

3 TECHNICAL SECTION

3.3 Set Up Procedure and Function Check

3.3.1 Meter Zero

Initial Set Up N.B. All measurements taken unbalanced

Set ALL pre-sets midway

O/P pre-set Max

Input pot Max

Release and attack - Fast

Comp pot - Min (1:1)

Select In

Select Stereo Couple - Out

- a) Connect D.V.M. 2v scale between M+ (common to both channels) and M- (channel 1).
- b) Adjust CH1 G.R. zero pre-set for zero reading on D.V.M.
- c) Repeat for Channel 2

3.3.2 FET Range and FET Bias Adjustment

-40dBm
@ 1kHz

- a) Feed in -40dBm @ 1kHz at Channel 1 Input connections
terminal 1 - 0v 2 Hot
Connect milli volt meter to Channel 1 Output terminal
3 0v 4 Hot
- b) Turn FET Bias pre-set fully anticlockwise.
Read output to be approx -3dBm.
- c) Turn FET Bias pre-set fully clockwise.
- d) Adjust FET range pre-set for -36dBm @ output.
- e) Adjust FET Bias for -6dBm @ Output.

3.3.3 Limiter Threshold and Distortion Null

- a) Select minimum slope on comp control
Select Attack - Fast

Select Release - Slow

Input - Max

O/P pre-set Max

- 12dBm
@ 1kHz
- b) Increase Input to -12dBm
 - c) Ref distortion analyser to Output (approx +12dBm). null, and adjust with distortion null preset for 0.1% or better.
 - d) Set Release to Fast
 - e) Set Comp control to Limit (Max) and adjust Limit threshold pre-set for +12dBm at output.
 - f) Set Comp control to Minimum (anticlockwise) read Output to be +12dBm \pm 2dB.

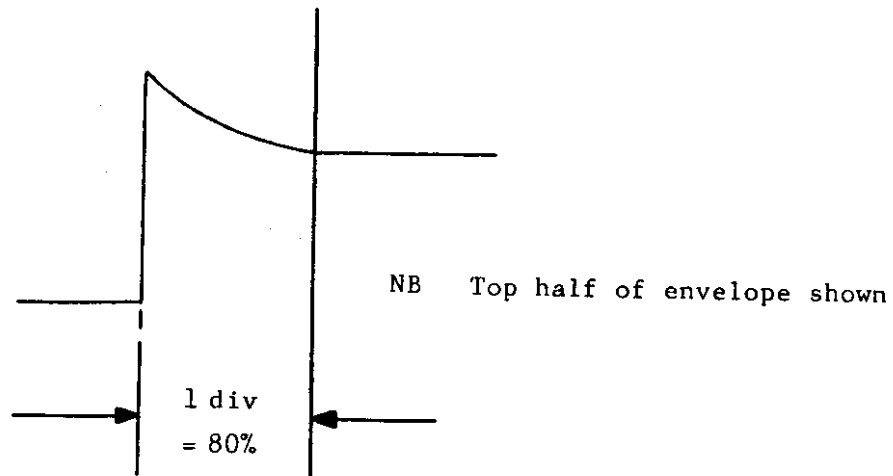
3.3.4 Meter Law

- 2dBm
@ 1kHz
- a) Increase Input to -2dBm. Increase Comp control to Limit Output should not rise by more than 0.5dB
 - b) Adjust set 20dB pre-set so that the 20th LED bar just lights.
- 12dBm
@ 1kHz
- c) Decrease Input to -12dBm and adjust set 10dB pre-set so that the 10th LED bar just lights.
 - d) Repeat a) through c).
 - e) Repeat for Channel 2 3.3.3 through 3.3.4

3.3.5 Attack/Release Check

- 12dBm
@ 1kHz
- a) With release pot @ Slow, switch system Out and observe fall time of meter to be approx 3 seconds
 - b) Turn release to auto
 - c) Switch system in and out continuously @ 1Hz per sec and observe a fast fall time with a slow fall time building upon meter. (25ms on 5 sec).
 - d) Turn release to fast and make sure Attack is set to Fast.
 - e) Set Scope for .5ms/div.
 - f) Switch system in and observe Attack wave form on scope:

signal should come under control within 80% in 1 div.
ie:



- g) Set scope to 5ms/div and Attack pot to Slow
- h) Observe same effect.

3.3.6 Noise Check

- a) With input pot fully anticlockwise, measure output noise to be -68dBm or better.

NB Use band limited filters on measuring equipment:-
12dB/Oct and 3dB points @ 25Hz and 25kHz.

3.3.7 Stereo Match Check

The two control FETs used in this unit are pre-selected at the factory for minimum distortion and good matching characteristics.

Having set up the unit accurately under the method described in Section 3.3, it should now only be necessary to couple the two channels together via couple switch at centre and observe that the outputs of each channel do not increase or decrease by more than 1.5dB at any gain reduction setting reference to the limit mode.

