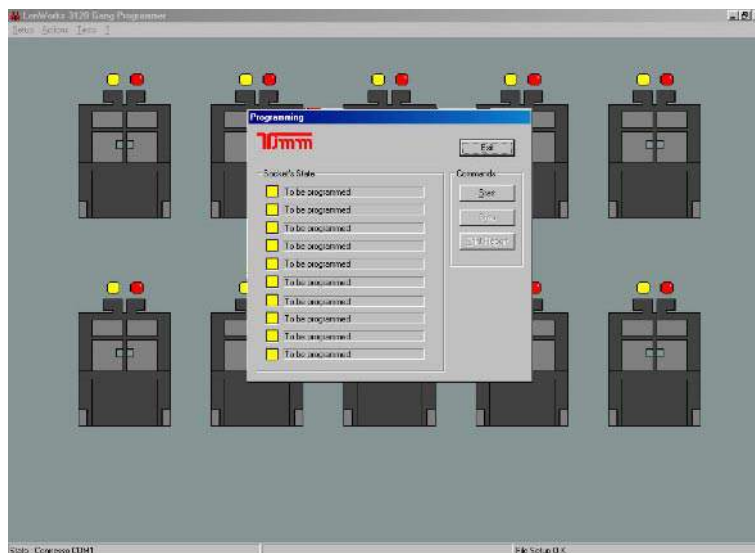




MTGP10



## T.I.M.M. MTGP10 LonWorks® Neuron® 3120® GANG PROGRAMMER



Programmatore di neuron chip 3120 Toshiba® e Motorola® 3120, 3120E1, 3120E2, 3120E3, 3120E5 in package SOP con interfaccia utente Windows compatibile.



## MTGP10

### Caratteristiche tecniche:

- ✓ Programmazione di 10 dispositivi contemporaneamente o in quantità definibile (1 ÷ 10).
- ✓ Software di interfaccia verso il programmatore user friendly su Personal Computer.
- ✓ Collegamento tra PC e programmatore tramite linea seriale RS232.
- ✓ Programmatore con alimentazione separata.
- ✓ Possibilità di analisi dei componenti prima e dopo la programmazione (nel caso di conservazione dell'interfaccia standard).
- ✓ Possibilità di connessione in cascata con altri programmatori.
- ✓ Stampa opzionale del report di programmazione di ogni dispositivo, inclusi i neuron ID (service pin).

### Requisiti di sistema:

- Personal computer con una linea seriale RS232 disponibile, sistema operativo Windows® 9x/NT/2000.
- File di programmazione di tipo NEI generato da LonBuilder® o NodeBuilder®.

### Per ulteriori informazioni:

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**MTGP10  
3120  
LonWorks  
10 pod SOG/FPQ  
Gang Programmer**

User Manual Release 4.1

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## CHAPTER 1 : overview

With MTGP10 Gang Programmer, user you can program up to 10 (ten) 3120 SOG format components of the same kind, simultaneously.

Programming is carried out through Lon network in Direct Drive mode. For this reason, the components to program must be new or with a default configuration such as:

10 Mhz  
data rate 1.25 Mbps  
Differential input.

In reality, the programmer oscillators, both the programmer neuron chip's and the pods', are 5 Mhz. This allows to program the obsolete 5Mhz neuron chips, too. All Pods are powered at the same time during the whole programming stage. Therefore, it is not advisable to add or remove components from the pods at this stage, even if the component has already been programmed and the pod switched off. Both the neuron chips to program and the ones already programmed are kept in the reset mode, to avoid any interference with the network activities. By leaving the reset state (mode), the neuron chips get the programmed configuration parameters. Take extra care not to program the same component twice (especially when the

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programmed parameters are different from the default ones) to avoid damaging the component itself or the programmer. The neuron chips should be placed on the pods as shown in the picture below.



This picture is shown (if not disconnected) every time program P3120 is executed.

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## CHAPTER 2: Quick setup

### Instructions:

- 1) Setup P3120 software from CD rom
- 2) Connect the serial cable to a free serial port of the PC.
- 3) Connect the other end of the cable to the Programmer MTGP10 serial port.
- 4) Connect power supply (see appendix D).
- 5) Switch the Programmer on.
- 6) Wait until the green led on the right, placed in front of the programmer, blinks.
- 7) Execute, from Timm Srl, LonWorks 3120 Gang Programmer.



