QUAD BIAS SUPPLY

MOD. 7710 (200V - 20 uA)

Instruction manual

October 1987

3. SPECIFICATIONS

INPUTS

INPUT POWER : Input power is drawn from a standard NIM Bin and power supply, such as SILENA Mod. 7000.

OUTPUTS : Four independent bias supplies for 0 to ±200 VDC (0 to ±399 VDC internally selectable).

CONTROLS

ON/OFF : Four two-position toggle switches to enable or disable each single output voltage.

OUTPUT VOLTAGE : 0 to ± 199,9 VDC via a twenty-turn screwdriver adjustable potentiometer (0 to ± 399VDC internally selectable).
Shipped for 0 to + 199,9 VDC for each output.

POLARITY : Internally selectable via a single jumper for each output.

DISPLAY

Four-position rotary-switch selects channel displayed bias (voltage and current).

VOLTAGE : 3½ digit front-panel. Resolution 0.1 Volt (1 Volt for 399 VDC full scale).

CURRENT-/uA : 3½ digit front-panel. Resolution $10 \cdot 10^{-9}$ Ampères ($10 \cdot 10^{-10}$ Ampères internally selectable).

INDICATORS

POLARITY : Front-panel LED indicator lights for positive or negative polarity for each output.

BIAS ON : Front-panel LED indicator lights for each bias supply ON.

PERFORMANCE

RIPPLE AND NOISE (50Hz ÷ 50 MHz) : $\leq$ 5 mV peak to peak (typically)

LOW FREQUENCY NOISE (0.1Hz ÷ 50Hz) : $\leq$ 1 mV.

OUTPUT VOLTAGE STABILITY : $\leq$ 0.05% hr at constant input line voltage, load and ambient temperature after a 30 minutes warmup.

REGULATION : Typically 0.05% from 0 to 20 uA.

TEMPERATURE COEFFICIENT : ±50ppM, 0 ÷ 45°C operating range.

CALIBRATION ACCURACY : Typically ±0,1%

RESETTABILITY : 0.1 Volt (by readout via front-panel digital voltmeter).

OUTPUT LOAD CAPACITY : 0 to 20 . 10^{-6} Ampères for 200 VDC FS
0 to 10 . 10^{-6} Ampères for 399 VDC FS

OUTPUT RANGE : 0 to ± 200 VDC (0 to ±399 VDC internally selectable).

OUTPUT VOLTAGE RISE TIME : ≤ 10 sec. to reach 99% of final value.

CONNECTORS

OUTPUT VOLTAGE : Rear panel type BNC for each output

J10 : CANNON type DE 9P for remote controls.

POWER REQUIREMENTS: +12 Volt 95mA - stand-by condition
110mA - 200 V output no load
120mA - 200 V output 20 uA OUT
-12 Volt 60mA - regardless of load
+ 6 Volt 40mA - regardless of load

PHYSICAL

SIZE : Standard single-width NIM module

NET WEIGHT : 1 Kg.

7. INTERNAL CONTROLS

Prior to installation, care should be taken to set the internal controls to the desired position.

A schematic layout of available controls is shown in Fig. 1.

7.1 Polarity Selection : See fig. 1

Shipped for positive, each output.

7.2 Remote Controls

Provisions are included for independent remote control of individual VBias supplies.

REMOTE VOLTAGE CONTROL : For remote control of bias supplies outputs, set the "INT./EX" (jumpers No. 3) voltage control to "EX".

	JPS No 3	INT.	EX.
VBIAS 1	3/1	D-E	E-F
VBIAS 2	3/2	D-E	E-F
VBIAS 3	3/3	D-E	E-F
VBIAS 4	3/4	D-E	E-F

Shipped in the "INTERNAL" mode.

REMOTE SHUTDOWN : For remote shutdown of Bias Supplies outputs, set the "INT/EX" (Jumpers No. 2) shutdown control to "EX".

JPS No 2	INT.	EX.
VBIAS 1	2/1	A-B	B-C
VBIAS 2	2/2	A-B	B-C
VBIAS 3	2/3	A-B	B-C
VBIAS 4	2/4	A-B	B-C

Shipped in the "INTERNAL" mode.

7.3 Voltage Full Scale

Output voltage changes from 199.9 VDC - 19.99 /uA to 399VDC - 10.00 /uA.

JPS	199.9V/19.99 /uA	399 V /10.00 /uA
1/1-1/2 1/3-1/4	NOT FITTED	FITTED
JP4	FITTED	NOT FITTED
VOLTMETER CARD JP1	BC	AB
HIGH VOLTAGES JUMPERS	AC	AB

The 4 sections should always be set for the same operating full scale value.

