0202	LED red 2,5x5mm	334694
D0203	LED red 2,5x5mm	334694
D0204	LED green 2,5x5mm	334693
D0205	LED green 2,5x5mm	334693
D0206	LED green 2,5x5mm	334693
D0207	LED green 2,5x5mm	334693
D0208	LED green 2,5x5mm	334693
D0209	LED green 2,5x5mm	334693
D0210	LED yellow 2,5x5mm	343413
D0211	LED yellow 2,5x5mm	343413
D0212	LED red 2,5x5mm	334694
D0213	LED red 2,5x5mm	334694
I0001	IC NE 5532 N	327197
I0002	IC UPC 4559 C	327364
I0003	IC UPC 4559 C	327364
I0101	IC BA 683 A	343286
I0102	IC BA 683 A	343286
P0001	fader 5kohm log semi	341909
P0002	fader 5kohm log semi	341909
Q0101	trans. J 111 A	330264
Q0102	trans. J 111 A	330264
R0025	safety resistor 10 ohm	329215
R0026	safety resistor 10 ohm	329215
R0101	Res. trimpot 10 kOhm lin	308645

Pos. in diagram	description	Part-No.
R0102	Res. trimpot 10 kOhm lin	308645
R0106	safety resistor 33 Ohm	328770
R0111	safety resistor 33 Ohm	328770
00040	PCB	821668
C0021	KO-EL 22MF 25V	327815
C0022	KO-EL 22MF 25V	327815
I0001	IC UPC 4559 C	327364
I0002	IC UPC 4559 C	327364
I0003	IC UPC 4559 C	327364
I0004	IC UPC 4559 C	327364
P0001	fader 2x 5kohm A lin	336293
P0002	potentiometer 2x5kohm log	333401
P0003	potentiometer 2x5kohm log	333401
P0004	potentiometer 10kohm B lin	331231
P0005	potentiometer 2x5kohm log	333401
P0006	potentiometer 2x5kohm log	333401
R0036	safety resistor 10 ohm	329215
R0037	safety resistor 10 ohm	329215
00050	PCB	830818
B0001	phone jack	340985
C0014	phone jack	301549
C0018	KO-EL 22MF 25V	327815
C0024	KO-EL 22MF 25V	327815
C0025	KO-EL 22MF 25V	327815
D0001	LED green 3mm	341823
D0002	LED green 3mm	341823
D0003	LED red 3mm	342073
D0004	diode zener BZX 55C 2V4	329511
D0005	diode zener ZPD 8V2	309403
D0006	diode zener ZPD 8V2	309403
I0001	IC UPC 4559 C	327364
I0002	IC UPC 4559 C	327364
I0003	IC UPC 4559 C	327364
I0004	IC 4066 BE	341204
I0005	IC MC 14584 BCP	309714
P0001	potentiometer 10kohm B lin	331231
P0002	potentiometer 10kohm B lin	331231
P0003	fader 2x 5kohm A lin	336293
Q0001	trans. BC 560 B	306928
Q0002	trans. BC 560 B	306928
Q0003	trans. BC 560 B	306928
Q0004	trans. BC 560 B	306928
R0040	safety resistor 10 ohm	329215
R0041	safety resistor 10 ohm	329215
S0001	switch	337647
S0005	switch	332347
00060	PCB	841168
C011	KO-EL 47MF 50V	343530
C012	KO-EL 47MF 50V	343530
C026	KO-EL 47MF 50V	343530

