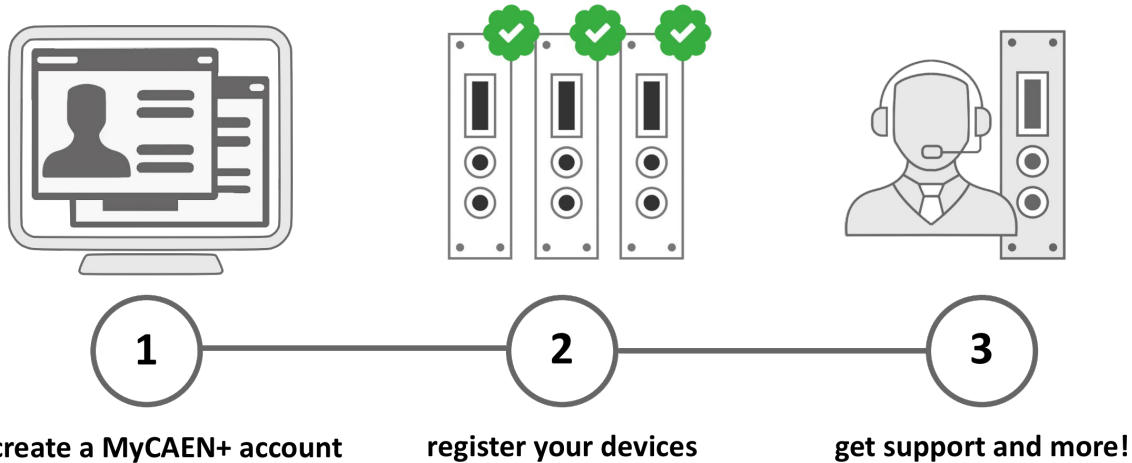


# Register your device

Register your device to your **MyCAEN+** account and get access to our customer services, such as notification for new firmware or software upgrade, tracking service procedures or open a ticket for assistance. **MyCAEN+** accounts have a dedicated support service for their registered products. A set of basic information can be shared with the operator, speeding up the troubleshooting process and improving the efficiency of the support interactions.

**MyCAEN+** dashboard is designed to offer you a direct access to all our after sales services. Registration is totally free, to create an account go to <https://www.caen.it/become-mycaenplus-user> and fill the registration form with your data.



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Technical  
Information  
Manual

**MOD. N 113**

*DUAL 12 INPUTS  
OR*

*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.*

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## DESCRIPTION

**Model N 113** is a 1-unit wide NIM module including two identical sections, A and B, each one performing the logic function "OR" on its 12 inputs.

The output of each section can be always enabled (pos. GATE OFF), or by the GATE input (pos. GATE ON) according to the position of the front-panel switch.

With 4 internal jumpers the module can be converted to a single 24-input "OR", with separate or common gate control.

## **SPECIFICATIONS** (each section)

### **INPUT CHARACTERISTICS**

Inputs ..... 12; 50  $\Omega$  impedance; std. NIM levels; DC coupled

Minimum Pulse Width .... 7 ns

GATE Input ..... 1; 50  $\Omega$  impedance; std NIM levels; DC coupled.  
Enabled by the front-panel switch.

Min. GATE Pulse Width .. 7 ns

### **OUTPUT CHARACTERISTICS**

Output ..... 2 identical; 50  $\Omega$  impedance; std. NIM levels.

Rise-Fall Time .....  $\leq 3$  ns

Four internal jumpers allow to condition the outputs to different configurations of the two gates.

### **GENERAL CHARACTERISTICS**

Input - output delay .....  $\leq 10$  ns

All connectors are **LEMO 00** type

**Power requirements: -6V 510 mA**

## OUTPUT FUNCTIONS

According to the position of the jumpers P1, P2, P3, P4 the module can deliver different output signals. See fig. 1 .

