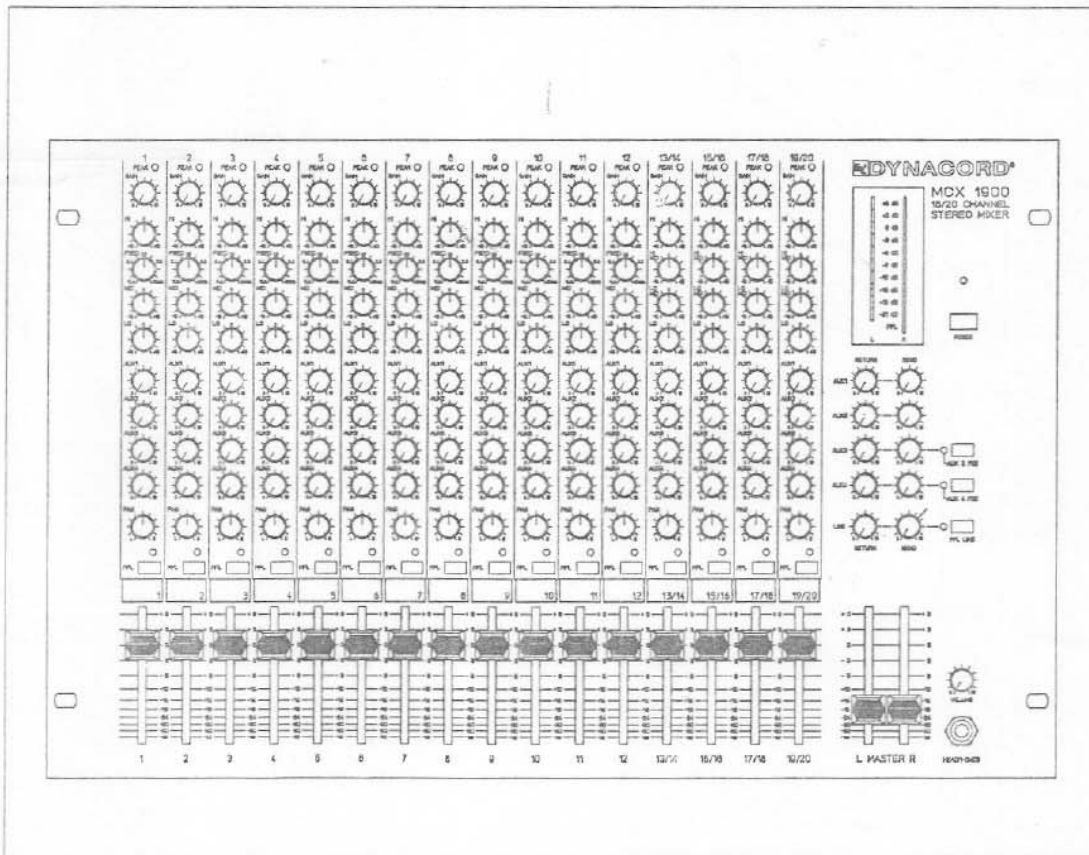


# EV<sup>®</sup> DYNACORD<sup>®</sup>

## USER MANUAL



MCX 1900

19" STEREO MIXER

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### 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 spilled 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.

## MCX 1900 - General Overview

- 16/20 Input channels
- 12 MIC/LINE (Mono) Inputs
- 4 Line (Stereo) Inputs
- Stereo Tape In and Out
- Insert Function for all Mic/Line Inputs
- Direct Out Function
- 4 Aux Send/Out (2 post/pre + 2 post)
- 4 Stereo Aux In/Return
- Stereo Line In and Out
- Stereo Master Out (XLR electronically balanced, transformer bal. optional)
- Stereo Master Breaks (Send and Return)
- Stereo headphones, individually controllable
- Gain control with Clip LED for all input channels
- 4-way EQ for all stereo input channels
- Aux 1 and 2 (post channel fader) for effect sends in all input channels
- Aux 3 and 4, switchable from monitor function (pre channel fader) to effect function (post channel fader) in all input channels
- PAN control in all input channels
- PFL prelisten control with LED indicator in all input channels
- 48 V Phantom Power Supply
- Power On Delay

The MCX 1900 is a professional mixer in a very compact 19" design. Its wide range of features and the excellent specifications make the MCX 1900 an ideal submixer for stage and PA applications, e.g. for drums, keyboard or instrument premixing or as an additional mixing desk for effect returns.

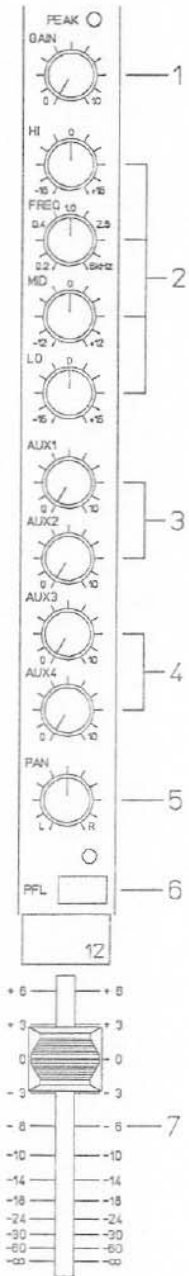
12 MONO and 4 STEREO input channels are available. The stereo channels allow for the connection of e.g. stereo keyboards or drum machines, submixers and other stereo audio sources, without having to use 2 complete channels.

All 12 Mic-inputs are electronically balanced and are supplied with XLR sockets. The integrated switchable phantom power supply (+48 V) allows for the use of sophisticated condenser microphones.

Optionally, the master outputs can also be used transformer-balanced. Additionally, the master outputs are supplied with separate break jacks for looping e.g. equalizers into the master signal. Alternatively the break jacks can, of course, be used as unbalanced master outputs.

The 19" housing makes it easy to use the unit in mobile sound reinforcement systems as well as in permanently installed 19" systems.

# INPUT MONO



## 1. GAIN + PEAK-LED

Control for adjusting the input sensitivity between -58 dBV (1.2 mV) and -7 dBV (440 mV).

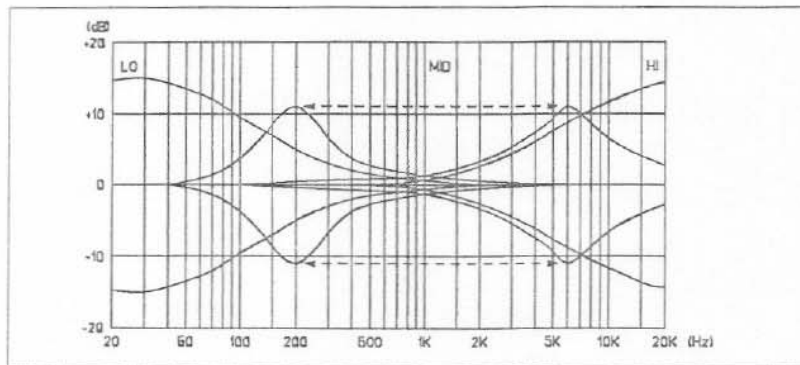
This control should be adjusted so that the PEAK LED lights up only briefly at peak levels. This will result in an optimum S/N ratio. If the PEAK LED lights up, the available headroom is 9 dB before the input signal is distorted audibly. Please note that the sound corrections with the EQ controls also influence the input signal level. Check the correct setting of the GAIN control again after sound adjustment.

## 2. Equalizing

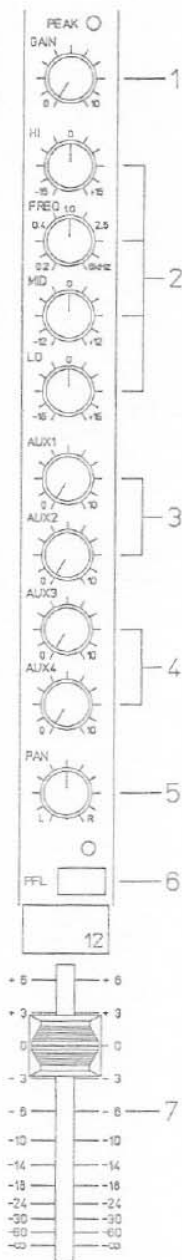
The EQ section allows for a very comprehensive and effective control of the input signal for the different frequency regions. Turning the control to the right increases/amplifies the respective frequency region. Turning it to the left will decrease/attenuate the respective frequency region.

When the sound is to be adjusted you should always start in a neutral position, i.e. all controls are in a central (latching) 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 hearing for sound checking. You can avoid acoustic feedback effectively by operating the mid-controls (MID) gently. Avoid too much gain especially in these frequency regions; a slight lowering allows for an amplification of microphone signals with only little risk of feedback.

Control	Variation	Frequency	Type
HI	+/- 15 dB	12 kHz	shelving
FREQ.	---	200 Hz - 6 kHz	---
MID	+/- 12 dB	200 Hz - 6 kHz	boost/cut
LO	+/- 15 dB	80 Hz	shelving



## INPUT MONO



### 3. AUX 1 - AUX 2

Control for adjusting the effect volume of an effect unit, which is to be connected to the sockets AUX 1/AUX 2. The effect signal depends on the setting of the channel fader (7).

The signal will only be routed to the effect units if the channel fader is opened.

### 4. AUX 3 - AUX 4

Control for adjusting the effect volume of an effect unit which is to be connected to the sockets AUX 3/AUX 4.

With the button (18) in the master channel you can select whether the AUX 3/AUX 4 signal is derived pre (for monitoring) or post channel fader.

### 5. PAN

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

### 6. PFL

This button serves for pre-listening to the signal before the channel fader; therefore the signal is also audible with the fader closed. The green LED indicates whether the button has been activated or not.

### 7. 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 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 (22).

# INPUT STEREO

## 8. GAIN + PEAK LED

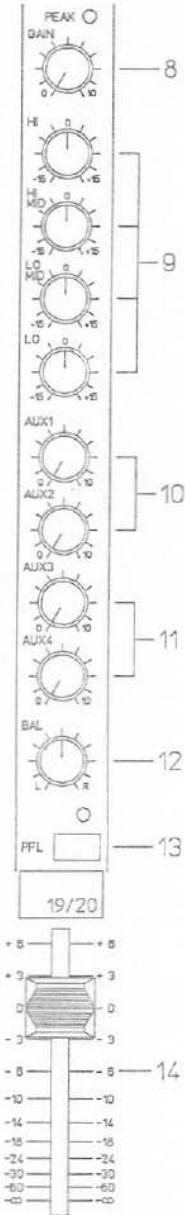
Control for adjusting the input sensitivity between -39 dBV (11 mV) and +10 dBV (3.2 V).

This control should be adjusted in such a way 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 9 dB before the input signal is distorted audibly. Please note that the sound corrections with the EQ controls also influence the input signal level. Check the correct setting of the GAIN control again, after adjusting the sound.

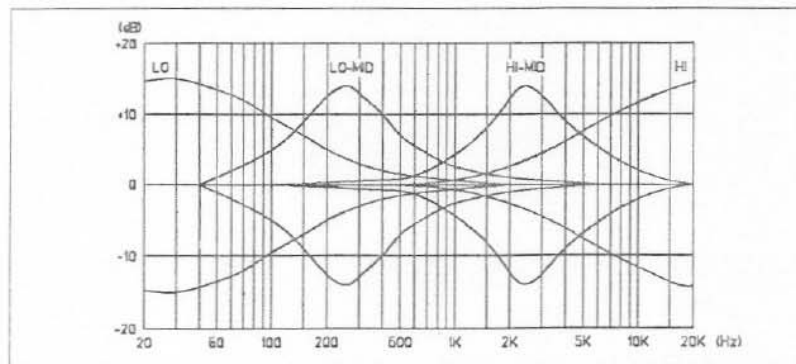
## 9. Equalizing

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/amplifies the respective frequency region. Turning it to the left will decrease/attenuate the respective frequency region.

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



Control	Variation	Frequency	Type
HI	+/- 15 dB	15 kHz	shelving
HI-MID	+/- 15 dB	2,5 kHz	boost/cut
LO-MID	+/- 15 dB	250 Hz	boost/cut
LO	+/- 15 dB	50 Hz	shelving



## INPUT STEREO

### 10. AUX 1 - AUX 2

Control for adjusting the effect volume of an effect unit which is connected to the sockets AUX 1/AUX 2. The effect signal depends on the setting of the channel fader (14).

The signal will only be routed to the effect units if the channel fader is opened.

### 11. AUX 3 - AUX 4

Control for adjusting the effect volume of an effect unit which is connected to the sockets AUX 3/AUX 4.

With the button (18) in the master channel you can select whether the AUX 3/AUX 4 signal is derived pre (for monitoring) or post channel fader.