3 TECHNICAL SECTION

3.4 Routine Servicing

3.4.1 Preventative Maintenance

The Easy Rider limiter/compressor is a part transistor, part IC unit, and the only maintenance necessary is to keep the unit clean. Contaminants may lead to short circuits, high resistance or generally erratic operation. The front panel is of a scratch resistant plastic material and a light application of household detergent should do the job of cleaning it without fear of damage to nomenclature or plastic parts. Do not use Aromatic hydrocarbons or chlorinated solvents for cleaning. These solutions will react with the plastic materials used on the front panel.

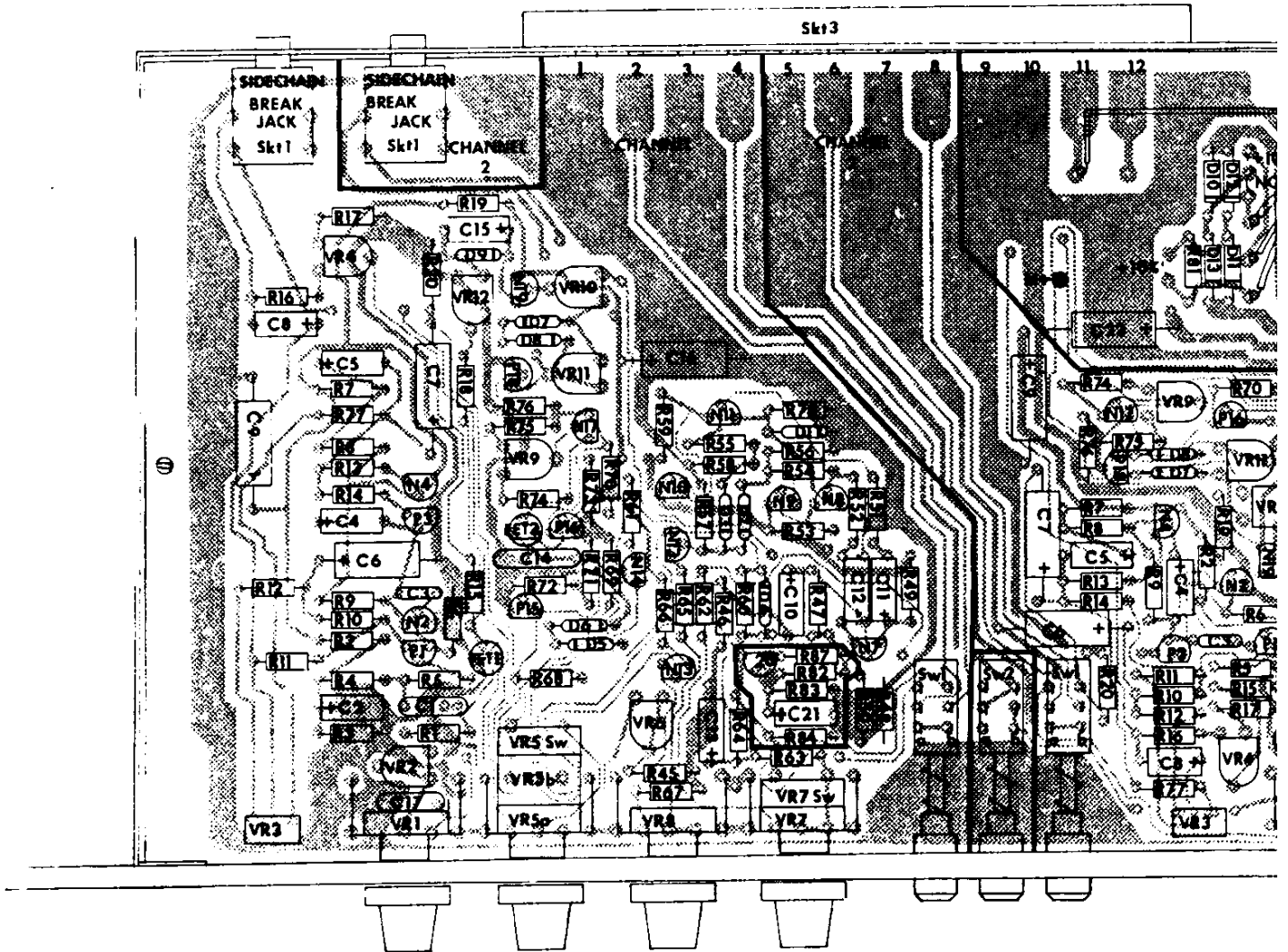
The pots are not, in the interest of economy, hermetically sealed and hence may in time become erratic because of wear, corrosion or dirt deposits. They may be cleaned with a commercial spray type contact cleaner but avoid letting excess cleaner contaminate other parts. Alignment instructions included in this manual are mainly for reference, it is recommended that only skilled, experience and suitably equipped technicians attempt maintenance. (See also 3.4.3 Factory Servicing).

