

Technical  
Information  
Manual

**MOD. N 92**

*NIM-ECL-NIM  
TRANSLATOR*

*30th August 1991*

CAEN will repair or replace any product within the guarantee period if the Guarantor declares that the product is defective due to workmanship or materials and has not been caused by mishandling, negligence on behalf of the User, accident or any abnormal conditions or operations.

**CAEN declines all responsibility for damages or injuries caused by an improper use of the Modules due to negligence on behalf of the User. It is strongly recommended to read thoroughly the CAEN User's Manual before any kind of operation.**



*CAEN reserves the right to change partially or entirely the contents of this Manual at any time and without giving any notice.*

CAEN  
NIM-ECL-NIM  
TRANSLATOR  
mod. 92

IN		OUT	
1	[BNC]	-	1
2	[BNC]	[Switch]	2
3	[BNC]	[Switch]	3
4	[BNC]	[Switch]	4
5	[BNC]	[Switch]	5
6	[BNC]	[Switch]	6
7	[BNC]	[Switch]	7
8	[BNC]	[Switch]	8

-	[Switch]	[BNC]	[BNC]	1
1	[Switch]	[BNC]	[BNC]	2
2	[Switch]	[BNC]	[BNC]	3
3	[Switch]	[BNC]	[BNC]	4
4	[Switch]	[BNC]	[BNC]	5
5	[Switch]	[BNC]	[BNC]	6
6	[Switch]	[BNC]	[BNC]	7
7	[Switch]	[BNC]	[BNC]	8

SER. N°  
-6 V 0.75



## TABLE OF CONTENTS

DESCRIPTION	Page 1
SPECIFICATIONS	Page 2
ELECTRIC DIAGRAM	Page 3
COMPONENTS LOCATION	Page 4
LISTS OF COMPONENTS	Page 5

## **DESCRIPTION**

**Model N 92** is a NIM-to-ECL, ECL-to-NIM translator which has 8 independent NIM to ECL converters and 8 ECL to NIM converters in a 1-unit wide std. NIM module.

The NIM to ECL section is located in the upper half of the front-panel. The ECL outputs are doubled to provide a fan-out of two. Logic inversion is achieved by inverting the polarity of the output connector.

The ECL to NIM section is located in the lower half of the front-panel. The outputs are doubled to provide a fan-out of two. Here, logic inversion is achieved by inverting the polarity of the input connector.

All the converters are DC coupled throughout and have no duty cycle limitation.

## **SPECIFICATIONS**

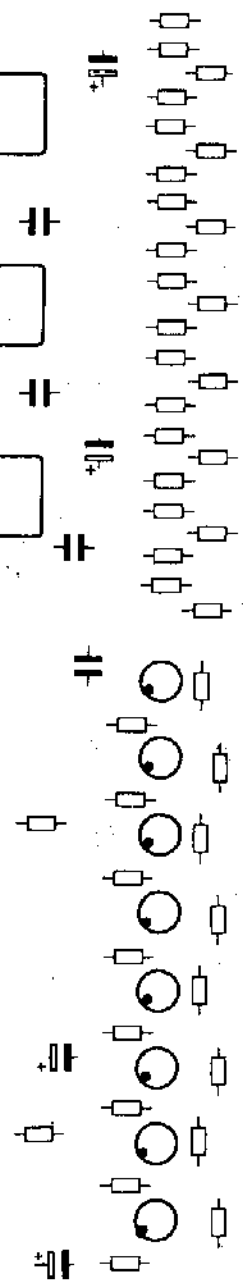
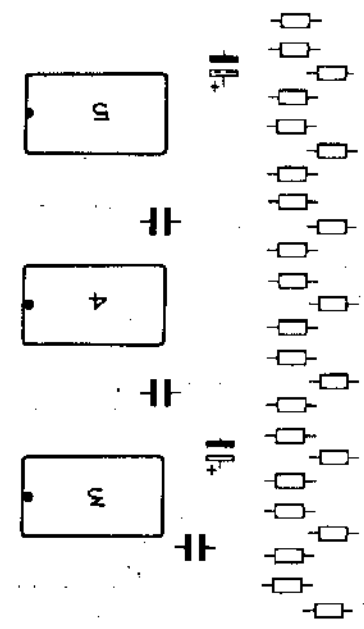
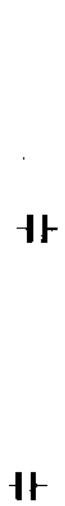
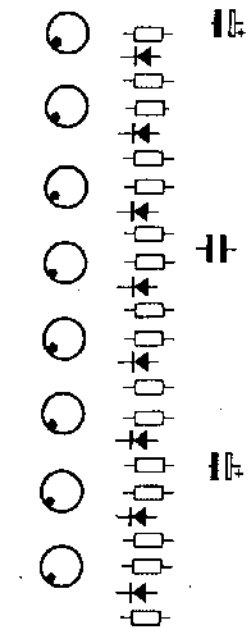
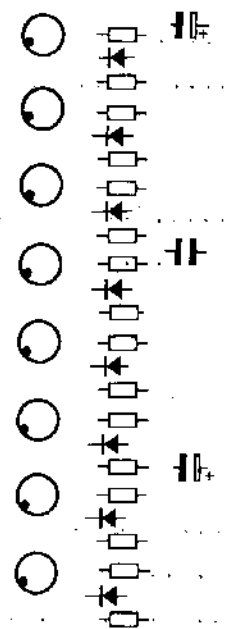
PARAMETER	NIM-ECL	ECL-NIM
Number of channels	8	8
Input impedance	50 $\Omega$	110 $\Omega$
Minimum input width	7 ns	7 ns
Output pulse amplitude	800 mV	800 mV
Output impedance	110 $\Omega$	50 $\Omega$
Rise and fall time	2 ns	2 ns
Input-Output delay	4 ns	4 ns
Max. operating frequency	80 MHz	80 MHz