- 8) Select SETUP ,LINK from the menu

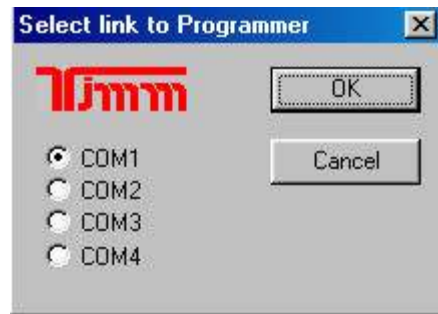
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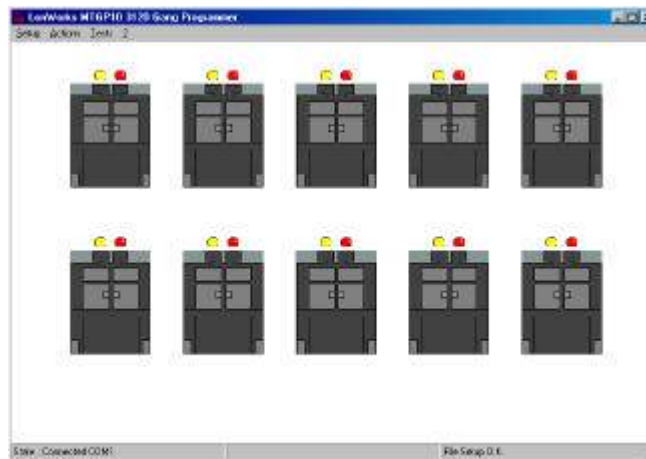
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9) Select the serial port connected to the Programmer and press OK button.

10) Select *Connection* from the Menu *Action*.

If the connection is successful the following background will



appear:

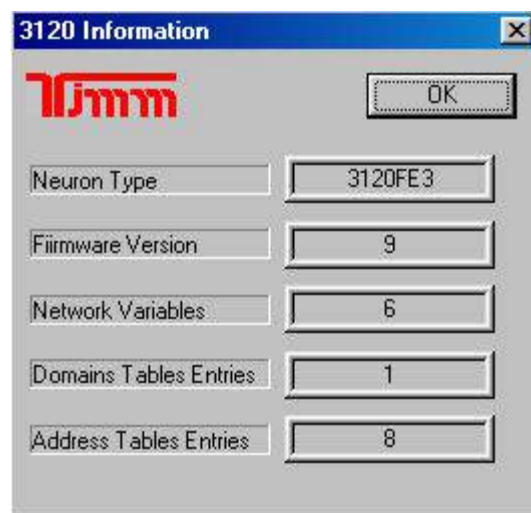
11) Select *Load File* from the Menu *Action*.

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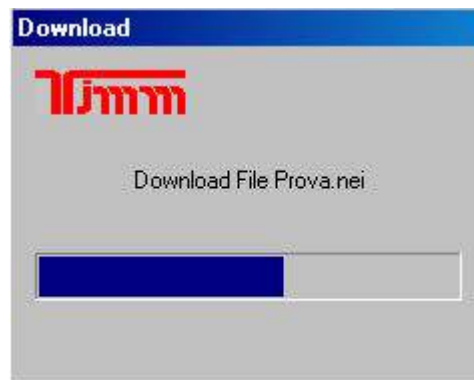
After that, an EDIT window will open to load the file with NEI extension.

Once the file is loaded, a window with some information is shown:



Press OK.