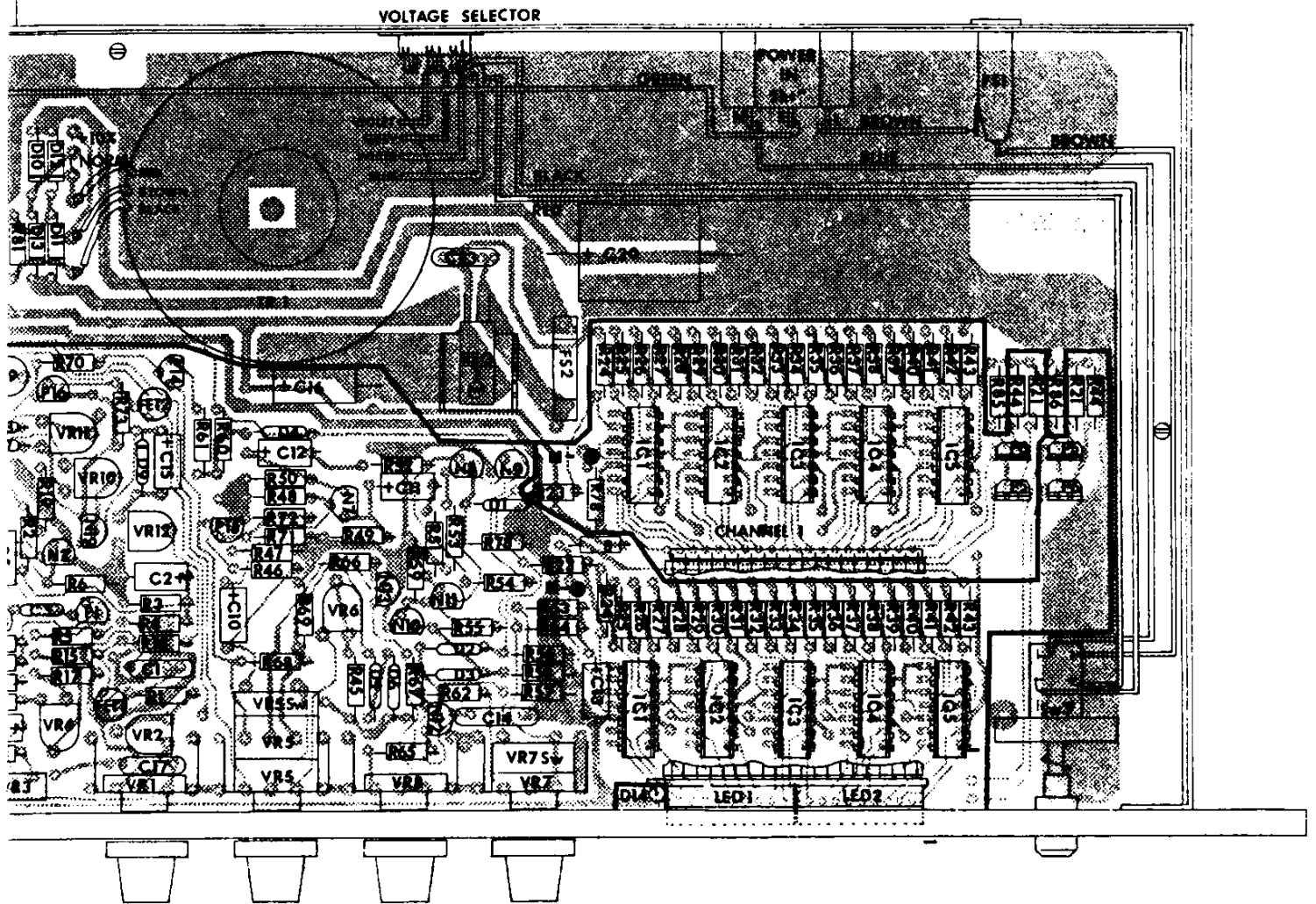
3.4.2 Fault Repair Maintenance

The Easy Rider limiter/compressor is of highly advanced circuit design and technology. Where failure occurs it is advisable that repairs be performed by the factory where specific skills and correct parts are available. Customer initiated repairs should only be attempted by competent technicians experienced in the area of linear IC's (where applicable) and skilled in the art of working on double-sided printed circuit boards. Additionally, a number of specialised parts are used which must be replaced by direct equivalents or performance degradation may occur.