NIM connectors **LEMO 00** type

ECL connectors "**TWISTED PAIRS**" type

**Power requirements: -6 V 0.75 A**

~~~~~



Mod. N92

## LIST OF COMPONENTS

### IC.s

|             |       |         |       |
|-------------|-------|---------|-------|
| IC1,IC2     | ..... | MC10101 | ( 2 ) |
| IC3,IC4,IC5 | ..... | MC10216 | ( 3 ) |

### TRANSISTORS

|             |       |                                 |        |
|-------------|-------|---------------------------------|--------|
| T5+T20      | ..... | 2N918 Philips or BFY 90 Philips | ( 16 ) |
| (T1+T4) x 2 | ..... | 2N918 Mot.                      | ( 8 )  |

### DIODES

|        |       |                  |        |
|--------|-------|------------------|--------|
| D1+D16 | ..... | HP2800 or HP2900 | ( 16 ) |
|--------|-------|------------------|--------|

### CAPACITORS

|          |       |                     |        |
|----------|-------|---------------------|--------|
| C*       | ..... | 10 nF               | ( 18 ) |
| C**      | ..... | > 6.8 $\mu$ F > 6 V | ( 15 ) |
| C1,C2,C3 | ..... | 100 $\mu$ F 16 V    | ( 3 )  |

### RESISTORS 1/4 W 5%

|                                                                     |       |                                 |        |
|---------------------------------------------------------------------|-------|---------------------------------|--------|
| (R1+R4) x 2                                                         | ..... | 51 $\Omega$                     | ( 8 )  |
| R20,R21,R27,R28,R34,R35,R41,R42,R48,<br>R49,R55,R56,R63,R69,R70     | ..... | 56 $\Omega$                     | ( 16 ) |
| (R10+R17) x 2                                                       | ..... | 200 $\Omega$                    | ( 16 ) |
| R22,R24,R29,R31,R36,R38,R43,R45,R50,<br>R52,R57,R59,R64,R66,R71,R73 | ..... | 200 $\Omega$ or 215 $\Omega$ 1% | ( 16 ) |
| R19,R23,R26,R30,R33,R37,R40,R44,R47,<br>R51,R54,R58,R61,R65,R68,R72 | ..... | 560 $\Omega$                    | ( 16 ) |
| (R5+R9) x 2, R18,R25,R32,R39,R46,R53,<br>R60,R67                    | ..... | 1 K $\Omega$                    | ( 18 ) |

---

C\*,C\*\*: Filter Capacitors