12) Select *Download* from the Menu *Action*:  
A scroll bar will appear

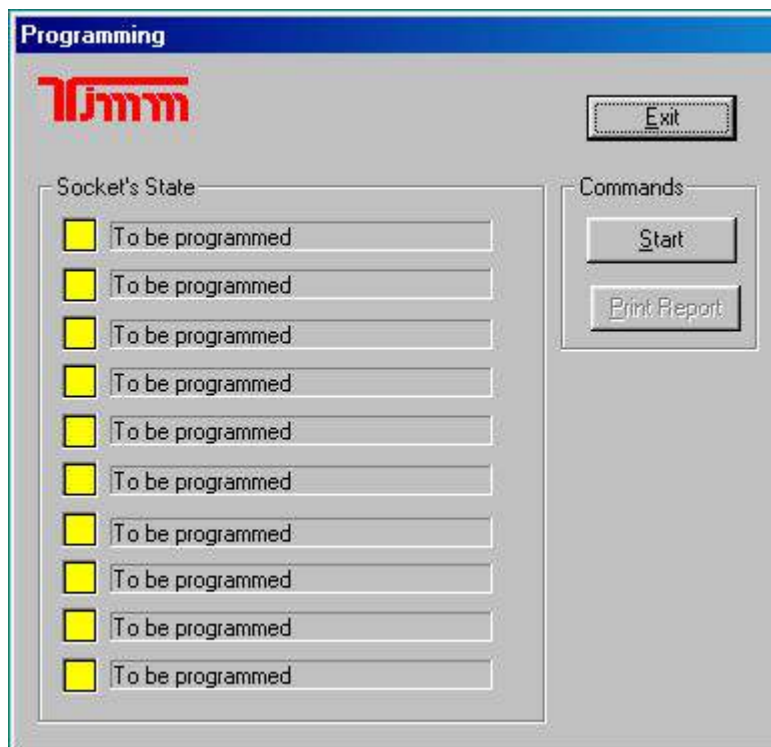






13) Place into pods all 3120 to be programmed (compatible with the NEI File already loaded).

14) Select *Program* from the menu *Action*.



Then press the *Start* button

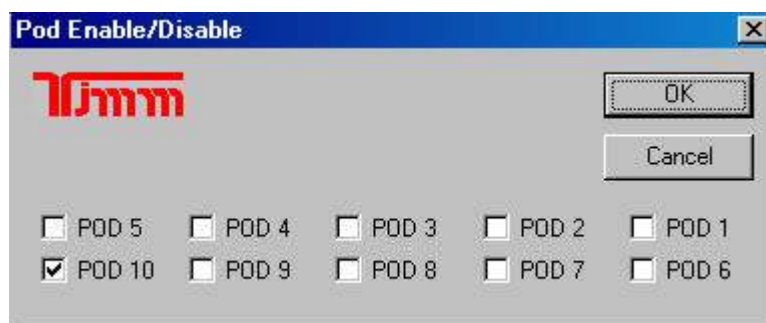
Wait for the programming to be carried out.



## CHAPTER 3: programming options

### Definition of the number of objects to program.

The MTGP10 programmer permits to define which pods must be taken into account in the programming stage. From the Menu *Setup* select *Socket (Pods) Definition*. The following window will appear:



It will select the pods which are going to take part in the programming activity. The association of the pods with the windows is a positional one, in that the check window on top left matches the pod on top left.

Press the button OK to activate your selection.

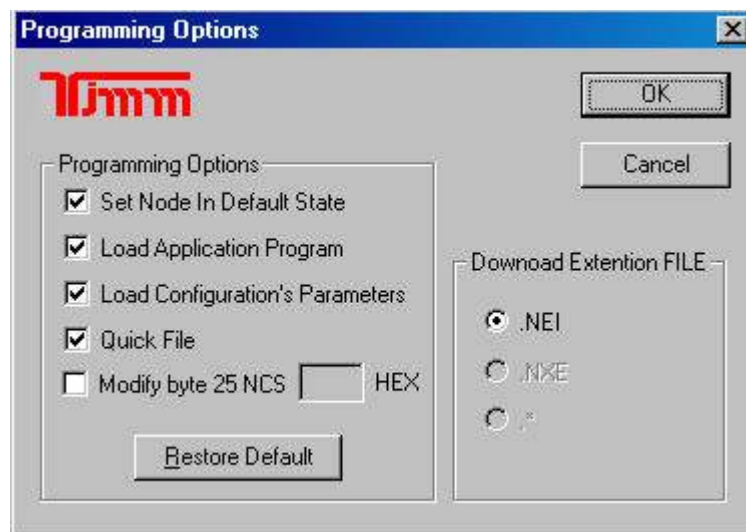
The latter focussed as follows:

- On the computer, since only the active pods will be drawn.
- On the programmer, since only the active pods will have the red led on.



## Programming options.

Select *Programming Options* from the Menu *Setup* .  
You will see the window below:



This kind of software uses only NEI-type files. The esadecimal file format can be both Motorola S-record and Hex Intel.

It is important to notice that the MTGP10 programmer has been tested only with NEI files made by LonWorks® LonBuilder® (3.0 and following) and NodeBuilder® systems. Being he format of the above files a non-standard one, if you are using other development tools , contact your retailer or the manufacturer for further information on



compatibility. You can e-mail them using the e-mail address on Appendix A of this manual.