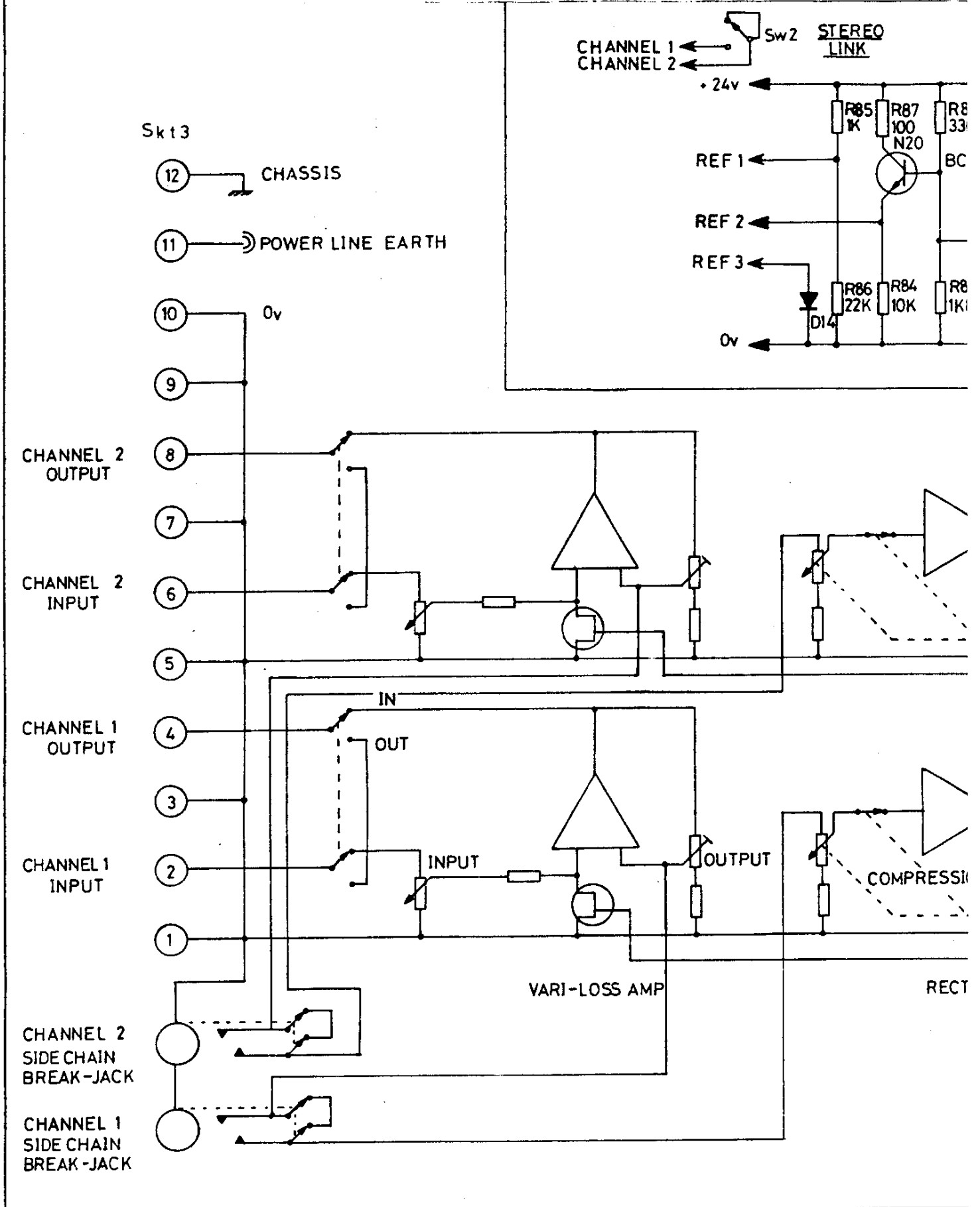
3.4.3 Factory Servicing

Servicing is available at any time after expiry of the warranty (ref. 40), at a reasonable charge for parts, labour and handling. However, before returning the unit to us, it would be prudent to write or telephone, giving as much information about the fault as is to hand. Often the problem may be resolved in this fashion saving everybody time, effort and money whilst minimising your inconvenience.