### 12. BAL

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

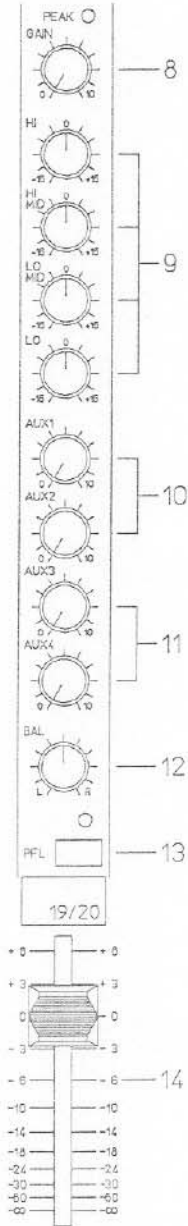
### 13. PFL

This button is used to listen to the stereo signal before the channel fader (pre fader); therefore the signal is also audible with the fader closed. The green LED indicates whether the button has been activated or not.

### 14. STEREO CHANNEL FADER

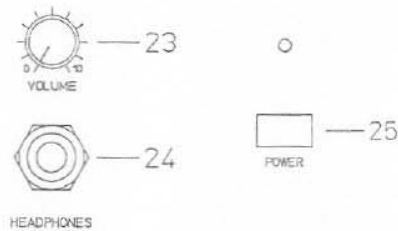
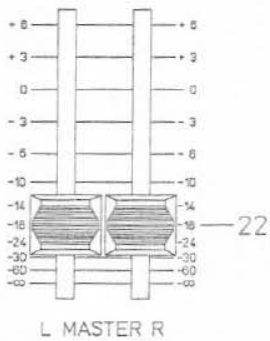
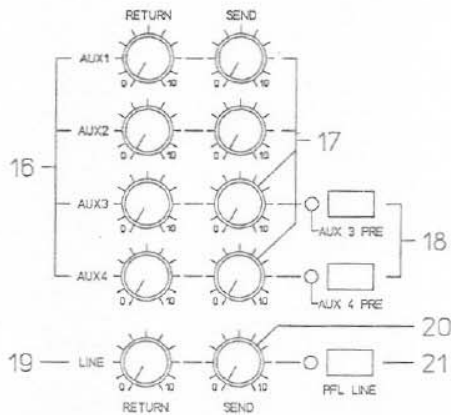
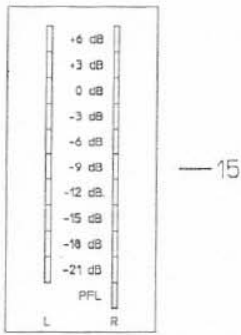
The channel fader is used to adjust the volume of each channel and the volume balance between the individual channels.

Try to adjust the fader near the 0 dB position. You will then be able to control 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 finally controlled by the master faders (22).





## MASTER



### 15. LEFT/RIGHT/PFL LED Level Meter

The LED Level Meters show the modulation of the right/left master output and the PFL signal. If you drive the mixer into the red area (+3 dB/+6 dB) it will not be overdriven, but it indicates that the output voltage is over 1.55 V.

The PFL LED lights up if one of the pre-listen buttons is pressed. The right LED chain serves as level meter for the PFL signal. In addition this signal can be heard on the headphones.

### 16. AUX 1-4 RETURN

These controls mix the stereo effect return signal, which is fed in to the master at the return 1-4 jacks.

### 17. AUX 1-4 Send

With these controls the effect master signal from the input channels is fed to the AUX 1-4 send jacks.

### 18. PRE BUTTONS

With these buttons you can select whether the AUX3/AUX4 signal is derived pre or post channel fader:

In position PRE (pre-fader LED lights up) the signal is derived before the channel faders and is therefore independent of the position of the channel faders (monitoring).

In the other position (post fader) the signal is taken after the channel faders and depends on the position of the channel faders (effect send).

### 19. LINE RETURN

These controls mix the stereo LINE return signal which is fed in to the master at the LINE jacks.

### 20. LINE Send

With this control the LINE Master signal is fed to the LINE Send jacks.

### 21. PFL

This button is used to listen to the LINE RETURN signal before the LINE RETURN control (19); therefore the signal is also audible with the fader closed.

### 22. MASTER

Master volume control for the left and right master output.

### 23. VOLUME

The volume on the headphones is adjusted with this control.

### 24. HEADPHONES

STEREO jack for headphones with 8 - 600 ohms. Here you can hear the stereo master signal or the PFL signal.

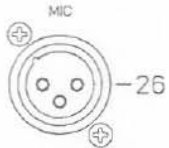
### 25. POWER

Mains switch for switching the unit on and off.

The unit is ready for operation if the LED lights up.



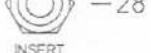
## REAR PANEL



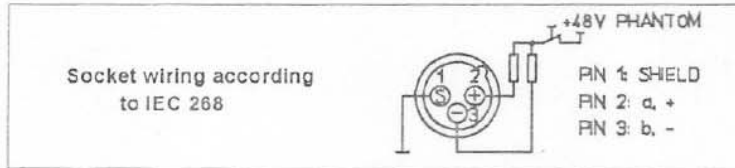
### 26. MIC

Electronically balanced XLR inputs 1 - 12 for connection of Lo-Z microphones. You can also connect phantom-powered microphones (condenser microphones) here.

For further information see: 40. Phantom power.

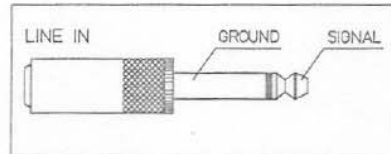


DIRECT OUT



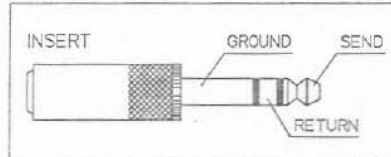
### 27. LINE

Unbalanced inputs 1 - 12 for instruments and other Hi-Z signal sources.



### 28. INSERT

Stereo jack with break function. This socket allows looping in of effect units (Chorus, EQ, Limiter etc.) into the channel. The insert point is located electrically after the equalizer circuit and before the channel fader. If you use a stereo jack with linked tip and ring, this socket can be used as "pre fader" output.



### 29. DIRECT OUT

Jack for the channel output signal. Split output to a monitor mixer or e.g. output for tape recording "post channel fader".

### 30. LINE L/R

Unbalanced inputs L+R for instruments and other Hi-Z sound sources.

### 31. DIRECT OUT L/R

Direct Out jacks for the left resp. right channel output signal. The direct out signal is derived after the input channel fader and makes a mix down possible with the channel fader to a multitrack.



### 32. TAPE/LINE IN

RCA (Cinch) socket L/R for connection of a tape/cassette recorder. Jack L/R for instruments and other Hi-Z audio sources. The RCA sockets and jacks are directly wired in, parallel.

### 33. DIRECT OUT

Direct Out jacks for the left resp. right channel output signal. The direct out signal is derived after the input channel fader and makes a mix down possible with the channel fader to a multitrack.

Please make sure that the respective channel fader or at least the master faders are closed before connecting signal sources. You will save your audience and your equipment unnecessary click noise.



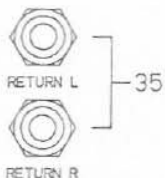
## REAR PANEL

AUX 1



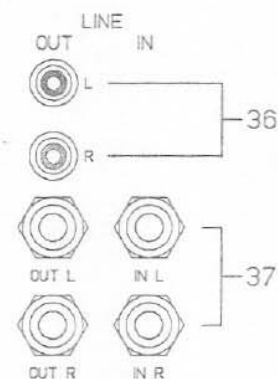
### 34. AUX SEND 1-4

AUX 1-4 send jacks; these jacks are to be connected to the input of an effect unit (line level). The send level depends on the position of the rotary controls AUX 1-4 SEND.



### 35. AUX RETURN 1-4 L/R

AUX 1-4 return jacks, for feeding in a STEREO signal into the master. These jacks are to be connected to an output of an effect unit. For MONO effect units you can use the jack RETURN L.



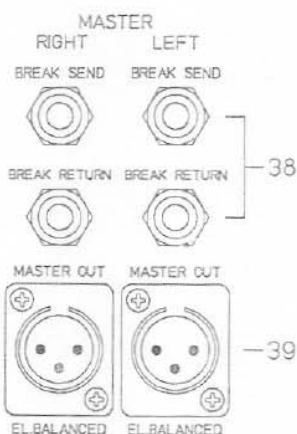
### 36. LINE IN/OUT

RCA (Cinch) sockets LINE OUT. Here you can take the master signal. A tape or cassette recorder can be connected to these sockets for recording purposes. The record level depends on the position of the rotary control LINE SEND (20).

### 37. LINE IN/OUT L/R

LINE IN L+R. Via these jacks you can feed in a stereo signal, e.g. from submixers. The signal level depends on the position of the master faders.

LINE OUT L+R. From these jacks you can take the master signal (pre master fader). The LINE OUT signal does not, therefore, depend on the position of the control LINE SEND (20). Via these jacks you can feed a separate controllable master signal e.g. to a master mixing console or to a separate amplifier/speaker circuit for monitor purposes.



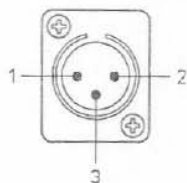
### 38. MASTER RET/SEND

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

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

### 39. MASTER OUT L+R

XLR master outputs electronically balanced L+R for driving of power amplifiers. These outputs can be transformer-balanced by an add-on kit 90 113.



PIN 1 = GROUND  
PIN 2 = a. +  
PIN 3 = b. -

PHANTOM  
POWER



—40

#### 40. PHANTOM POWER

Central switch for the 48 V phantom power supply for the MIC sockets (1-12).

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

Please only switch the phantom power supply on and off if the MCX 1900 is switched off.

With PHANTOM POWER ON you must not connect unbalanced signal sources (keyboards, mixers) to the MIC 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 might possibly be damaged by the phantom voltage. Please read the operating manuals of your microphones carefully.

For reasons of safety, always ensure that the MCX 1900 is switched off (25. POWER) if balanced dynamic microphones are to be connected to the mic input sockets. You will thus avoid possible damage of these particularly sensitive dynamic microphones.

CIRCUIT 1 TO  
CHASSIS



—41

#### 41. GROUND LIFT SWITCH

Slide switch to avoid hum interferences by earth loops. Separates circuit ground from chassis ground. If several units are installed in a rack, all ground lift switches except one should be switched to position "UNGROUNDED".

## SPECIFICATIONS

**SPECIFICATIONS: MCX 1900 complete unit**

Standard specifications: IEC 268 part 3, IHF-A

0 dB = 1 V (RMS)

### A. POWER SUPPLY

1. Mains:	AC
2. Rated mains voltage:	120 V
3. Rated frequency for power supply:	50 - 60 Hz
4. Rated power consumption:	34 watts
5. Tolerance of mains voltage:	± 10%

### B. INPUT CHARACTERISTICS

Input sockets	Rated Input Level *1	Max. Input Level	Input
			Impedance
MIC (unbalanced)	-58dB (1.2mV)	+10dB (3.1V)	1.3 kOhm
MIC (balanced)	-58dB (1.2mV)	+15dB (5.5V)	2.6 kOhm
LINE (Mono)	-40dB (10mV)	+16dB (6.5V)	33 kOhm
LINE (L + R)	-38dB (12mV)	+23dB (13.5V)	33 kOhm
TAPE (L + R)	-38dB (12mV)	+23dB (13.5V)	33 kOhm
AUX 1-4 RET (L + R)	-11dB (280mV)	+13dB (4.4V)	23 kOhm
LINE IN (L + R)	-11dB (280mV)	+13dB (4.4V)	23 kOhm
MASTER RET (L + R)	+3.8dB (1.55V)		

### C. OUTPUT CHARACTERISTICS

Output sockets	Rated Load Impedance	Output Level *2	
		Rated Value	max. level before clipping
DIRECT OUT	10 kOhm	+3dB (1.4V)	+19dB (8.6V)
INSERT SEND	10 kOhm	-8dB (390mV)	+18dB (8.2V)
AUX 1-4 SEND	10 kOhm	+9dB (2.7V)	+19.3dB (9.2V)
LINE OUT (L + R)	10 kOhm	+4.5dB (1.7V)	+18.8dB (8.7V)
MASTER OUT (L + R)	10 kOhm	+3.8dB (1.55V)	+19.5dB (9.4V)
MASTER SEND (L + R)	10 kOhm	+3.8dB (1.55V)	+19.5dB (9.4V)
HEADPHONES (L + R)	200 Ohm	+9.5dB (3.0V)	+13.5dB (4.8V)

#### D. FREQUENCY RESPONSES

-3 dB loss against level at norm frequency

1. MIC → MASTER OUT : 20 Hz - 40 kHz
2. LINE → MASTER OUT : 20 Hz - 25 kHz

#### E. AMPLITUDE NON-LINEARITIES

1. MIC → MASTER OUT : k < 0.04 %
2. LINE → MASTER OUT : k < 0.06 %

#### F. NOISE LEVEL

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

##### 1. Rated noise level (typ.)

	Noise- Voltage	S/N- Ratio	equiv. input noise voltage	equiv. input noise level
1.1 E(F)	600 $\mu$ V	68 dB	0.46 $\mu$ V	- 126.7 dBV
1.2 E(G)	2.1 mV	57 dBqp	1.63 $\mu$ V	- 115.8 dBV(G)
1.3 E(A)	420 $\mu$ V	71 dBp	0.33 $\mu$ V	- 129.6 dBV(A)

##### 2. Residual output noise

2.1 E(F)	=	8 $\mu$ V	(106 dB)
2.2 E(G)	=	24 $\mu$ V	(96 dBqp)
2.3 E(A)	=	5.5 $\mu$ V	(109 dBp)

#### G. Crosstalk attenuation

Input channel to input channel > 70 dB \*3

#### H. Dimensions

Height : 310.3 mm  
Width : 483 mm  
Depth : 235 mm

#### I. Weight

11 kg (24.2 lbs)

\*1 : All frequency-dependent level controls fully open

\*2 : All output levels measured via LINE input

\*3 : Input of measured channel terminated with 200 ohm

Subject to change without prior notice!