To modify the Programming Options, a deep knowledge of both LonWorks® and conventional terms is essential.

You are advised not to modify this window, unless it is *really* necessary. If you need to do it, use the Restore Default option to avoid damaging the programmed devices.

The Set Mode Default State option re-programs the nodes configuration parameters, before the real programming takes place. The Load Application Program option starts/stops .NEI file application loading and programming .

The Load Configuration's Parameters option starts/stops .NEI file loading configuration parameters.

The Quick File option allows to program only the neuron chip part of memory currently in use, and saves users programming the unused memory which is filled with zeroes. The above option speeds up the various programming steps (with small programs, in particular).

The Modify byte 25 NCS allow overwrite last byte of Neuron Configuration Structure (NON-GP TIMER, AM, PREEP TIME). Refer to related documentation to understand this option.



## CHAPTER 4: programming

Programming is carried out sequentially on the neuron chips placed on the enabled pods; once launched, it cannot be stopped. The programming window monitors/shows the situation step by step. The first string and the first box on top refer to pod 1, the second to pod 2 and so on. The colour of the box (square) against each pod caption means:

YELLOW  TO BE PROGRAMMED

GREEN  PROGRAMMING CARRIED OUT

RED  GENERAL ERROR

The red box (square) can be the consequence of :

- faulty programming (dependent on the neuron chip)
- bad placement of the neuron chip on the pod

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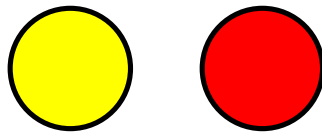
- c) no compatibility of the neuron chip with the model or the firmware defined in the file .NEI loaded. In any case, the caption and the printout of the programming report (if necessary) will make explain the cause of malfunctioning.



## CHAPTER 5: leds

There are two groups of leds: some placed near the pods (two each pod) and others on the front (four).

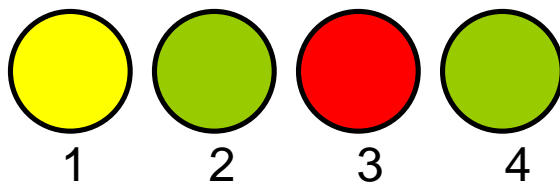
The leds next to the pods mean:



Red led :on if the pod is enabled.

Yellow led: connected to the service pin of the neuron chip to program. This led is active only when programming is occurring and follows the state of the chip which is being programmed. It is worth noting that before and after programming, each neuron chip is kept in the reset state. In this state the meaning of the yellow led is not important.

There are four leds on the front





From left to right:

yellow led (1) : it is connected to the service pin of the neuron chip placed inside the programmer. This led, except for a short blink at start, must be always off. If it switches on (apart from the blink mentioned above) there must be a hardware error.

green led (2) : it means that the power supply is on and the programmer is on, as well .

red led (3) : It means programming pods power on. It is switched on during the programming and reading stages. (see Chapter 6)

green led (4) : It shows the programmer activity. It should be normally blinking. The blinking rate is not constant, but depends on the type of operation in progress.





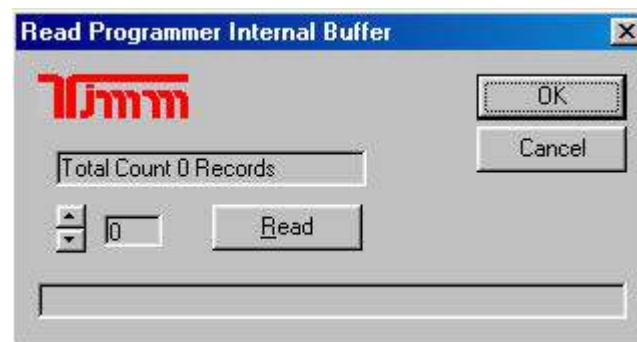
## CHAPTER 7: tests

### Reading of the in-built programmer buffer.

This operation can be carried out only after a program download.

From the Menu *Tests* select: *Read Buffer*.

On the window



Select the record index to read, then press *Read* button.

When a program has been downloaded, you will be able to check all the downloaded and readable records in the *Total Count* string.