7.4 Current Readout Resolution

$10 \cdot 10^{-9}$ Ampères Resolution : Set JP_2 on the Digital Voltmeter card to "LM".
Set jumpers 5/1, 5/2, 5/3 and 5/4 to "GH".

$10 \cdot 10^{-10}$ Ampères Resolution : Set JP_2 on the Digital Voltmeter card to "MN".
Set jumpers 5/1, 5/2, 5/3 and 5/4 to "HI".

All the 4 sections should always be set for the same current readout resolution.
The $10 \cdot 10^{-10}$ Ampères resolution provides current readout up to 1.999 μA. For currents exceeding this value, the OWF indication will appear on the display.

REV.	DESCRIZIONE	DATA	REDATTO	CONT.	APPROV.
0	EMISSIONE	7-1-'88	ZP		

REV.	DESCRIZIONE	DATA	REDATTO	CONT.	APPROV.

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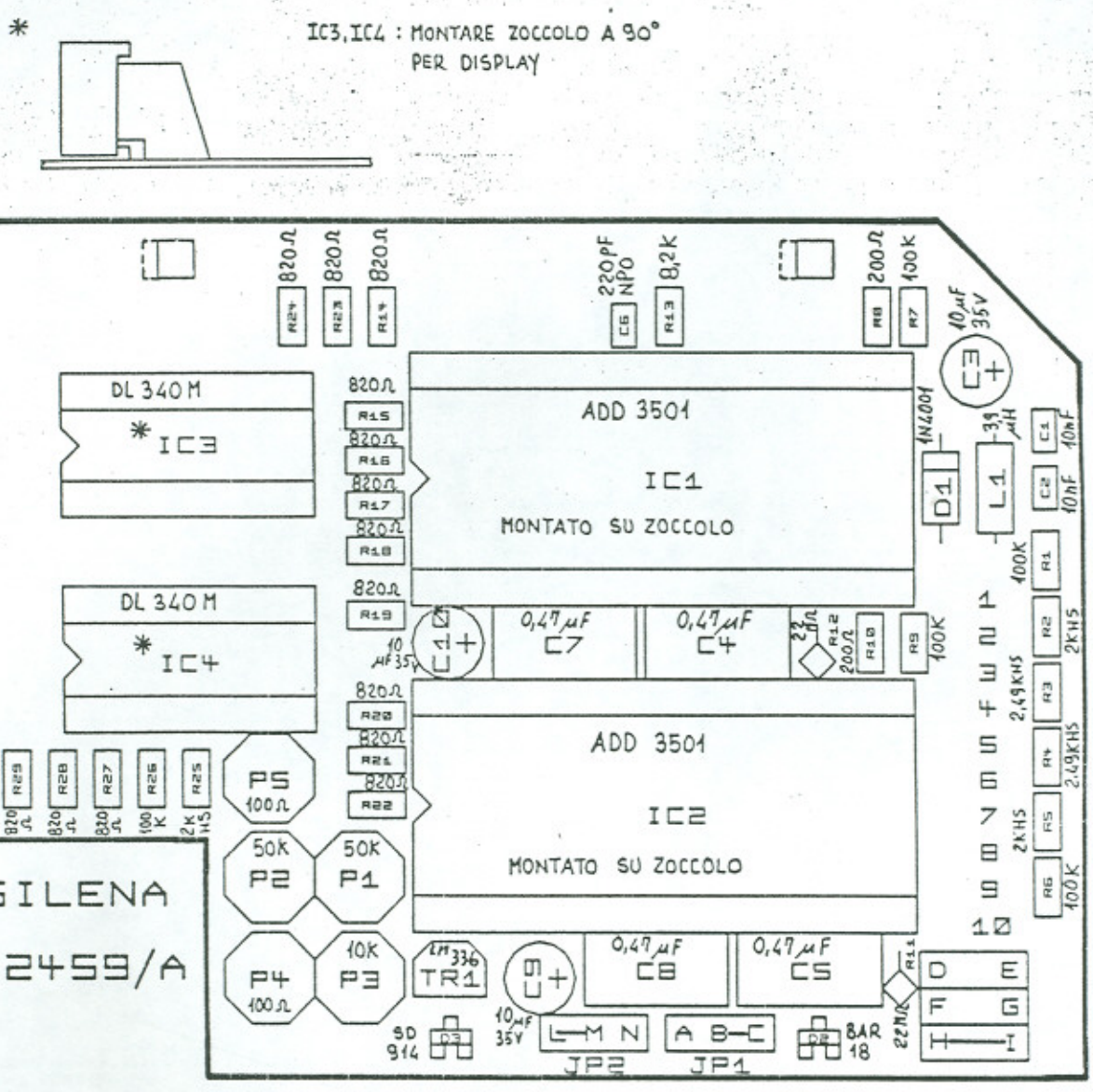
P.C. HIGH VOLTAGE

2335/A/B

SEGUE F. - 1



DIGITAL VOLMETER	HIGH VOLTAGE
P.C. 2459/A POINT CONN.	P.C. 2335/A POINT CONN.
1	1
2	2
3	3
4	4
5	5

REV.	DESCRIZIONE	DATA	REDATTO	CONT.	APPROV.
0	EMISSIONE	23-12-87			

REV.	DESCRIZIONE	DATA	REDATTO	CONT.	APPROV.