***SERVICE***

Standard specifications: IEC 268 part 3, IHF-A

0 dB = 1 V (RMS)

**A. POWER SUPPLY**

- |                                      |            |
|--------------------------------------|------------|
| 1. Mains:                            | AC         |
| 2. Rated mains voltage:              | 120 V      |
| 3. Rated frequency for power supply: | 50 - 60 Hz |
| 4. Rated power consumption:          | 34 watts   |
| 5. Tolerance of mains voltage:       | ± 10%      |

**B. INPUT CHARACTERISTICS**

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			Impedance
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LINE (Mono)	-40dB (10mV)	+16dB (6.5V)	33 kOhm
LINE (L + R)	-38dB (12mV)	+23dB (13.5V)	33 kOhm
TAPE (L + R)	-38dB (12mV)	+23dB (13.5V)	33 kOhm
AUX 1-4 RET (L + R)	-11dB (280mV)	+13dB (4.4V)	23 kOhm
LINE IN (L + R)	-11dB (280mV)	+13dB (4.4V)	23 kOhm
MASTER RET (L + R)	-3.8dB (1.55V)		

**C. OUTPUT CHARACTERISTICS**

Output sockets	Rated Load Impedance	Output Level *2	
		Rated Value	max. level before clipping
DIRECT OUT	10 kOhm	+3dB (1.4V)	+19dB (8.6V)
INSERT SEND	10 kOhm	-8dB (390mV)	+18dB (8.2V)
AUX 1-4 SEND	10 kOhm	+9dB (2.7V)	+19.3dB (9.2V)
LINE OUT (L + R)	10 kOhm	+4.5dB (1.7V)	+18.8dB (8.7V)
MASTER OUT (L + R)	10 kOhm	+3.8dB (1.55V)	+19.5dB (9.4V)
MASTER SEND (L + R)	10 kOhm	+3.8dB (1.55V)	+19.5dB (9.4V)
HEADPHONES (L + R)	200 Ohm	+9.5dB (3.0V)	+13.5dB (4.8V)



-3 dB loss against level at norm frequency

1. MIC --> MASTER OUT : 20 Hz - 40 kHz
2. LINE --> MASTER OUT : 20 Hz - 25 kHz

#### E. AMPLITUDE NON-LINEARITIES

1. MIC --> MASTER OUT : k < 0.04 %
2. LINE --> MASTER OUT : k < 0.06 %

#### F. NOISE LEVEL

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

##### 1. Rated noise level (typ.)

	Noise- Voltage	S/N- Ratio	equiv. input noise voltage	equiv. input noise level
1.1 E(F)	600 $\mu$ V	68 dB	0.46 $\mu$ V	- 126.7 dBV
1.2 E(G)	2.1 mV	57 dBqp	1.63 $\mu$ V	- 115.8 dBV(G)
1.3 E(A)	420 $\mu$ V	71 dBp	0.33 $\mu$ V	- 129.6 dBV(A)

##### 2. Residual output noise

- 2.1 E(F) = 8  $\mu$ V (106 dB)
- 2.2 E(G) = 24  $\mu$ V (96 dBqp)
- 2.3 E(A) = 5.5  $\mu$ V (109 dBp)

#### G. Crosstalk attenuation

Input channel to input channel > 70 dB \*3

#### H. Dimensions

Height : 310.3 mm  
Width : 483 mm  
Depth : 235 mm

#### I. Weight 11 kg

- \*1 : All nonfrequency-dependent level controls fully open
- \*2 : All output levels measured via LINE input
- \*3 : Input of measured channel terminated with 200 ohm

- \* Measuring Frequency:
- \* All Levels referred to:
- \* Gain controls fully to the right
- \* EQ controls into center position
- \* PAN controls into center position
- \* Pinning of the XLR - socket:
- \* Source impedance for XLR input:
- \* Load impedance for headphones output:

f = 1 kHz  
Eo = 775 mV (0dBu)

PIN 1 = SHIELD  
PIN 2 = + INPUT  
PIN 3 = - INPUT  
R(Q) = 200 Ohm  
R(L) = 2 x 200 Ohm

**1. Mains Voltage:**

- can be soldered to 115 V

**2. Weight:**

**3. Power consumption:**

Note: Tolerance here ± 10 %

E(P) = 230V / 50Hz

G = 11 kg

P = 40 W

**4. Meter Adjustment**

Feed in a signal via an input channel, so that on Master OUT E(O) = 1.55 V can be measured. Adjust meter with trim resistors R14 resp. R20 (on Display PCB 87111), so that each first red LED will begin to light up.

**5. Input and Output voltages**

- \* Turn all level determining controls in the signal path to be measured fully clockwise.
- \* EQ controls and PAN controls into center position.

**5.1 CHANNEL 1 - 12**

Input	E(I)	Test point	E(O)	Comment
MIC	1.2 mV	MASTER L/R	1.80 V	
LINE	10 mV	MASTER L/R	1.60 V	
INSERT	10 mV	MASTER L/R	1.50 V	
LINE	10 mV	DIRECT OUT	1.50 V	
LINE	10 mV	INSERT SEND	415 mV	
LINE	10 mV	LINE OUT L/R	1.80 V	
LINE	10 mV	HEADPHONES L/R	1.8 V	PFL ON (PFL LED ON)
LINE	10 mV	HEADPHONES L/R	3.8 V	PFL OFF (PFL LED OFF)
LINE	21 mV	-----	-----	PEAK LED ON
LINE	10 mV	AUX 1-4 Send	2.90 V	POST FADER
LINE	10 mV	AUX 3/4 Send	1.55 V	PRE FADER (PRE/POST LED ON)

LINE  
LINE  
LINE  
LINE  
LINE  
LINE  
5.3C  
Input  
LINE  
TAPE  
LINE  
LINE  
LINE  
LINE

5.7A  
Input  
LINE  
AUX  
AUX  
LINE  
LINE

Input	E(I)	Test point	E(O)	Comment
LINE L	12 mV	MASTER L/R	1.60 V	
LINE R	12 mV	MASTER R	1.60 V	
LINE L/R	12 mV	DIRECT OUT L/R	1.50 V	
LINE	12 mV	HEADPHONES L/R	1.90 V	PFL ON (PFL LED ON)
LINE	46 mV	-----	----	PEAK LED ON
LINE	12 mV	AUX 1-4 Send	2.75 V	POST FADER
LINE	12 mV	AUX 3/4 Send	1.50 V	PRE FADER (PRE/POST LED ON)

### 5.3 CHANNEL 19/20

Input	E(I)	Test point	E(O)	Comment
LINE L/R	12 mV	MASTER L/R	1.60 V	
TAPE L/R	12 mV	MASTER R	1.60 V	
LINE L/R	12 mV	DIRECT OUT L/R	1.50 V	
LINE	12 mV	HEADPHONES L/R	1.90 V	PFL ON (PFL LED ON)
LINE	46 mV	-----	----	PEAK LED ON
LINE L/R	12 mV	AUX 1-4 Send	2.75 V	POST FADER
LINE L/R	12 mV	AUX 3/4 Send	1.50 V	PRE FADER (PRE/POST LED ON)

### 5.3 AUX 1 - 4 / LINE IN - OUT

Input	E(I)	Test point	E(O)	Comment
LINE CH.1	10 mV	LINE OUT L/R	1.75 V	
AUX 1-4 L	280 mV	MASTER L/R	1.65 V	
AUX 1-4 R	280 mV	MASTER R	1.65 V	
LINE IN L	280 mV	MASTER L/R	1.75 V	
LINE IN R	280 mV	MASTER R	1.75 V	
LINE	150 mV	HEADPHONES L/R	2.0 V	PFL ON (PFL LED ON)

- measured at MASTER OUT L/R
- measured with Sennheiser UPM 550-1
- $R(Q) = 200 \text{ Ohm}$  between Pin 2 and Pin 3 of the XLR input socket
- $E(F)$  = Noise voltage rms, unweighted
- $E(G)$  = Noise voltage, frequency weighted according to CCIR 468, PEAK

8.

6.1. All faders closed  $E(F) \leq 20 \mu\text{V}$   
 $E(G) \leq 40 \mu\text{V}$

6.2. MASTER fader opened  $E(F) \leq 130 \mu\text{V}$   
 $E(G) \leq 300 \mu\text{V}$

6.3. MONO CHANNEL fader and Gain control fully opened  $E(F) \leq 0.8 \text{ mV}$   
 $E(G) \leq 2.4 \text{ mV}$

6.4. STEREO CHANNEL fader and Gain control fully opened  $E(F) \leq 0.9 \text{ mV}$   
 $E(G) \leq 3.2 \text{ mV}$

8.

### 7. Phantom Power

If the slide switch PHANTOM POWER is ON, a DC voltage of  $E(DC) = +48 \text{ V}$  is to be measured between PIN 2 and PIN 1 respectively PIN 3 and PIN 1 of the XLR socket.

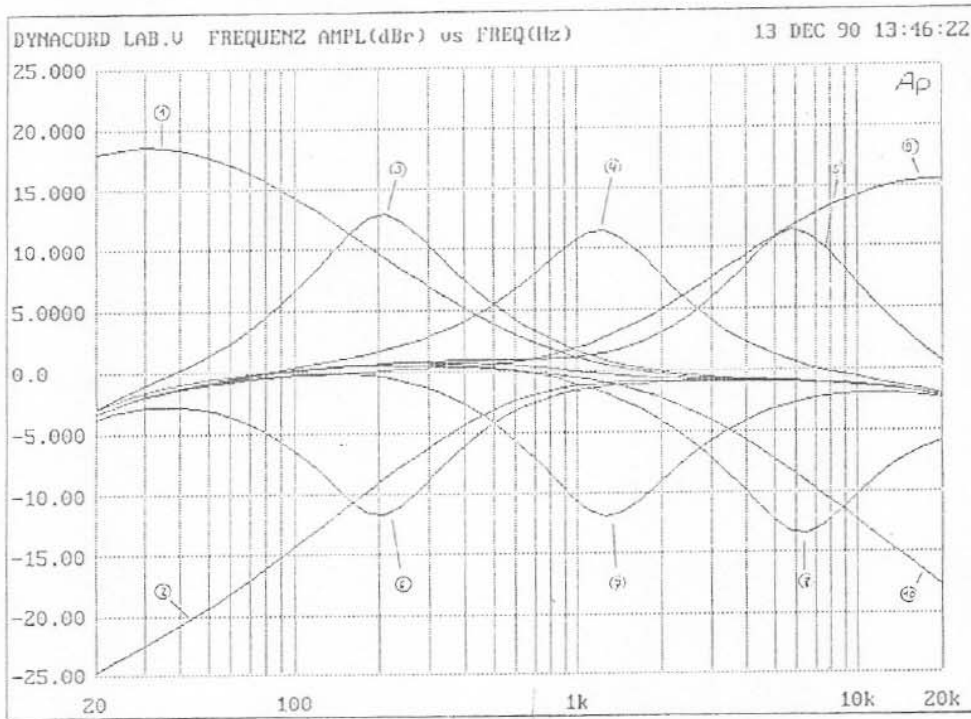
### 8.1. EQ Input Channel Mono

- E(I) to LINE - Eingang
- E(O) at 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  
Frequency control fully to the left
- Plot 4: MID control fully to the right  
Frequency control into center position
- Plot 5: MID control fully to the right  
Frequency control fully to the right
- Plot 6: MID control fully to the left  
Frequency control fully to the left
- Plot 7: MID control fully to the left  
Frequency control into center position
- Plot 8: MID control fully to the left  
Frequency control fully to the right
- Plot 9: HI control fully to the right
- Plot 10: HI control fully to the left