- 1) To perform on sections A and B the logic OR of the respective 12 input signals :  
P1, P2, P3, P4 OFF
- 2) To perform on sections A and B the logic OR of the respective 12 input signals enabled with the respective GATE signals :  
P1, P2 OFF                      P3, P4 ON  
The GATE switches must be ON
- 3) To perform on section A the logic OR of its 12 input signals enabled with the GATE B signal and on section B the logic OR of its 12 input signals enabled with the same GATE B signal :  
P1, P3 OFF                      P2, P4 ON  
The GATE B switch must be ON
- 4) To perform on section A the logic OR of its 12 input signals enabled with the GATE A signal and on section B the logic OR of its 12 input signals enabled with the same GATE A signal :  
P1, P4 OFF                      P2, P3 ON  
The GATE A switch must be ON
- 5) To perform on sections A and B the logic OR of the respective 12 input signals enabled with the logic AND of the GATE signals :  
P1 OFF                      P2, P3, P4 ON  
The GATE switches must be ON
- 6) to perform on sections A and B the logic OR of all the 24 input signals :  
P2, P3, P4 OFF                      P1 ON

- 7) To perform on sections A and B the logic OR of all the 24 input signals enabled with the respective GATE signals :
- P2 OFF                      P1, P3, P4 ON
- The GATE switches must be ON.
- 8) To perform on sections A and B the logic OR of all the 24 input signals enabled with the GATE B signal :
- P3 OFF                      P1, P2, P4 ON
- The GATE B switch must be ON.
- 9) To perform on sections A and B the logic OR of all the 24 input signals enabled with the GATE A signal :
- P4 OFF                      P1, P2, P3 ON
- The GATE A switch must be ON.
- 10) To perform on sections A and B the logic OR of all the 24 input signals enabled with the logic AND of the GATE signals :
- P1, P2, P3, P4 ON
- The GATE switches must be ON.

## TEST PROCEDURES

### Necessary instruments:

- Pulse generator NIM std. output (N 2255B).
- Delay unit (N 146, N 107, N108).
- Fan-out unit (N 105, C 104).
- Oscilloscope Tektronix Mod. 475A or equivalent.

- 1) Select via P1, P2, P3, P4 jumpers the output function explained at point 1) of the previous paragraph .
- 2) Feed the first input connector of the A section with a compatible signal to the input specifications (i.e.100 nsec.width) .
- 3) Verify that the output signal is the same as the input one independently from the GATE switch position .
- 4) Repeat point 3) for all the A and B section inputs .
- 5) Feed all the A section inputs with 12 identical signals delayed each other by the same delay and verify that the output signal width is the sum of the input width and the 12 delays .
- 6) Repeat point 5) for the B section .
- 7) Select the output function at point 2) of the previous paragraph .
- 8) Feed the GATE inputs.
- 9) Selecting the 3) or 5) condition ,verify that the output signal is the logic AND of the input signal(s) and the gate(s) signal for the A and B section.
- 10) Repeat points 8) and 9) for the 24 inputs logic OR.