Pos. in diagram	description	Part-No.
C027	KO-EL 47MF 50V	343530
C039	KO-EL 10MF 35V	307445
C040	KO-EL 10MF 35V	307445
C041	KO-EL 10MF 35V	333413
C042	KO-EL 10MF 35V	333413
C044	KO-EL 4700.000MF 100V	340437
C045	KO-EL 4700.000MF 100V	340437
C046	KO-EL 4700.000MF 100V	340437
C047	KO-EL 4700.000MF 100V	340437
C049	safety component	341714
C052	KO-EL 1000MF 25V	337597
C053	KO-EL 1000MF 25V	337597
C065	KO-EL 22MF 25V	327815
C066	KO-EL 0.330MF 50V	333249
C074	KO-EL 22MF 25V	327815
D001	diode zener BZX 55C 15V	309450
D002	diode zener BZX 55C 15V	309450
D003	diode 1N 4002	304360
D004	diode 1N 4002	304360
D005	diode 1N 4002	304360
D006	diode 1N 4002	304360
D008	diode zener 1N 5352B 15V	331422
D009	diode zener 1N 5352B 15V	331422
D010	diode zener ZPD 12V 0,5W	305738
D011	diode 1N 4148	301254
D012	diode 1N 4148	301254
D013	diode zener ZPD 12V 0,5W	305738
D014	diode zener BZX 55C 2V4	329511
D015	diode zener ZPD 12V 0,5W	305738
D016	diode MBS 4991	338875
D017	diode MBS 4991	338875
D018	diode zener TYP 1,5 KE120CA	339061
D019	diode zener TYP 1,5 KE120CA	339061
D020	diode 1N 4002	304360
D021	diode 1N 4002	304360
D022	diode 1N 4002	304360
D023	diode 1N 4002	304360
D024	diode zener 1N 5352B 15V	331422
D025	diode zener 1N 5352B 15V	331422
D026	diode zener ZPD 12V 0,5W	305738
D027	diode 1N 4148	301254
D028	diode 1N 4148	301254
D029	diode zener ZPD 12V 0,5W	305738
D030	diode zener BZX 55C 2V4	329511
D031	diode zener ZPD 12V 0,5W	305738
D032	diode 1N 4002	304360
D033	diode BAT 85	301297
D036	diode zener ZPD 20V 0,5W	301310
D037	diode zener ZPD 51V 0,5W	341613
D038	diode 1N 4006	305739
D039	diode BAT 85	301297
D040	diode zener ZPD 20V 0,5W	301310
D041	diode zener ZPD 51V 0,5W	341613
D042	diode 1N 4006	305739
D043	diode 1N 4002	304360
D044	diode 1N 4002	304360
D045	diode 1N 4002	304360
D046	diode 1N 4002	304360
D047	diode 1N 4002	304360
D048	diode 1N 4002	304360
D049	break down diode ZPX 30V	304364
D050	break down diode ZPX 30V	304364
D051	diode zener ZPD 12V 0,5W	305738
D052	diode zener ZPD 12V 0,5W	305738
D053	diode 1N 4002	304360
D054	diode 1N 4002	304360
E002	relay RP 310 024	330404
E003	relay RP 310 024	330404
E004	relay RP 310 024	330404
G001	rectifier B40 C1500	331965
G002	rectifier KBPC 35-04	343270
I001	IC NE 5532 N	327197
I002	PCA Modul kompl.	821648
I004	PCA Modul kompl.	821648
I006	IC LM 340 T-15	308292
I007	IC LM 340 T-15	344746
I008	IC MC 78 T 05 CT	331932
I009	IC UA 7824 UC	329255
L001	coil DCN 340092	340092
L002	coil DCN 340092	340092
Q001	trans. BC 337-25	307150
Q002	trans. BC 337-25	307150
Q003	trans. BC 617	334633
Q004	trans. BC 617	334633
Q005	trans. BF 391	307911
Q006	trans. BF 491	307912
Q007	trans. BF 391	307911
Q008	trans. BF 491	307912
Q009	trans. MJE 350	338869
Q010	trans. BF 391	307911
Q011	trans. MJE 340	338868
Q012	trans. MJE 340	338868
Q013	trans. MJE 350	338869
Q014	trans. MJE 350	338869
Q015	trans. BC 560 B	306928
Q016	trans. BC 337-25	307150
Q017	trans. BC 337-25	307150
Q018	trans. BF 391	307911
Q019	triac MAC 223-6	338876
Q020	triac MAC 223-6	338876
Q021	trans. BC 327-25	307430
Q022	trans. BC 327-25	307430
Q023	trans. BC 550 B	301184