### 8.2. EQ Input Channel Mono/Stereo

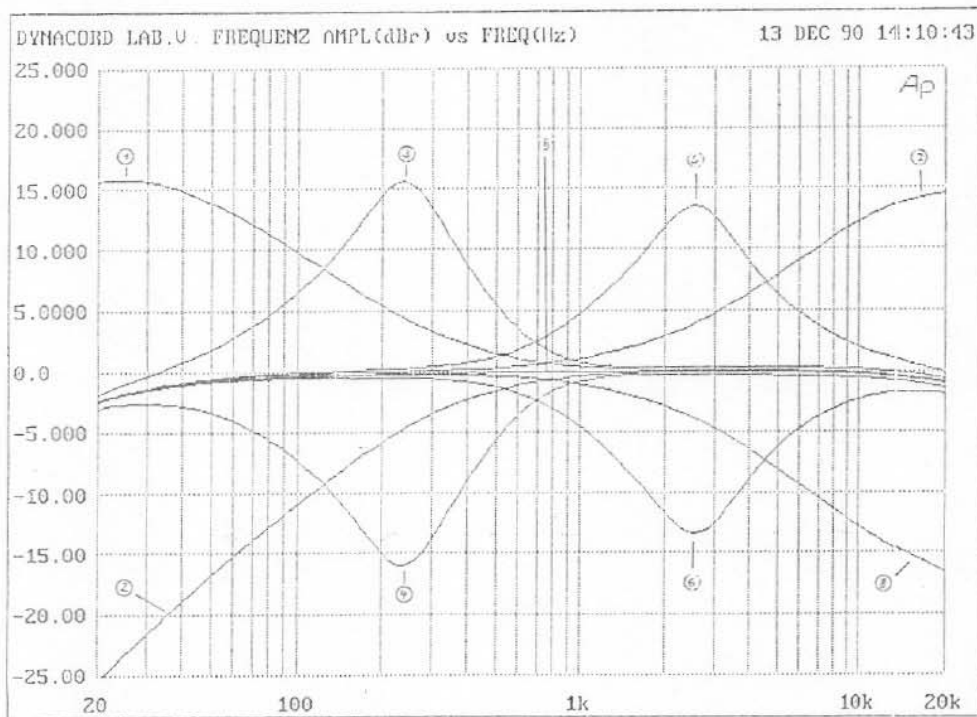
- E(I) to LINE - Eingang
- E(O) at MASTER SEND L/R
- not mentioned EQ controls into center position
- Plot 1: LO control fully to the right
- Plot 2: LO control fully to the left
- Plot 3: LO MID control fully to the right
- Plot 4: LO MID control fully to the left
- Plot 5: HI MID control fully to the right
- Plot 6: HI MID control fully to the left
- Plot 7: HI control fully to the right
- Plot 8: HI control fully to the left
- Plot 9: all controls into center position

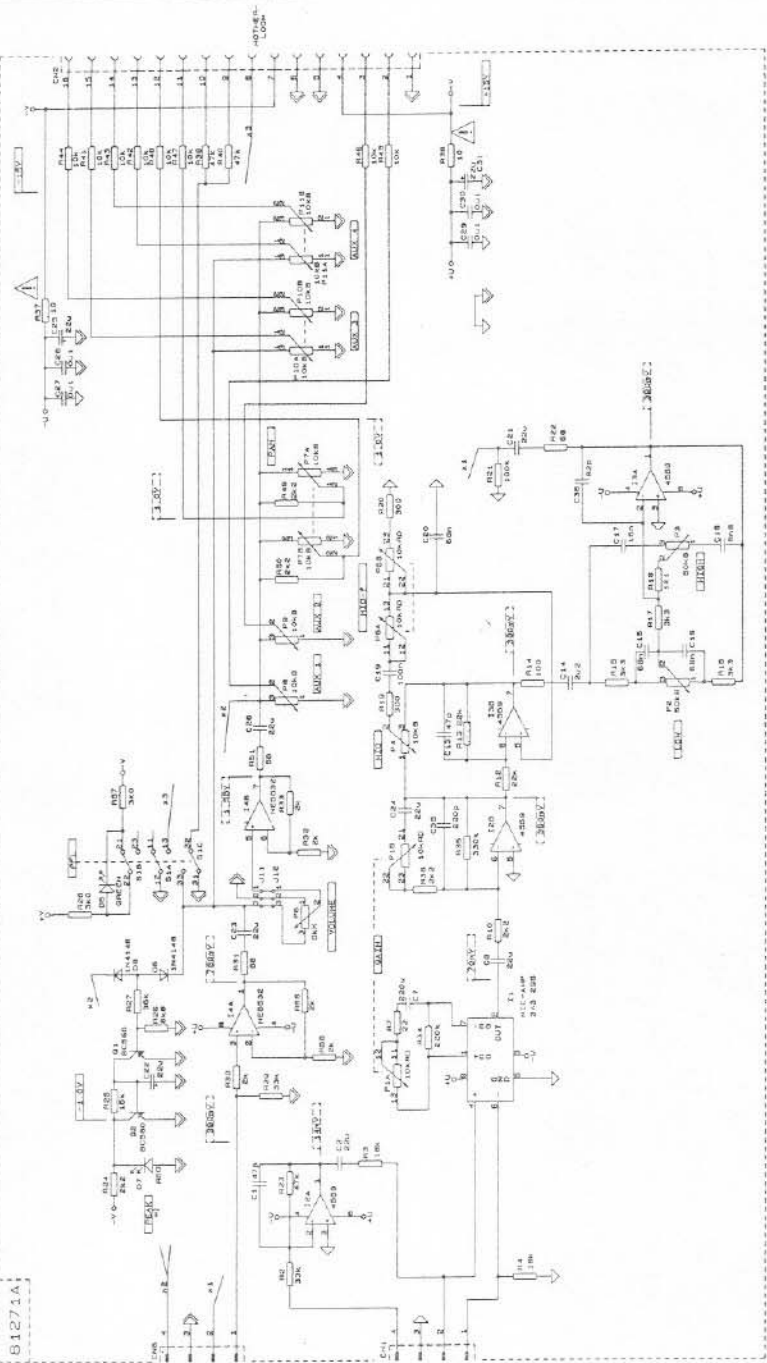
to 8.1. EQ - Input channel Mono



zu 8.2. EQ - Eingangskanal Stereo

to 8.2. EQ - Input channel Stereo





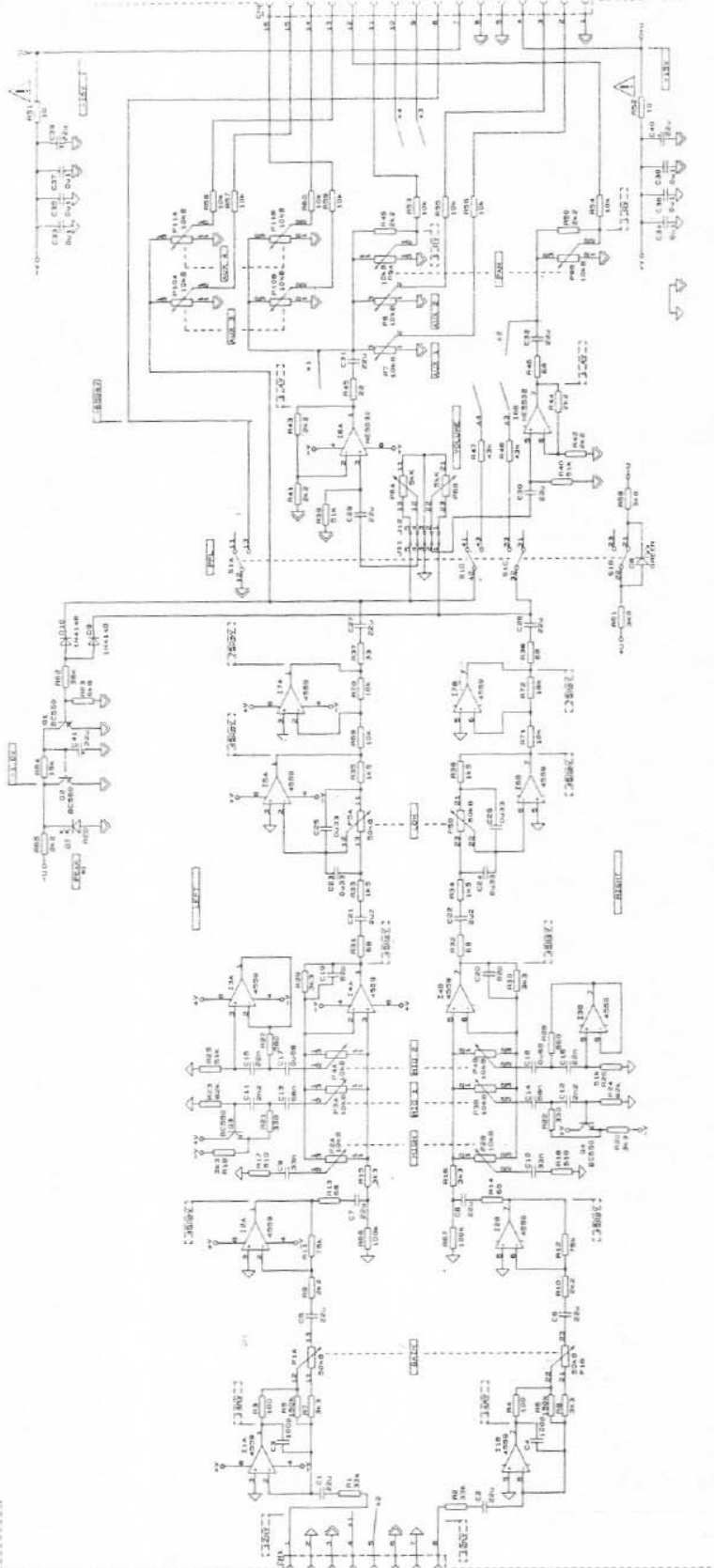
INPUT-CHANNEL 1 - 12



MONO INPUT
CIRCUIT DIAGRAM
344243
MEX 1500

DYNACORD





STEREO CHANNEL 13 - 15

 SAFETY COMPONENT MUST BE REPLACED BY ORIGINAL PARTS  
 AC VOLTAGE LEAD H.C. MEASURED WITH VTVM  
 DC VOLTAGE MEASURED WITH VOLTMETER 500 OHMS/VA  
 NOTE: LED WILL LIGHT UP 6.3V > 44 MV AT LINE/0 INPUT  
 CONNECTIONS: CH1: TO STEREO INPUT JACKS BY C.B. 8818A  
 FMS: # NOTIFICATION