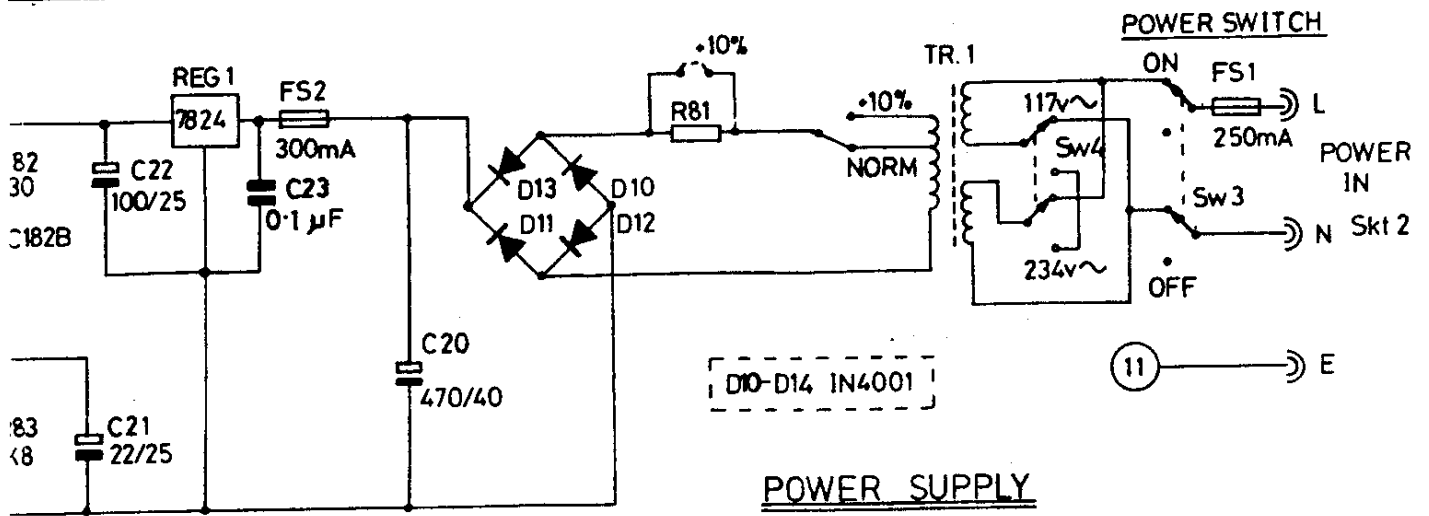
GEMINI EASY RIDER
GENERAL ARRANGEMENT



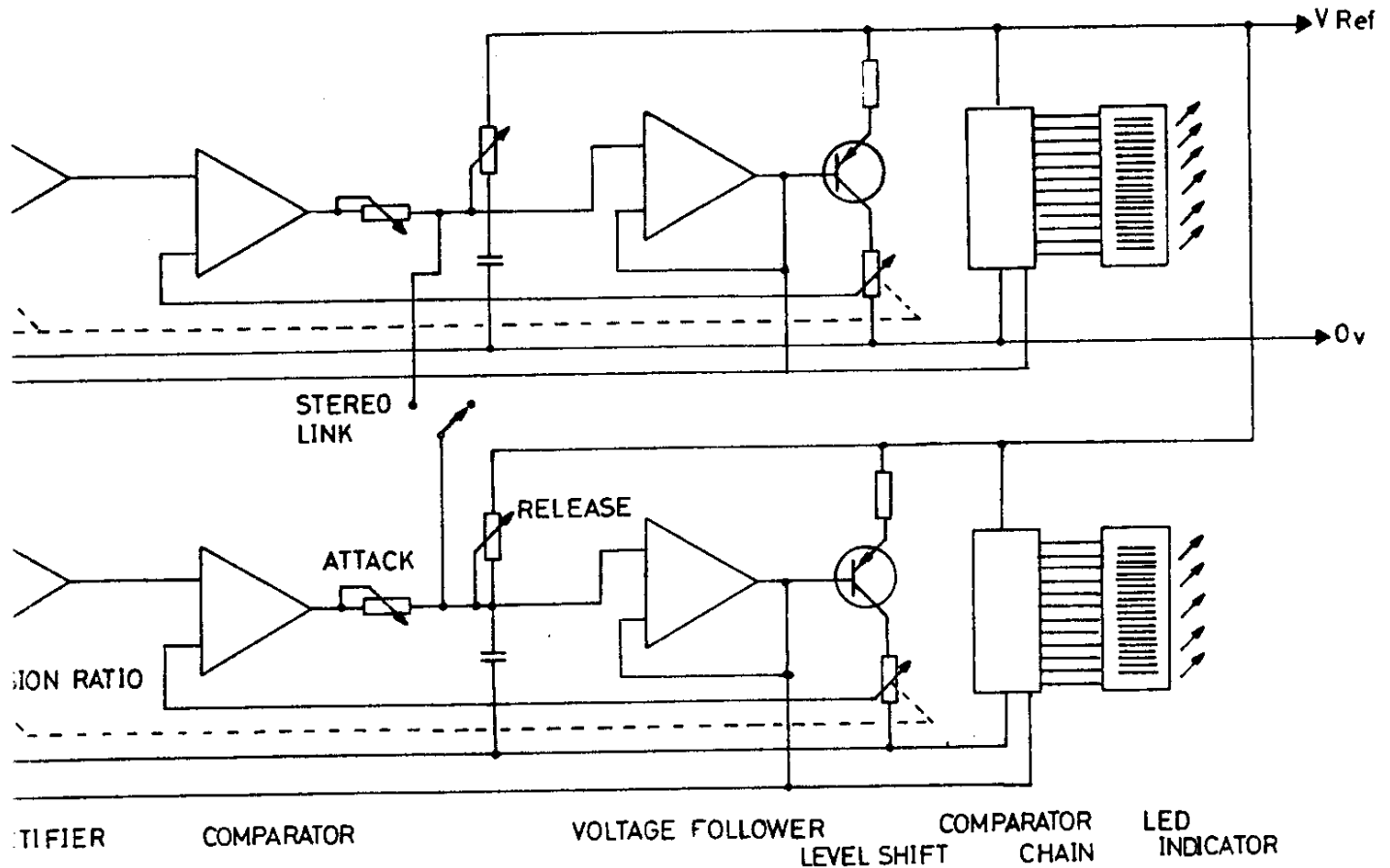
R81 - R87
C20 - C23
TR20

Skt 2 - S
REG 1
Sw2 - Sw

UBT ASK REMOVE ALL BURRS AND SHARP EDGES



DRG. No.



AMPLIFIER

COMPARATOR

VOLTAGE FOLLOWER

LEVEL SHIFT

COMPARATOR CHAIN

LED INDICATOR

Skt 3

MATERIAL

FINISH

TOLERANCES - UNLESS STATED
 METRIC
 1 PLACE DECIMAL : 0.40 MM
 2 PLACES DECIMAL : 0.10 MM
 DRILLED HOLES - 0.10 MM
 INCH
 2 PLACES DECIMAL : 0.16 IN.
 3 PLACES DECIMAL : 0.04 IN.
 DRILLED HOLES - 0.02 IN.