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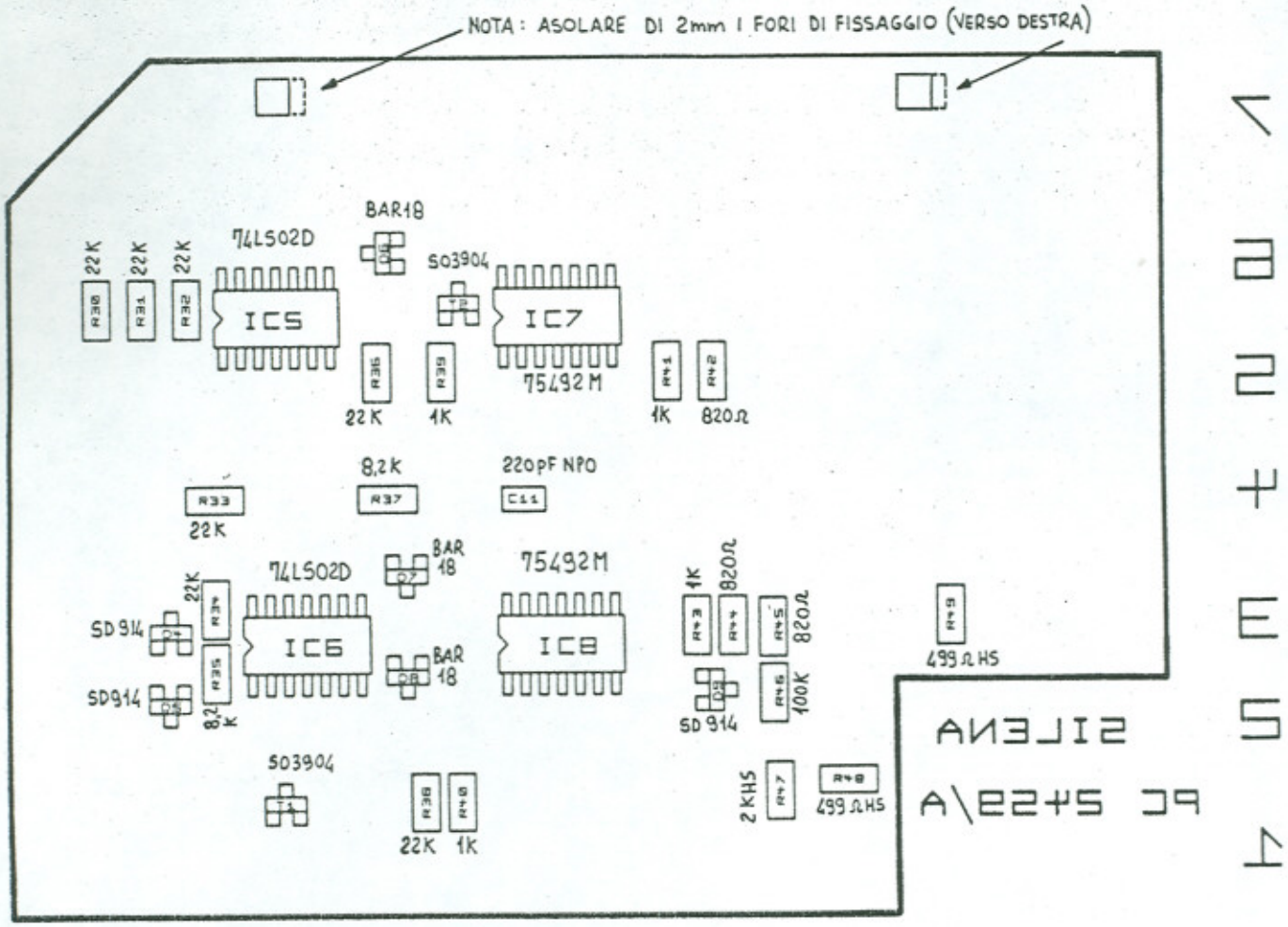
DIGITAL VOLMETER

2459/A/B

SEGUE F. 2 F. 1



SCALA 2:1

0	EMISSIONE	23-12-87									
REV.	DESCRIZIONE	DATA	REDATTO	CONT.	APPROV.	REV.	DESCRIZIONE	DATA	REDATTO	CONT.	APPROV.

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2459/A/B

SEGUE F. - F. 2