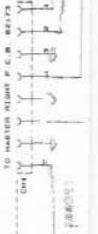


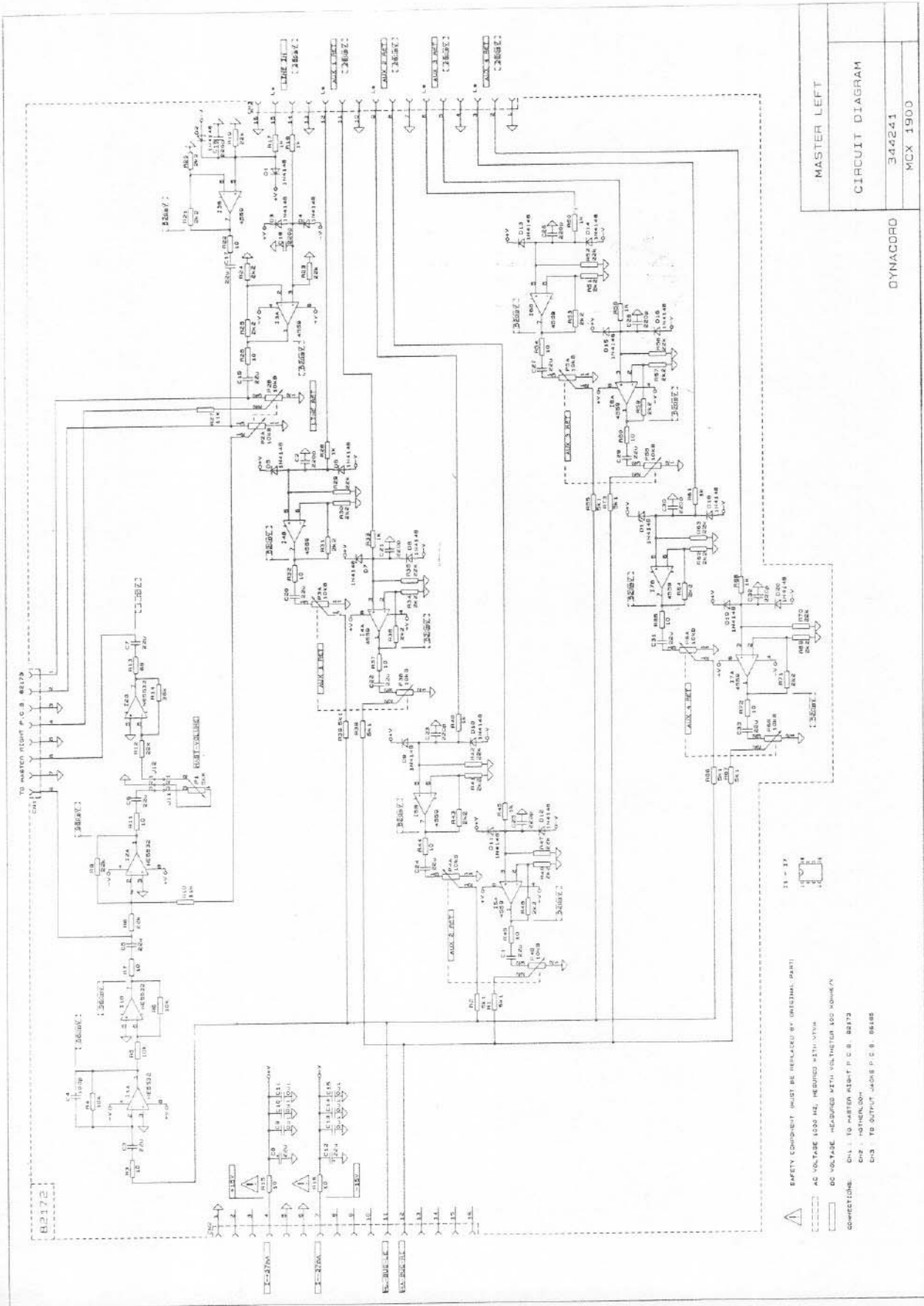
STEREO INPUT
CIRCUIT DIAGRAM
344244
MCX 1500

DYNACORD

61272

62172





MASTER LEFT  
CIRCUIT DIAGRAM  
344241  
MCX 1900

DYNACORDO

SAFETY COMPONENT MUST BE REPLACED BY ORIGINAL PART

AC VOLTAGE MEASURED WITH VOLTMETER 100 MΩ/10kV

DC VOLTAGE MEASURED WITH VOLTMETER 100 MΩ/10kV

CONNECTIONS: D13 TO MASTER RIGHT P.C.B. 82173

D14 TO INPUT/OUTPUT

D15 TO OUTPUT JACKS P.C.B. 82185

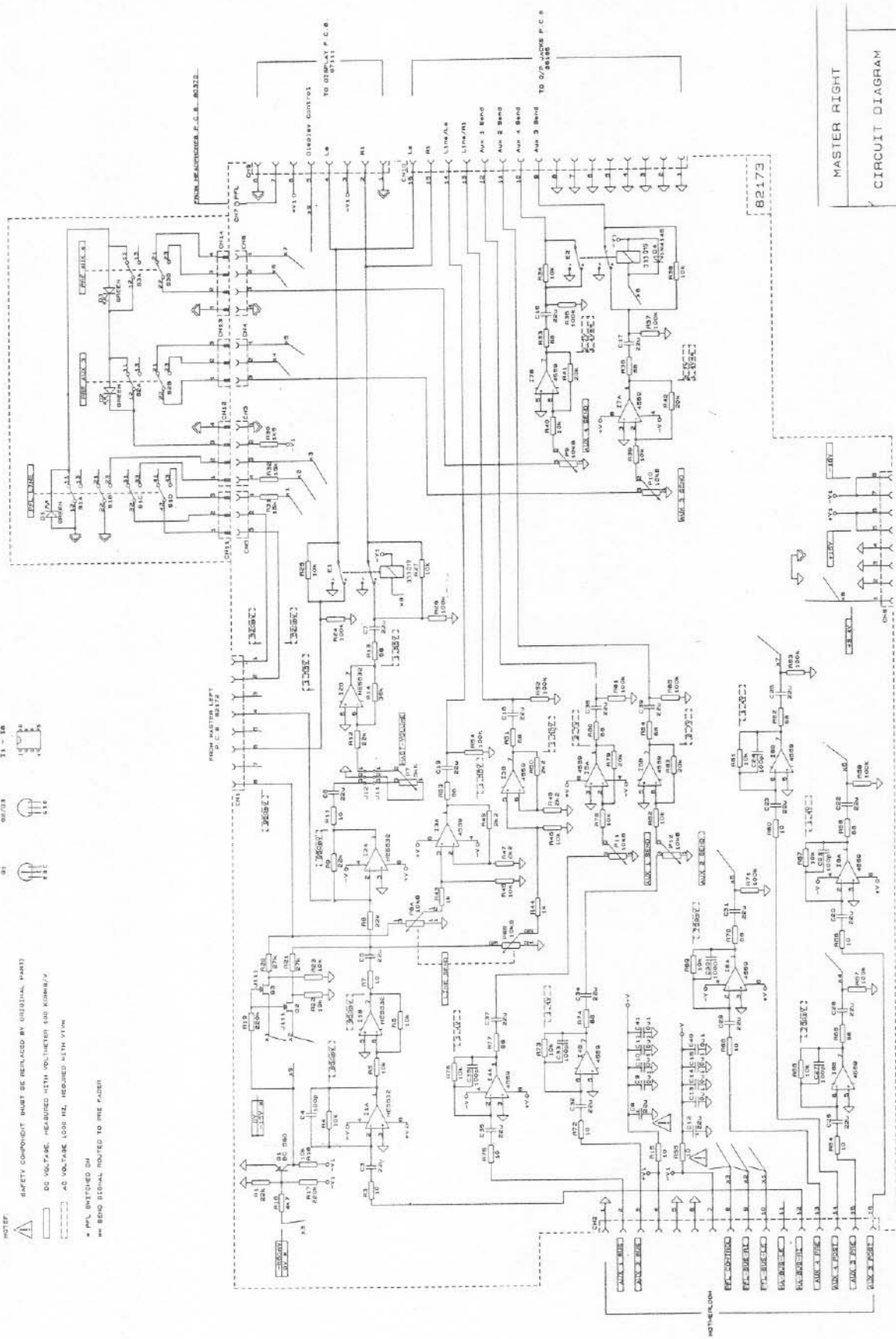


AC VOLTAGE

DC VOLTAGE

CONNECTIONS

NOTE:  
 SAFETY COMPONENT MUST BE REPLACED BY ORIGINAL PART.  
 DC VOLTAGE - MEASURED WITH VOLTMETER 500 OHM/VA.  
 AC VOLTAGE - 1000 HZ, MEASURED WITH VVM.  
 \* PNL SWITCHED ON  
 \*\* BENCH SIGNAL ROUTED TO THE PAJEN



MASTER RIGHT  
 CIRCUIT DIAGRAM  
 344240  
 MCX 1500

DYNACORD

FROM MASTER SUPPLY  
 P.C.B. 400000

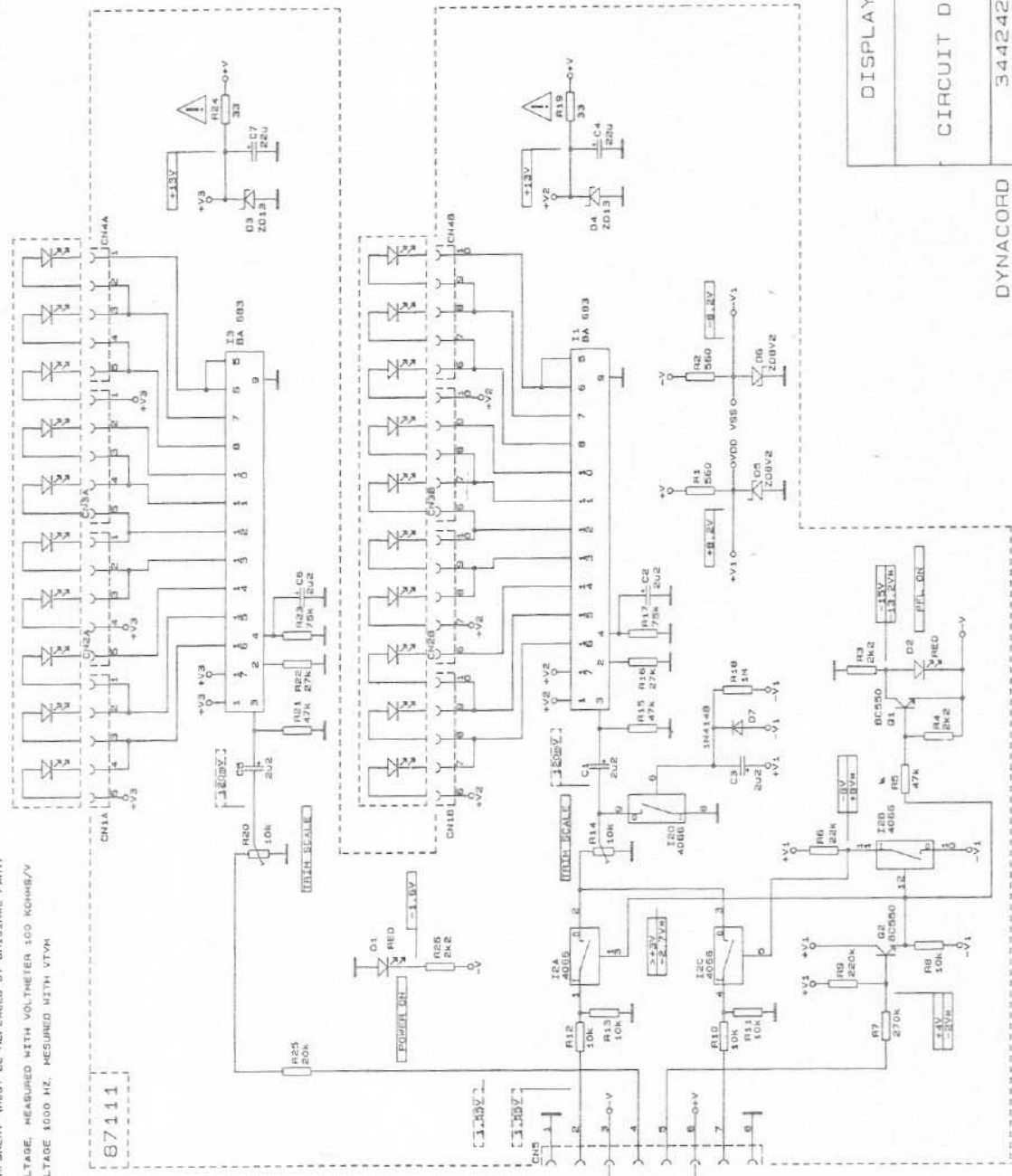
SAFETY COMPONENT MUST BE REPLACED BY ORIGINAL PART.  
 DC VOLTAGE - MEASURED WITH VOLTMETER 500 OHM/VA.  
 AC VOLTAGE - 1000 HZ, MEASURED WITH VVM.