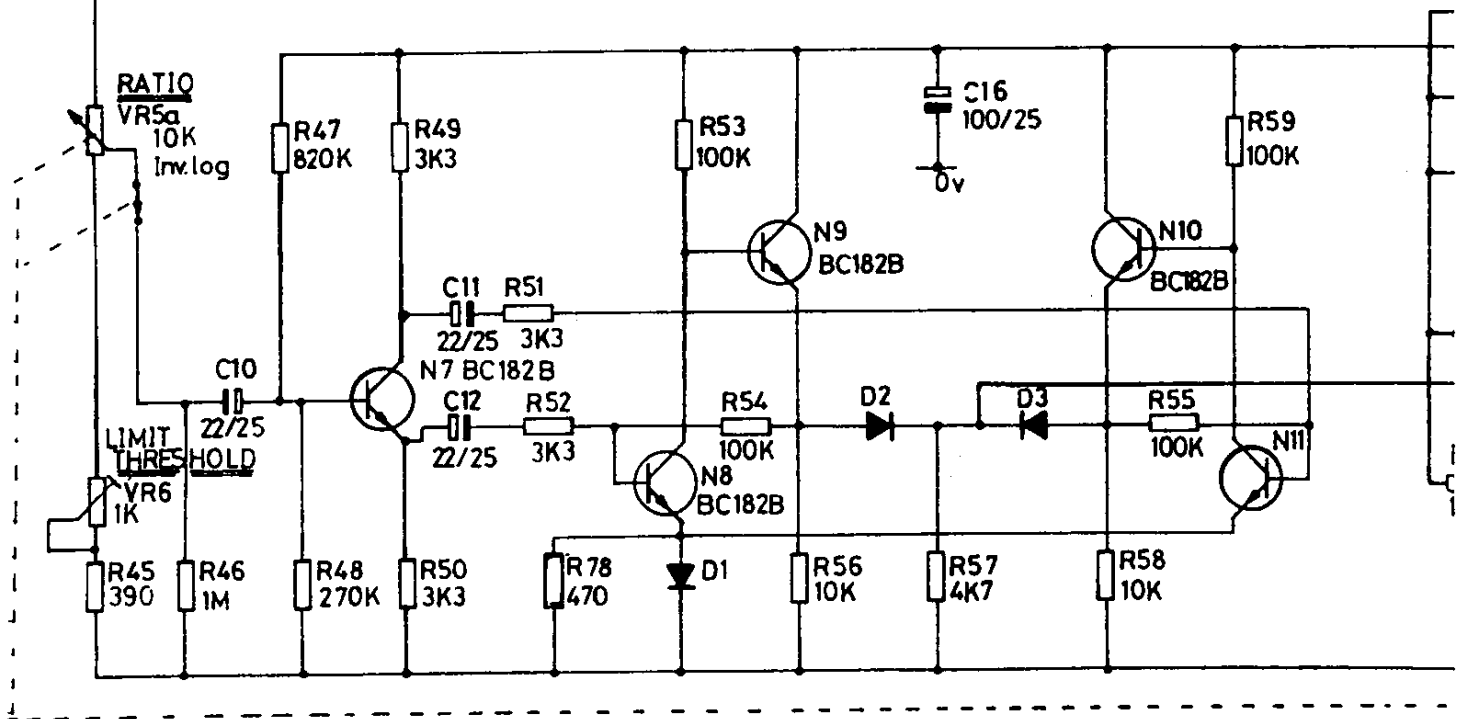
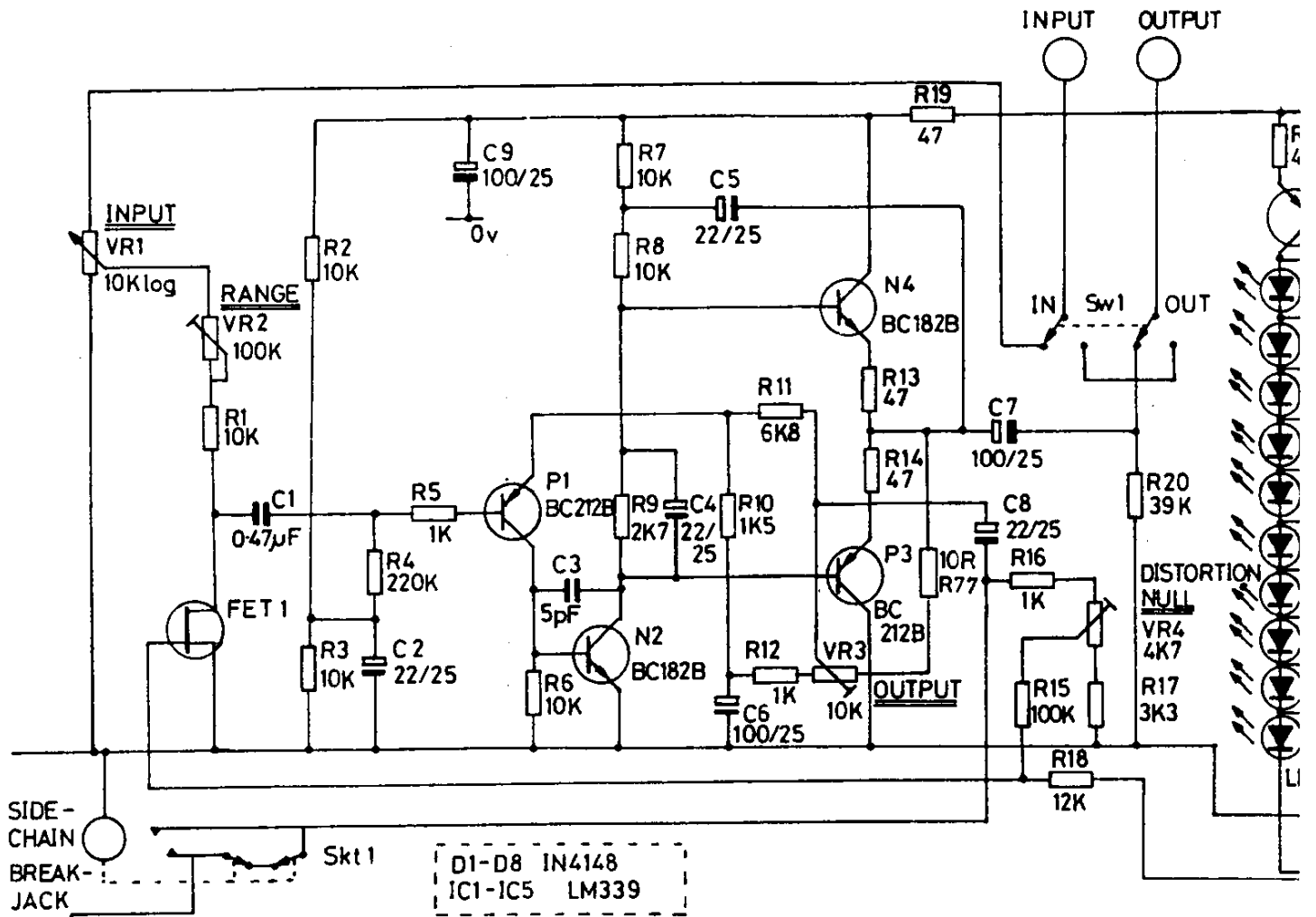
SCALE