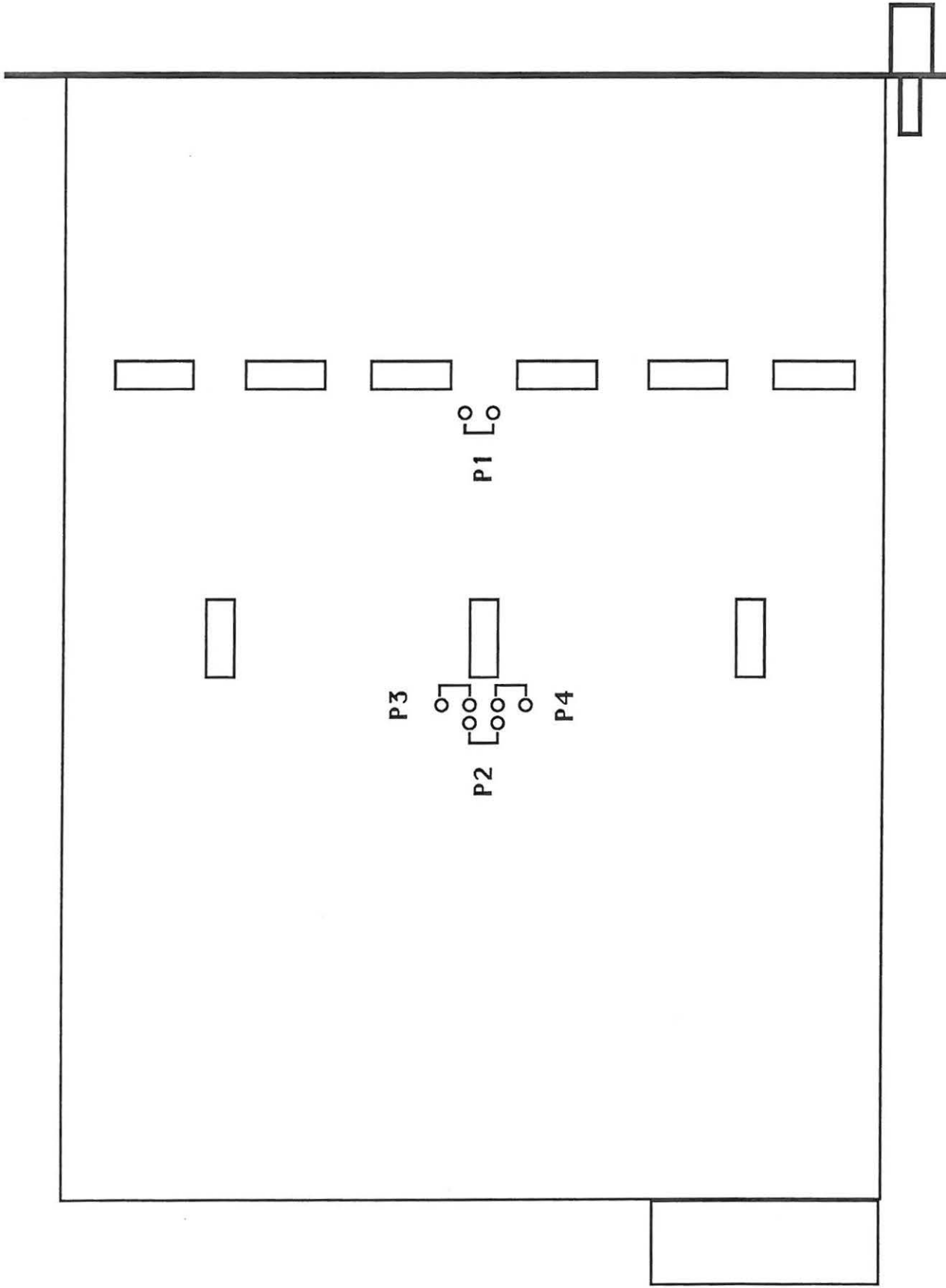
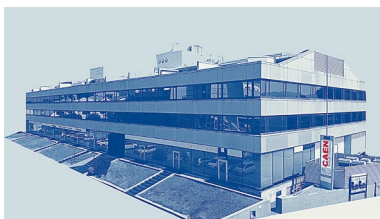


Fig. 1



**CAEN S.p.A.**

Via Vetraia 11  
55049 - Viareggio  
Italy  
Phone +39 0584 388 398  
Fax +39 0584 388 959  
info@caen.it  
[www.caen.it](http://www.caen.it)



**CAEN GmbH**

Brunnenweg 9  
64331 Weiterstadt  
Germany  
Tel. +49 (0)212 254 4077  
Mobile +49 (0)151 16 548 484  
info@caen-de.com  
[www.caen-de.com](http://www.caen-de.com)

**CAEN Technologies, Inc.**

1 Edgewater Street - Suite 101  
Staten Island, NY 10305  
USA  
Phone: +1 (718) 981-0401  
Fax: +1 (718) 556-9185  
info@caentechnologies.com  
[www.caentechnologies.com](http://www.caentechnologies.com)

**CAENspa INDIA Private Limited**

B205, BLDG42, B Wing,  
Azad Nagar Sangam CHS,  
Mhada Layout, Azad Nagar, Andheri (W)  
Mumbai, Mumbai City,  
Maharashtra, India, 400053  
info@caen-india.in  
[www.caen-india.in](http://www.caen-india.in)



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