SAFETY COMPONENT MUST BE REPLACED BY ORIGINAL PART

DC VOLTAGE, MEASURED WITH VOLTMETER 100 OHMS/V

AC VOLTAGE 1000 HZ, MEASURED WITH VTVM

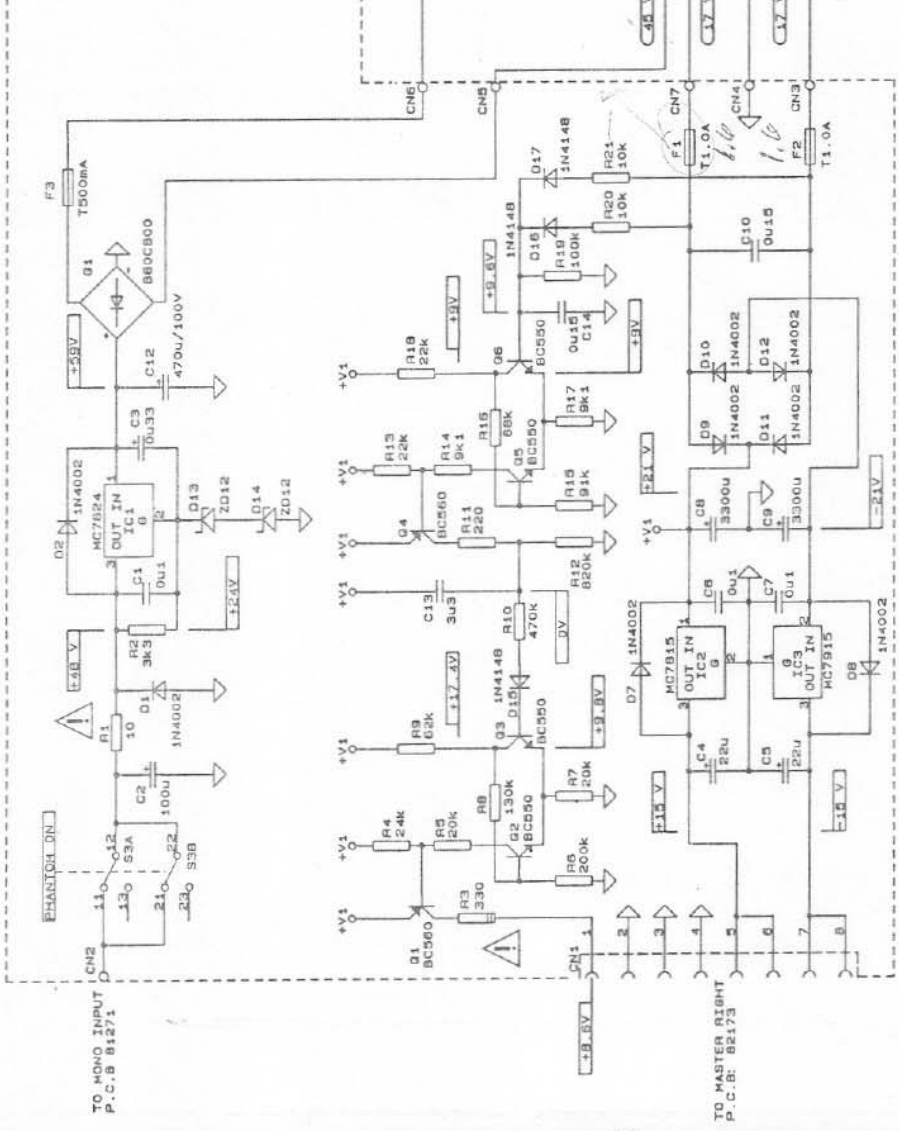
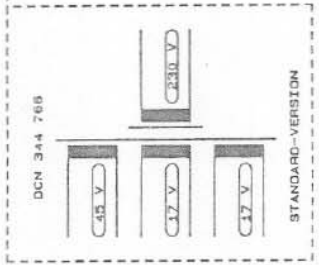
# PFL SWITCH ON



DISPLAY
CIRCUIT DIAGRAM
344242
MCX 1900

DYNACORD

85206



POWER SUPPLY

CIRCUIT DIAGRAM

343235

MCX 1900

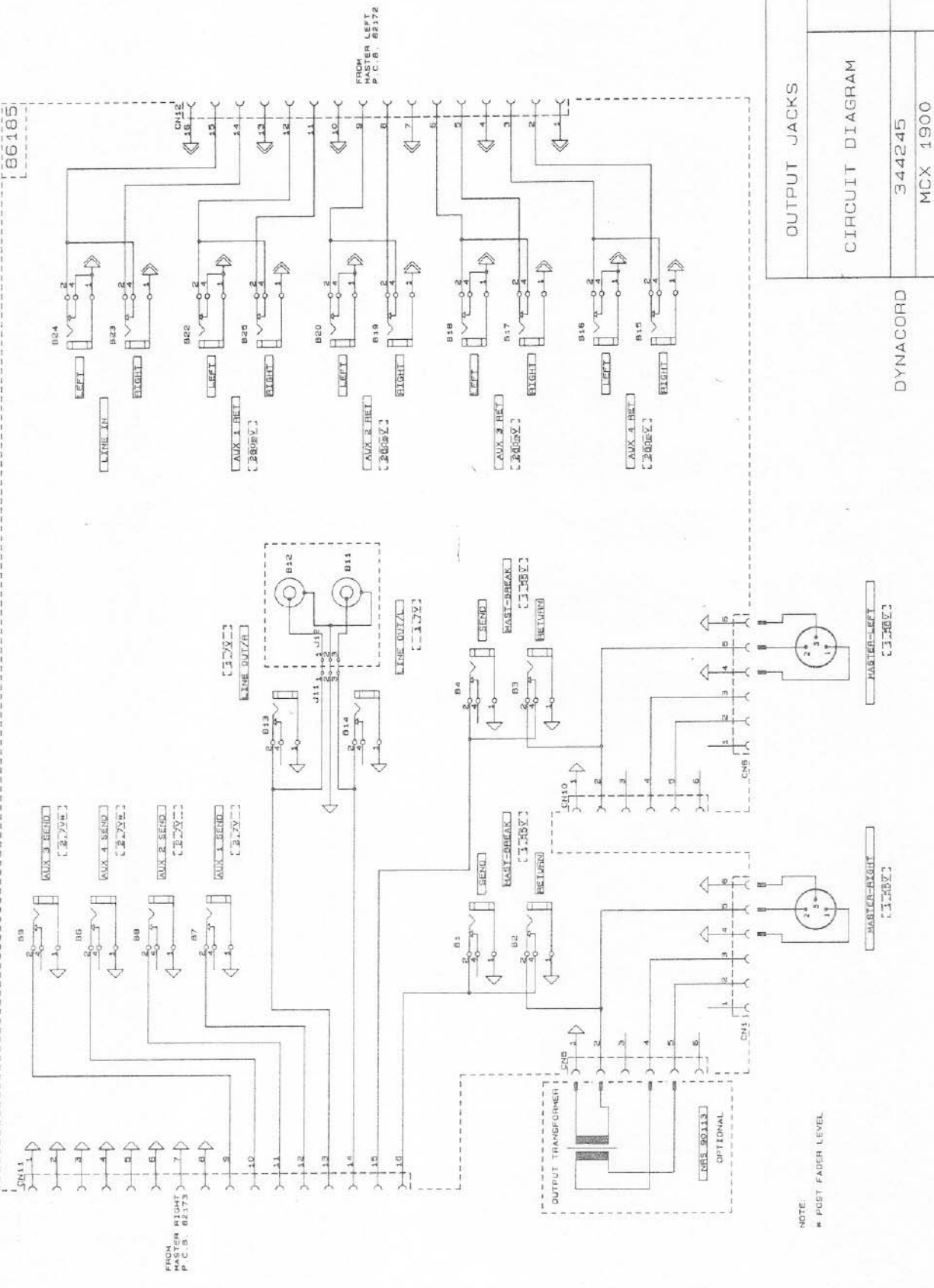
DYNACORD

- DC VOLTAGE. MEASURED WITH VOLTMETER 100 OHMS/V
- SAFETY COMPONENT (MUST BE REPLACED BY ORIGINAL PART)
- AC VOLTAGE 50/60 HZ. MEASURED WITH VOLTMETER 2000 OHMS/V

86185



86185





OUTPUT JACKS

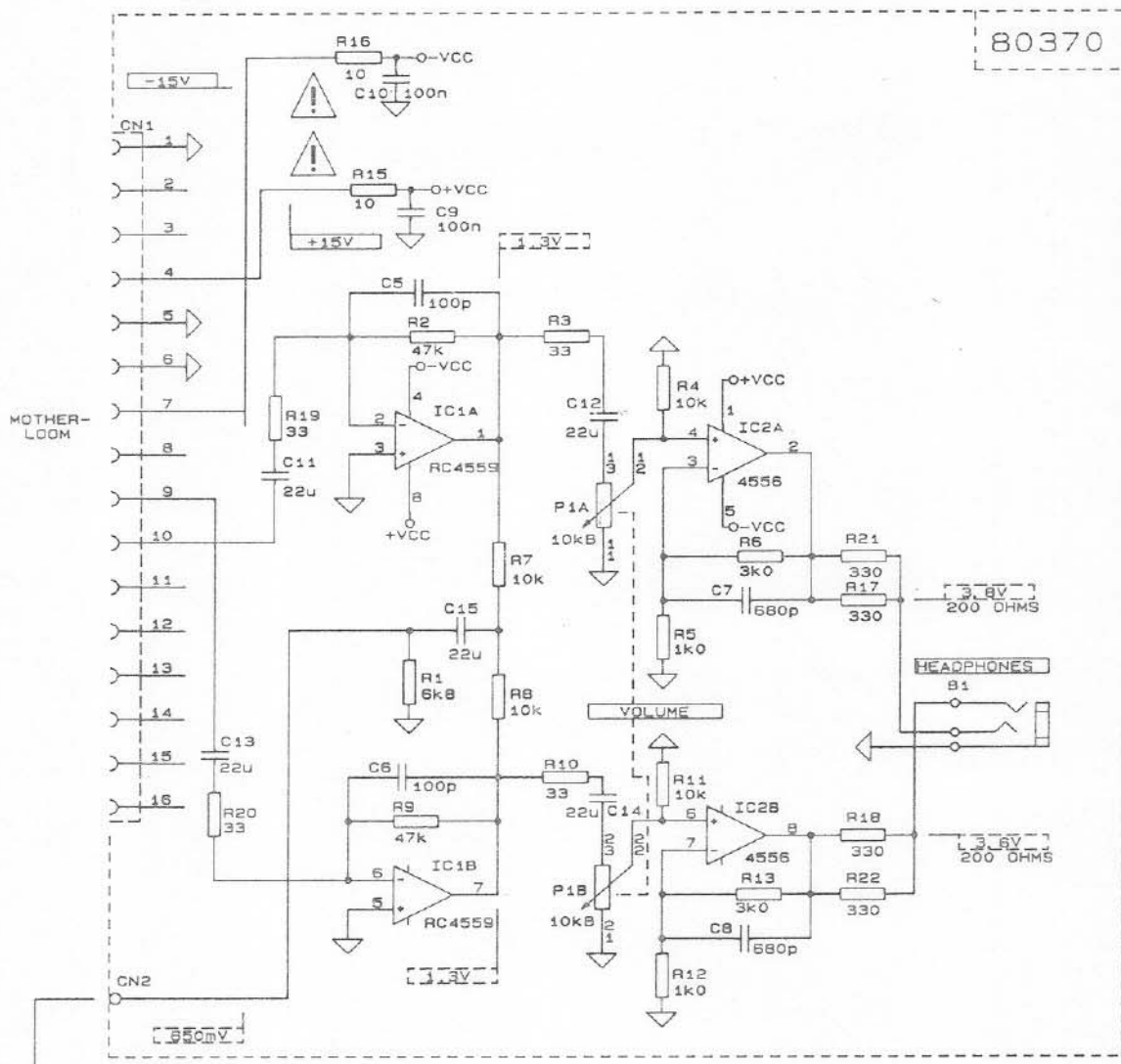
CIRCUIT DIAGRAM

DYNACORD

344245

MCX 1900

 DC VOLTAGE, MEASURED WITH VOLTMETER 100 KOHMS/V  
 AC VOLTAGE 1000 HZ, MEASURED WITH VTVM



FROM MASTER RIGHT P.C.B. 82173

ALTERATIONS RESERVED

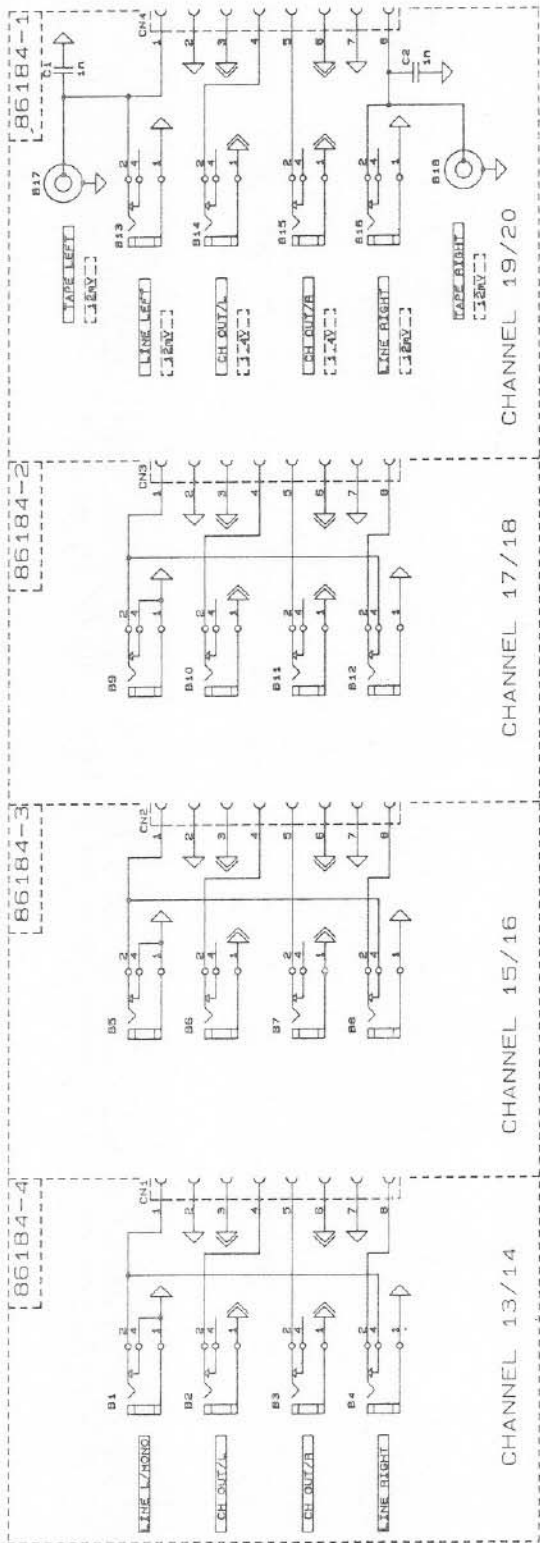
HEADPHONES AMPS	
CIRCUIT DIAGRAM	
DYNACORD	344246
	MCX 1900

[86184-1]