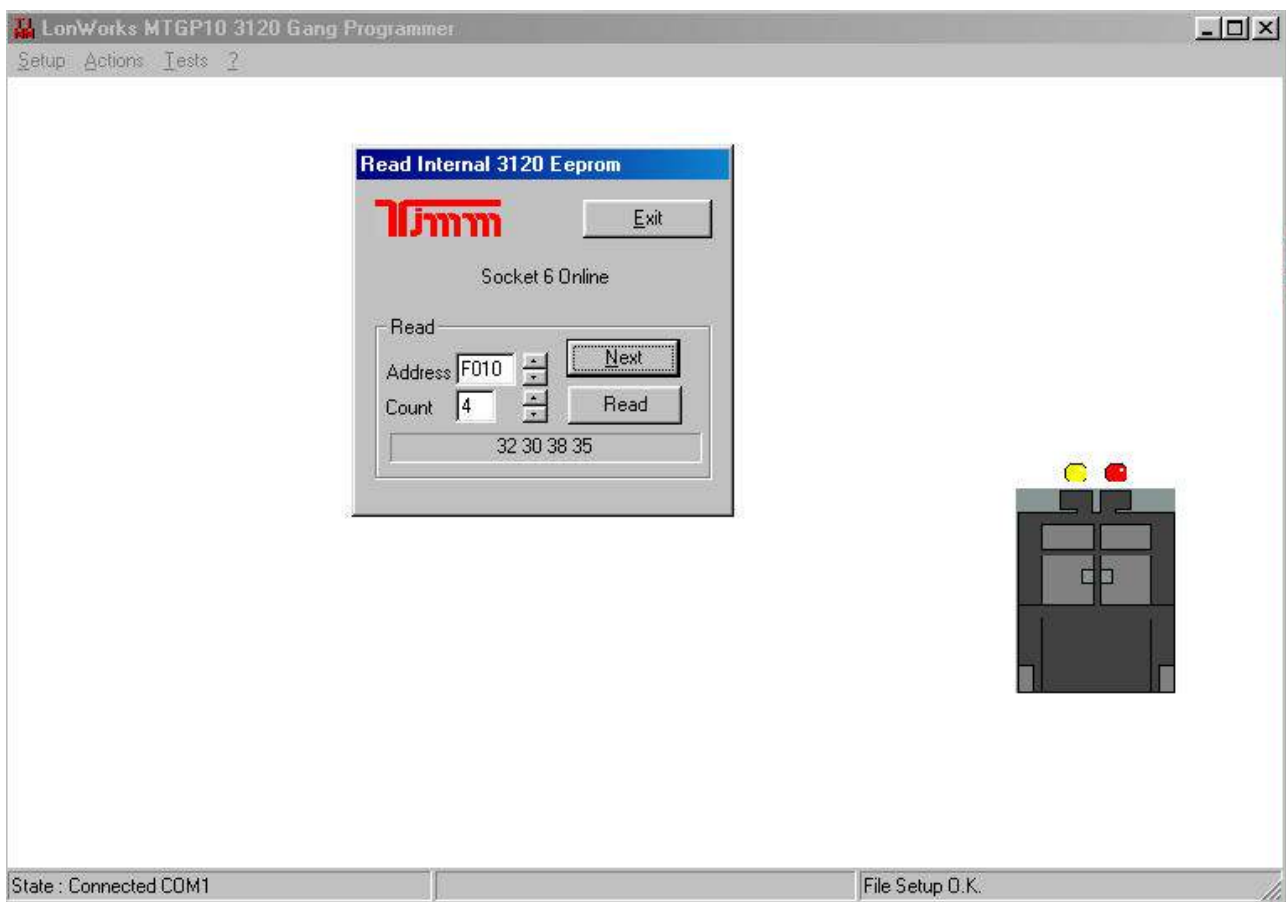
### Internal memory reading on a pod

This option is possible only if a single pod is selected and the neuron chip, on the pod, has the default configuration



parameters programmed. From the menu *Tests* select: Read 3120 Eeprom.

The following reading window will open:



Select the address to read on the field *Address*; select the number of bytes running (max 10) on the field *Count*. *Read* carries out the reading, *Next* does the reading and gets ready to read the next bytes.

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## Appendix A : LINKS

Related web-site: [www.timmsrl.com](http://www.timmsrl.com)

e-mail : [timm@timmsrl.com](mailto:timm@timmsrl.com)

In the e-mail, specify the product (MTGP10), the software version of the program and the manual updating (revision).

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## Appendix B : Back Panel



On the right you can see the 9 Volts Vdc 1A internal ground power supply connector.

On the right the PC standard 9 poles male serial connector with only 3 pins connected (2,3,5).

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