Pos. in diagram	description	Part-No.
Q024	trans. BC 550 B	301184
Q025	trans. BC 550 B	301184
Q026	trans. BC 550 B	301184
Q027	trans. BF 391	307911
Q028	trans. BF 491	307912
Q029	trans. BF 391	307911
Q030	trans. BF 491	307912
Q031	trans. BF 391	307911
Q032	trans. MJE 350	338869
Q033	trans. MJE 340	338868
Q034	trans. MJE 340	338868
Q035	trans. MJE 350	338869
Q036	trans. MJE 350	338869
Q037	trans. BC 560 B	306928
Q038	trans. BC 337-25	307150
Q039	trans. BC 337-25	307150
Q040	trans. BF 391	307911
Q041	trans. BC 550 B	301184
Q042	trans. BC 550 B	301184
Q043	trans. BC 327-25	307430
Q044	trans. BC 327-25	307430
Q045	trans. BC 327-25	307430
Q046	trans. BC 327-25	307430
Q047	trans. BC 327-25	307430
Q048	trans. BD 241B	301236
R024	Res.trimpot 47 kohm lin	307602
R028	Res.trimpot 47 kohm lin	307602
R029	Res.trimpot 47 kohm lin	307602
R033	Res.trimpot 47 kohm lin	307602
R050	wire-wound resistor 3,3kohm	341712
R051	wire-wound resistor 3,3kohm	341712
R055	Res. trimpot 100kohm lin	308691
R069	Res. trimpot 470 ohm lin	331427
R074	wire-wound resistor 4,7ohm	341713
R077	wire-wound resistor 3,3kohm	341712
R117	wire-wound resistor 3,3kohm	341712
R118	wire-wound resistor 3,3kohm	341712
R122	Res. trimpot 100kohm lin	308691
R137	Res. trimpot 470 ohm lin	331427
R142	wire-wound resistor 4,7ohm	341713
R144	wire-wound resistor 3.3kohm	341712
R187	safety component	333819
R190	safety resistor 10 ohm	329215
S003	control element on/off	327947
S004	control element on/off	327947
S007	control element on/off	327947
S009	control element on/off	327947
S012	mains switch	334626
00030	connector 4pol	306609
00045	connector 9pol	306446
00070	shorting plug	306397
00072	shorting plug	306397
00100	fuse holder	306838

Pos. in diagram	description	Part-No.
00101	fuse holder	306838
00102	fuse holder	306838
00080	PCB	861778
B0001	phone jack	341596
B0002	phone jack	341596
B0003	phone jack	341596
B0004	phone jack	341596
B0005	phone jack	341596
B0006	phone jack	341596
B0007	phone jack	341596
B0008	phone jack	341596
B0009	phone jack	341596
B0010	phone jack	341596
B0011	phone jack	341596
00050	shorting plug	306397
C 101	safety component	343489
C 102	safety component	343489
C 103	safety component	343489
C 124	KO-EL 1 MF 50V	340520
C 177	KO-EL 1 MF 50V	340520
C 178	KO-EL 1 MF 50V	340520
C 179	KO-EL 1 MF 50V	340520
D 101	diode 1N 4002	304360
J 101	IC socket 16 pol	305745
U 101	IC MB 635213	344923
U 102	IC CXK 58257	344927
U 103	IC CXK 58257	344927
U 104	IC CXK 58257	344927
U 114	IC MC 79 L 05 ACP	309721
00010	IC socket 28 pol	332354

WARRANTY (Limited)

Electro-Voice products are guaranteed against malfunction due to defects in materials or workmanship for a specified period, as noted in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual, beginning with the date of original purchase. If such malfunction occurs during the specified period, the product will be repaired or replaced (at our option) without charge. The product will be returned to the customer prepaid. **Exclusions and Limitations:** The Limited Warranty does not apply to: (a) exterior finish or appearance; (b) certain specific items described in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual; (c) malfunction resulting from use or operation of the product other than as specified in the product data sheet or owner's manual; (d) malfunction resulting from misuse or abuse of the product; or (e) malfunction occurring at any time after repairs have been made to the product by anyone other than Electro-Voice or any of its authorized service representatives. **Obtaining Warranty Service:** To obtain warranty service, a customer must deliver the product, prepaid, to Electro-Voice or any of its authorized service representatives together with proof of purchase of the product in the form of a bill of sale or receipted invoice. A list of authorized service representatives is available from Electro-Voice at 600 Cecil Street, Buchanan, MI 49107 (616/695-6831) and/or Electro-Voice West, at 8294 Doe Avenue, Visalia, CA 93291 (209/651-7777). **Incidental and Consequential Damages Excluded:** Product repair or replacement and return to the customer are the only remedies provided to the customer. Electro-Voice shall not be liable for any incidental or consequential damages including, without limitation, injury to persons or property or loss of use. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you. Other Rights: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Electro-Voice Electronics are guaranteed against malfunction due to defects in materials or workmanship for a period of three (3) years from the date of original purchase. Additional details are included in the Unifom Limited Warranty statement.

Service and repair address for this product: Electro-Voice, Inc. 600 Cecil Street, Buchanan, Michigan 49107.

Specifications subject to change without notice.

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Printed in Germany 01. 12. 92 / 347 904