[86184-2]

[86184-3]



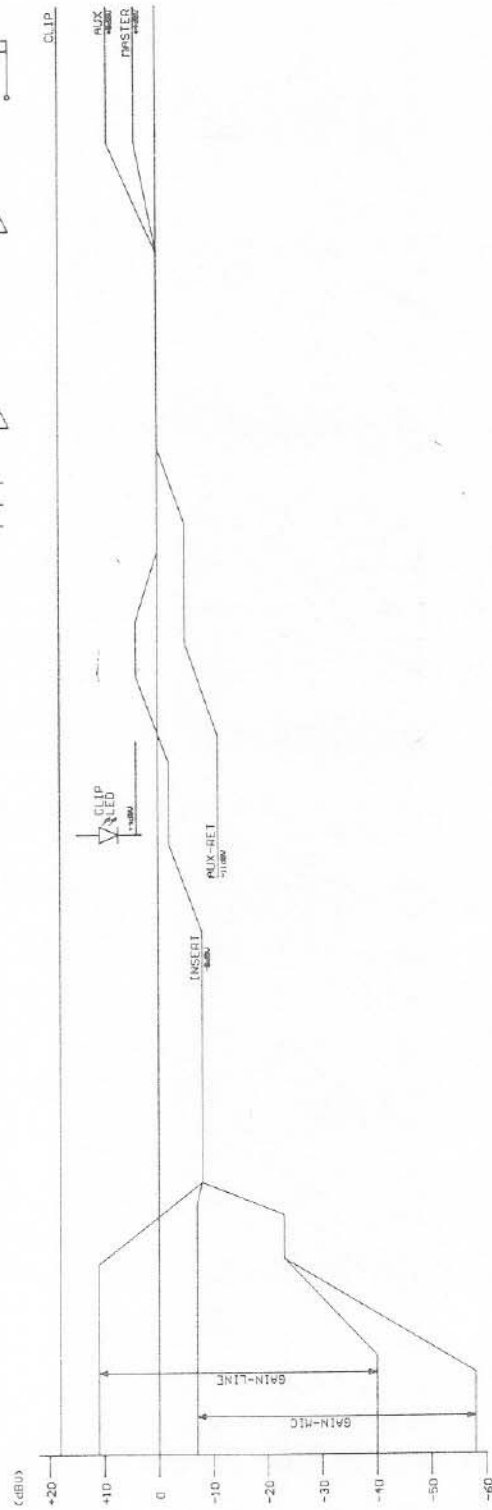
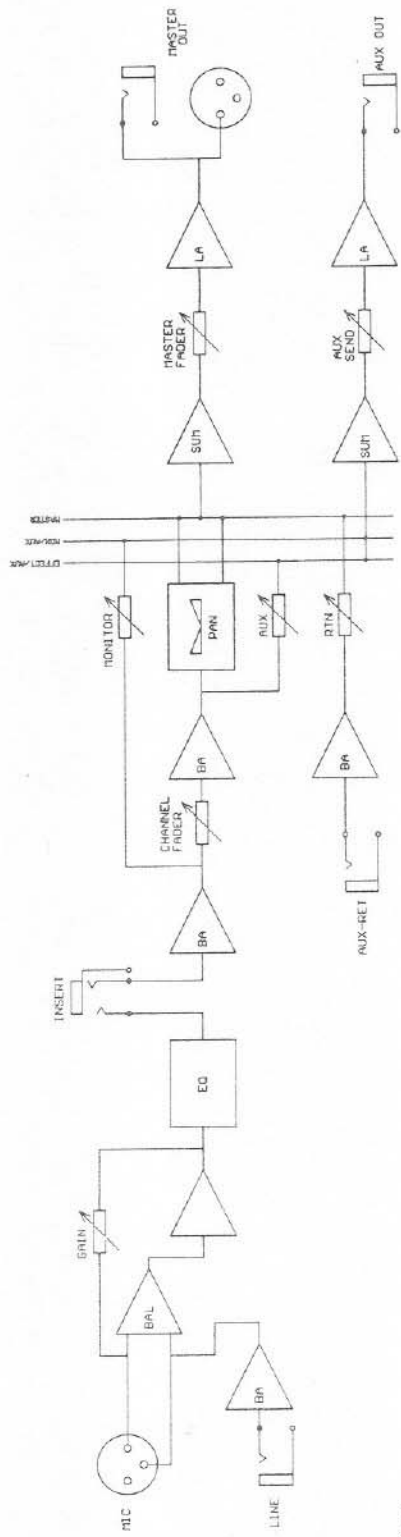


[-----] AC VOLTAGE 1000 HZ. MEASURED WITH VTVM

NOTES: CH1 - CH4 ARE CONNECTED WITH THE STEREO INPUT P.C.B. # B12/2

STEREO INPUT JACKS
CIRCUIT DIAGRAM
344247
MCX 1900

DYNACORD



ALTERATIONS RESERVED

LEVEL-19

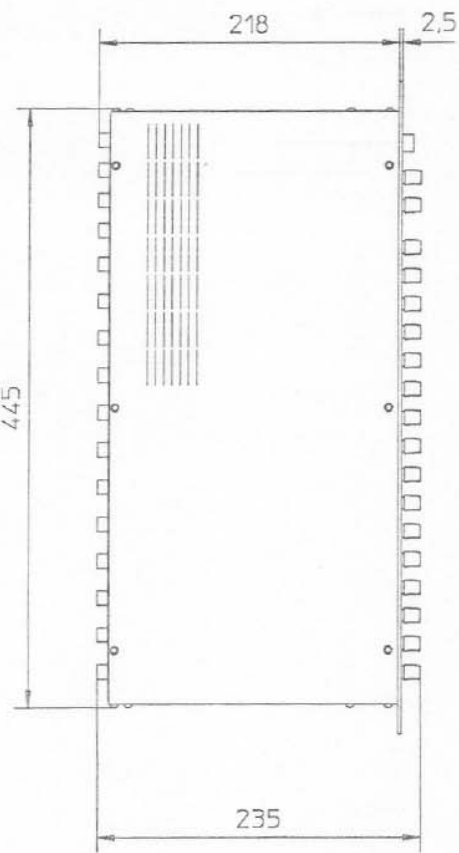
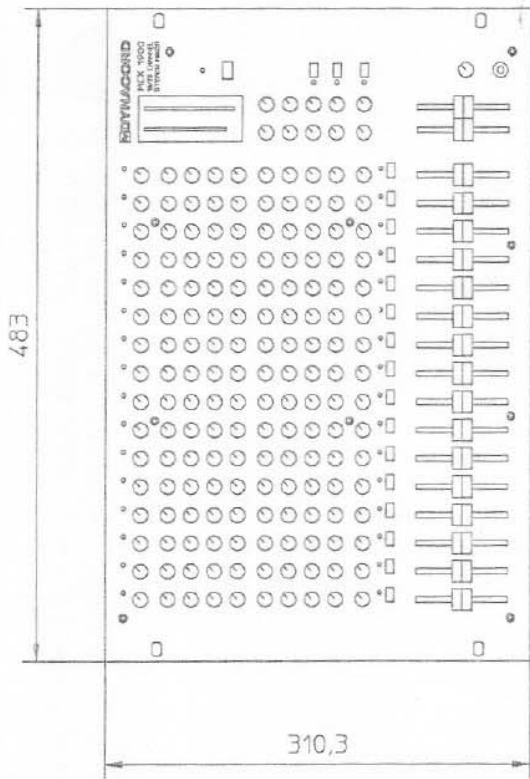
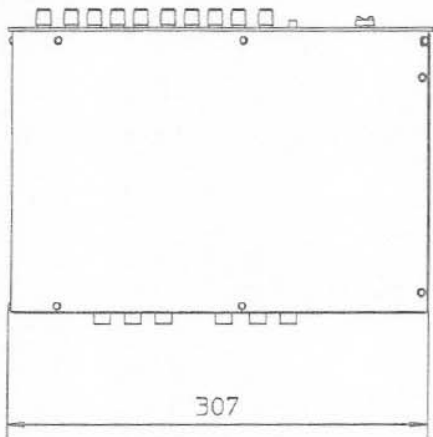
CIRCUIT DIAGRAM

344 458

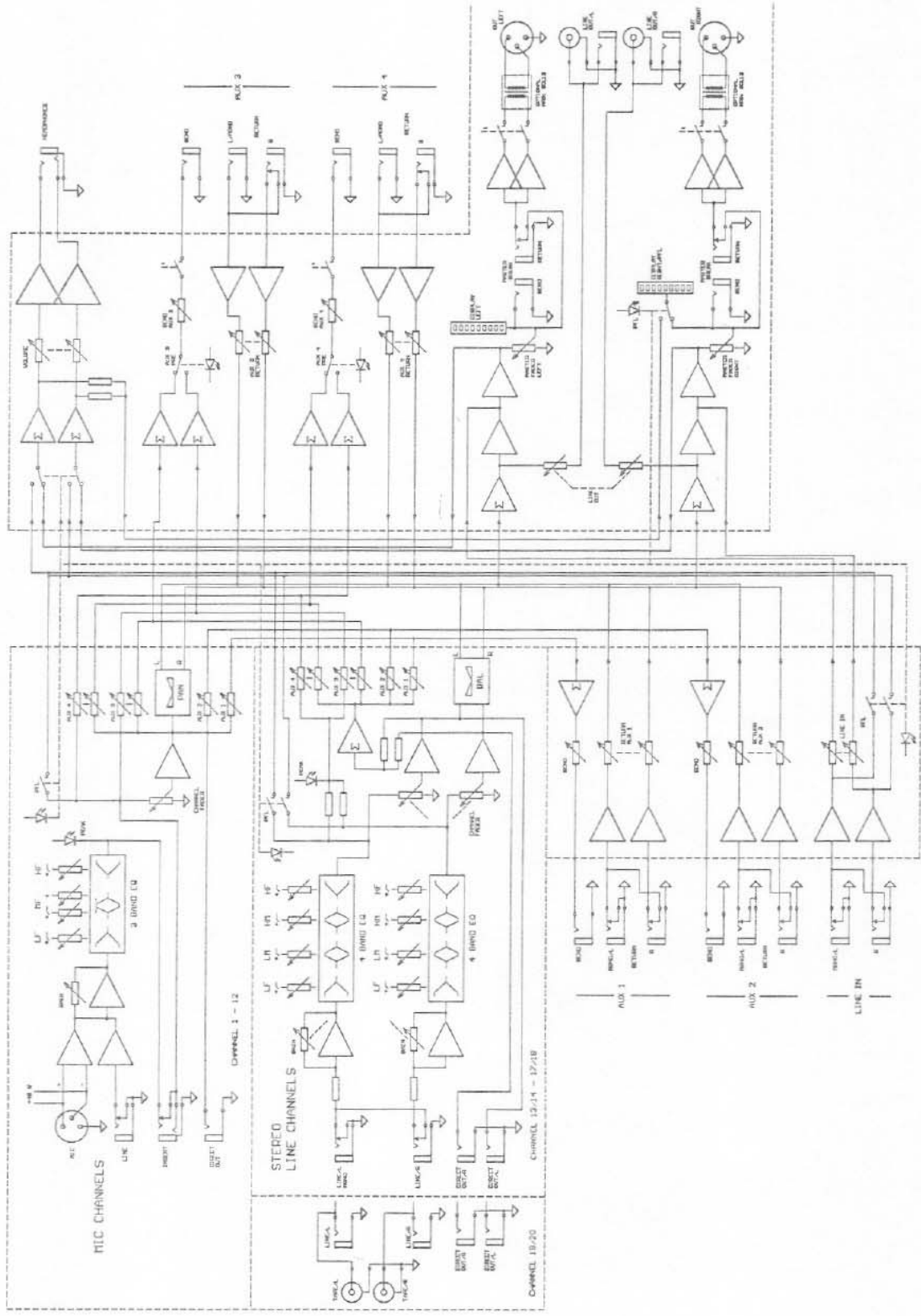
MCX 1900

DYNACORD

Dimensions (in mm)