DRN

TITLE

GEMINI EASY RIDER SCHEMATIC

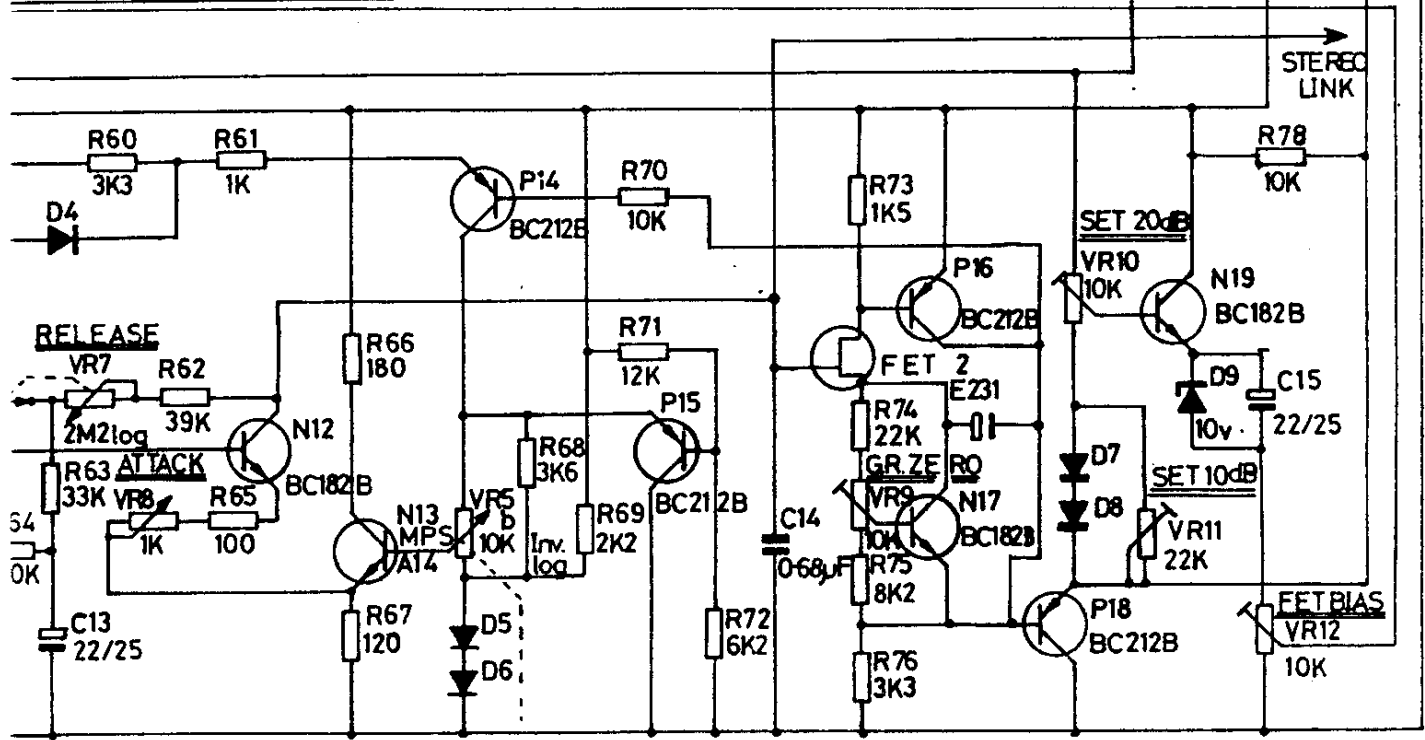
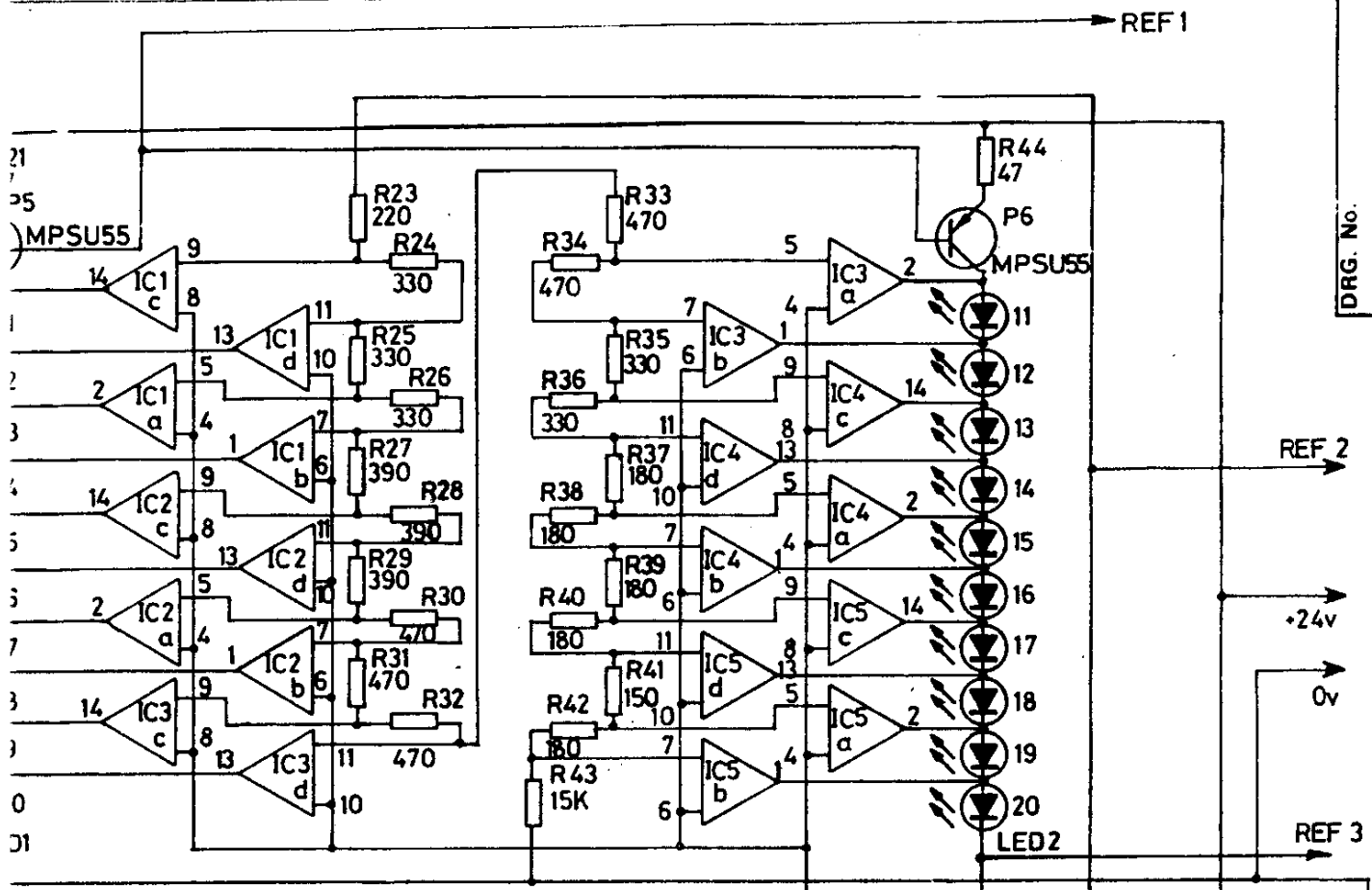
sw4



R1 - R78 R22 NOT USED
 C1 - C16

Skt 1
 Sw1
 LED1

SK. REMOVE ALL BURRS AND SHARP EDGES.



MATERIAL	FINISH	TOLERANCES - UNLESS STATED METRIC 1 PLACE DECIMAL : 0.40 MM 2 PLACES DECIMAL : 0.10 MM DRILLED HOLES - 0.05 MM	SCALE	TITLE
FD2		INCH 2 PLACES DECIMAL : 0.10 IN. 3 PLACES DECIMAL : 0.04 IN. DRILLED HOLES - 0.002 IN.	DRN <i>EB</i>	GEMINI EASY RIDER CIRCUIT DIAGRAM