# BLOCKDIAGRAM



- B 001
- Z 080
- 00030
- 00040
- 00050
- 00070
- 00080
- 00090
- 00160
- 00170
- 00010
- 00000
- B0001
- B0002
- B0003
- B0004
- C0021
- C0022
- C0031
- D0001
- D0002
- D0003
- D0004
- I0001
- I0002
- I0003
- I0004
- P0001
- P0002
- P0003
- P0004
- P0005
- P0006
- P0007
- P0008
- P0009
- P0010
- Q0011
- Q0012
- R0001
- R0002
- S0001
- 000
- C0011
- C0021
- C0031
- C0041
- C0051

Pos. in diagram	description	Part-No.	Pos. in diagram	description	Part-No.
B 001	connector XLR 3 pol	332348	D0007	LED red 3mm	342073
Z 080	rubber foot SW	333377	D0008	LED green 3mm	341823
00030	knob fader black/wt	343607	D0009	diode 1N 4148	301254
00040	rotary knob black/bl	344612	D0010	diode 1N 4148	301254
00050	rotary knob black/or	344613	I0001	IC UPC 4559 C	327364
00070	rotary knob black/rd	344611	I0002	IC UPC 4559 C	327364
00080	rotary knob black/bl	344610	I0003	IC UPC 4559 C	327364
00090	rotary knob black/gr	344228	I0004	IC UPC 4559 C	327364
00160	switch	334628	I0005	IC UPC 4559 C	327364
00170	push button black 12,5x7	337059	I0006	IC NE 5532 N	327197
00010	front panel MCX 1900	343570	I0007	IC UPC 4559 C	327364
00005	PCB MCX 1900	812718	P0001	potentiometer 2x50kohm lin	343253
B0001	socket XLR 3pol.	341825	P0002	potentiometer 2x10kohm lin	343260
B0002	phone jack HLJ	336294	P0003	potentiometer 2x10kohm lin	343260
B0003	phone jack HLJ	339096	P0004	potentiometer 2x10kohm lin	343260
B0004	phone jack HLJ	336294	P0005	potentiometer 2x50kohm lin	343262
C0022	KO-EL 22MF 25V	327815	P0006	fader 2x5kohm log semi	341910
C0025	KO-EL 22MF 25V	327815	P0007	potentiometer 10kohm lin	343250
C0031	KO-EL 22MF 25V	327815	P0008	potentiometer 10kohm lin	343250
D0005	LED green 3mm	341823	P0009	potentiometer 2x10kohm lin	343260
D0006	diode 1N 4148	301254	P0010	potentiometer 2x10kohm lin	343252
D0007	LED red 3mm	342073	P0011	potentiometer 2x10kohm lin	343252
D0008	diode 1N 4148	301254	Q0001	trans. BC 560 B	306928
I0001	IC 035A	343295	Q0002	trans. BC 560 B	306928
I0002	IC UPC 4559 C	327364	Q0003	trans. BC 550 B	301184
I0003	IC UPC 4559 C	327364	Q0004	trans. BC 550 B	301184
I0004	IC NE 5532 N	327197	R0051	safety resistor 10 ohm	329215
P0001	potentiometer 2x10kohm log	343255	R0052	safety resistor 10 ohm	329215
P0002	potentiometer 50kohm lin	343251	S0001	switch	343254
P0003	potentiometer 50kohm lin	343251	00015	PCB MCX 1900	821728
P0004	potentiometer 10kohm lin	343261	C0008	KO-EL 22MF 25V	327815
P0005	potentiometer 2x10kohm log	343255	C0012	KO-EL 22MF 25V	327815
P0006	fader 5kohm log semi	341909	D0001	diode 1N 4148	301254
P0007	potentiometer 2x10kohm lin	343260	D0002	diode 1N 4148	301254
P0008	potentiometer 10kohm lin	343250	D0003	diode 1N 4148	301254
P0009	potentiometer 10kohm lin	343250	D0004	diode 1N 4148	301254
P0010	potentiometer 2x10kohm lin	343252	D0005	diode 1N 4148	301254
P0011	potentiometer 2x10kohm lin	343252	D0006	diode 1N 4148	301254
Q0001	trans. BC 560 B	306928	D0007	diode 1N 4148	301254
Q0002	trans. BC 560 B	306928	D0008	diode 1N 4148	301254
R0037	safety resistor 10 ohm	329215	D0009	diode 1N 4148	301254
R0038	safety resistor 10 ohm	329215	D0010	diode 1N 4148	301254
S0001	switch	343254	D0011	diode 1N 4148	301254
00010	PCB MCX 1900	812728	D0012	diode 1N 4148	301254
C0023	KO-FOL 0.33MF 63V	340244	D0013	diode 1N 4148	301254
C0024	KO-FOL 0.33MF 63V	340244	D0014	diode 1N 4148	301254
C0025	KO-FOL 0.33MF 63V	340244	D0015	diode 1N 4148	301254
C0026	KO-FOL 0.33MF 63V	340244	D0016	diode 1N 4148	301254
C0039	KO-EL 22MF 25V	327815	D0017	diode 1N 4148	301254
C0040	KO-EL 22MF 25V	327815	D0018	diode 1N 4148	301254
C0041	KO-EL 22MF 25V	327815	D0019	diode 1N 4148	301254
			D0020	diode 1N 4148	301254

Pos. in diagram	description	Part-No.	Pos. in diagram	description	Part-No.	Pos. in diagram
I0001	IC NE 5532 N	327197	B0005	phone jack	332352	D0009
I0002	IC NE 5532 N	327197	B0006	phone jack	332352	D0010
I0003	IC UPC 4559 C	327364	B0007	phone jack	332352	D0011
I0004	IC UPC 4559 C	327364	B0008	phone jack	332352	D0012
I0005	IC UPC 4559 C	327364	B0009	phone jack	332352	D0013
I0006	IC UPC 4559 C	327364	B0010	phone jack	332352	D0014
I0007	IC UPC 4559 C	327364	B0011	phone jack	332352	D0015
P0001	fader 5kohm log semi	341909	B0012	phone jack	332352	D0016
P0002	potentiometer 2x10kohm lin	343252	B0013	phone jack	332352	D0017
P0003	potentiometer 2x10kohm lin	343252	B0014	phone jack	332352	G0001
P0004	potentiometer 2x10kohm lin	343252	B0015	phone jack	332352	I0001
P0005	potentiometer 2x10kohm lin	343252	B0016	phone jack	332352	I0002
P0006	potentiometer 2x10kohm lin	343252	B0017	socket cinch RCA	335480	I0003
R0015	safety resistor 10 ohm	329215	B0018	socket cinch RCA	335480	Q0001
R0016	safety resistor 10 ohm	329215	C0001	socket cinch RCA	301556	Q0002
			C0002	socket cinch RCA	301556	Q0003
Q0020	safety resistor 10 ohm	821738				Q0004
C0008	KO-EL 22MF 25V	327815	00030	PCB MCX 1900	861858	Q0005
C0012	KO-EL 22MF 25V	327815	B0001	phone jack	331343	Q0006
D0001	LED green 3mm	336398	B0002	phone jack	331343	R0001
D0002	LED green 3mm	336398	B0003	phone jack	331343	S0001
D0003	LED green 3mm	336398	B0004	phone jack	331343	S0002
D0004	diode 1N 4148	301254	B0006	phone jack	331343	S0003
E0001	relay A101	333019	B0007	phone jack	331343	00014
E0002	relay A101	333019	B0008	phone jack	331343	00011
I0001	IC NE 5532 N	327197	B0009	phone jack	331343	00012
I0002	IC NE 5532 N	327197	B0011	socket cinch	344929	00028
I0003	IC UPC 4559 C	327364	B0013	phone jack	331343	00029
I0004	IC UPC 4559 C	327364	B0014	phone jack	331343	
I0005	IC UPC 4559 C	327364	B0015	phone jack	331343	00040
I0006	IC UPC 4559 C	327364	B0016	phone jack	331343	C0001
I0007	IC UPC 4559 C	327364	B0017	phone jack	331343	C0002
I0008	IC UPC 4559 C	327364	B0018	phone jack	331343	C0003
P0007	fader 5kohm log semi	341909	B0019	phone jack	331343	C0004
P0008	potentiometer 2x10kohm lin	343252	B0020	phone jack	331343	C0005
P0009	potentiometer 10kohm lin	343250	B0022	phone jack	331343	C0006
P0010	potentiometer 10kohm lin	343250	B0023	phone jack	331343	C0007
P0011	potentiometer 10kohm lin	343250	B0024	phone jack	331343	D00 1
P0012	potentiometer 10kohm lin	343250	B0025	phone jack	331343	D00 2
Q0001	trans. BC 560 B	306928				D00 3
Q0002	trans. J 111 A	330264	00035	PCB MCX 1900	852068	D00 4
Q0003	trans. J 111 A	330264	CN020	connector	338835	D00EL
R0015	safety resistor 10 ohm	329215	C0003	KO-EL 0.330MF 50V	333249	D0006
R0055	safety resistor 10 ohm	329215	C0004	KO-EL 22MF 25V	327815	D0007
S0001	switch	341369	C0005	KO-EL 22MF 25V	327815	I0001
S0002	switch	339733	C0008	KO-EL 22MF 25V	333413	I0002
S0003	switch	339733	C0009	KO-EL 22MF 25V	333413	I0003
			C0010	KO-FOL 0.150MF 100V	301449	Q0001
00025	PCB MCX 1900	861848	C0015	safety component	341714	Q0002
B0001	phone jack	332352	D0001	diode 1N 4002	304360	R0014
B0002	phone jack	332352	D0002	diode 1N 4002	304360	R0019
B0003	phone jack	332352	D0007	diode 1N 4002	304360	R0020
B0004	phone jack	332352	D0008	diode 1N 4002	304360	R0024



Pos. in diagram description	Part-No.	Pos. in diagram description	Part-No.
D0009 diode 1N 4002	304360	00010 LED LL10073-GP-2	340382
D0010 diode 1N 4002	304360		
D0011 diode 1N 4002	304360	00050 PCB MCX 1900	803708
D0012 diode 1N 4002	304360	B0001 phone jack HLJ	332353
D0013 diode zener ZPD 12V 0,5W	305738	C0007 phone jack HLJ	301549
D0014 diode zener ZPD 12V 0,5W	305738	C0008 phone jack HLJ	301549
D0015 diode 1N 4148	301254	I0001 IC UPC 4559 C	327364
D0016 diode 1N 4148	301254	I0002 IC NJM 4556 S	341958
D0017 diode 1N 4148	301254	P0001 potentiometer 2x10kohm lin	343252
G0001 rectifier B80 C800	301203	R0015 safety resistor 10 ohm	329215
I0001 IC UA 7824 UC	329255	R0016 safety resistor 10 ohm	329215
I0002 IC LM 340 T-15	308292	00060 transformer power	346612
I0003 IC LM 340 T-15	344746		
Q0001 trans. BC 560 B	306928		
Q0002 trans. BC 550 B	301184		
Q0003 trans. BC 550 B	301184		
Q0004 trans. BC 560 B	306928		
Q0005 trans. BC 550 B	301184		
Q0006 trans. BC 550 B	301184		
R0001 safety resistor 10 ohm	329215		
S0001 mains switch	334626		
S0002 sliding switch	338886		
S0003 sliding switch	338886		
00010 fuse holder	306838		
00011 fuse holder	306838		
00012 fuse holder	306838		
00020 fuse holder	328390		
00025 cop of fuse holder	328391		
00040 PCB MCX 1900	871118		
C0001 KO-EL 2.2MF 50V	304986		
C0002 KO-EL 2.2MF 50V	304986		
C0003 KO-EL 2.2MF 50V	304986		
C0004 KO-EL 22MF 25V	327815		
C0005 KO-EL 2.2MF 50V	304986		
C0006 KO-EL 2.2MF 50V	304986		
C0007 KO-EL 22MF 25V	327815		
D0001 LED red 3mm	336399		
D0002 LED red 2,5x5mm	334694		
D0003 diode zener BZX 85C 13V	304363		
D0004 diode zener BZX 85C 13V	304363		
D0005 diode zener ZPD 8V2	309403		
D0006 diode zener ZPD 8V2	309403		
D0007 diode 1N 4148	301254		
I0001 IC BA 683 A	343286		
I0002 IC 4066 BE	341204		
I0003 IC BA 683 A	343286		
Q0001 trans. BC 550 B	301184		
Q0002 trans. BC 550 B	301184		
R0014 Res. trimpot 10 kOhm lin	308645		
R0019 safety resistor 33 Ohm	328770		
R0020 Res. trimpot 10 kOhm lin	308645		
R0024 safety resistor 33 Ohm	328770		

## 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 Uniform 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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