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1- **IMPORTANT RECOMMENDATIONS**

1.- Please be extremely careful with static electricity, due to the whole system is CMOS based. The people that have been inside a car, walking on carpets, or wear synthetic clothes, must discharge it's static electricity on a metal object connected to earth before touching any electronic board. Otherwise, the electrostatic discharge can destroy the components of the boards almost completely.

2.- Check that all connectors are correctly placed, in case they moved during transport.

3.- Check the electric instalation of the wall outlet. An accurate ground connection and security systems for electric shock must be installed.

4.- **You must turn-off the machine before disconnecting any internal part.**

5.- **The RS485 wires between machines can’t exceed 3 meters (118.11”).**

1.1- **COMPUMATIC AND THE ENVIRONMENT**

Compumatic cares about the environment and promote the conscious elimination of industrial remainders and leftovers.

Once the machine reaches the end of its lifetime, please dispose off properly, with respect to the environmental laws in your country.

The CPU contains a Nickel-Hydride battery, for data back-up purposes.

Please check this battery at least once a month. If any kind of leakage is observed, replace the battery for a brand new one, of the same model and manufacturer.

The defect battery should be sent back to Compumatic or delivered to a proper company for recycling. **NEVER** dispose off by yourself.

1.2- **RECYCLING**

This product has been designed and produced with materials and components of high quality, that can be recycled and reused.

The electric and electronic products include substances that could be harmful for the environment if they are not recycled correctly.

This symbol means that this electronic equipment, at the end of its life cycle, must not be disposed off together with domestic waste.

Please, deposit your old Minidart machine in an appropriate waste pickup point, or contact your local administration.

In the EU, there are specific pickup systems for electric and electronic equipment waste. Please help us to preserve the environment!

Please do not scrap batteries together with domestic waste.

Inform yourself in your distributor or local administration about disposing off used batteries.
2- INTRODUCTION AND OBSERVATIONS

Dear customer, all the team at COMPUMATIC want to thank you very much for purchasing this electronic dart machine. With it you have purchased a superb Dart Machine with all the 'state of the art' innovations. We recommend you to read carefully all the instructions contained in this manual, in order to operate the electronic system correctly and to get the maximum profit from it. If you have any suggestion to communicate us we want to encourage you to fax it or e-mail it to us. If reasonable, be sure that we will take it into account the earliest possible. Connect the main wire in the lower part of machine.

When you turn on the machine, it will start automatically. It will work in show attractive mode or stand by. **You can locate the main switch in the left part of the machine.**

If you want to introduce a new programming with the desired setting, you will have to turn on the test switch (see Connexion Plan, page 58). It is placed next to the volume V.R. and the Ni-MH battery, or by the other side of the display connector (the biggest of the Minidart CPU). To change settings go to the **section 3.**

2.1- THE MINIDART SYSTEM

Minidart CPU it's a four layer compact PCB CPU, designed by our technical team, very reliable, thought to be the heart of simple machines. ([Direct coin acceptor interface, Displays and Leds system control,...](see pag. 13)).

Minidart is a simple system full of innovations. Thanks to the new REF97 full custom IC, the Minidart CPU provides the following advantages.

- Small size suitable for low weight hanging machines.
- Card Reader: Player identification and special functions (*see pag. 13*).
- Simple player interface, with one number per every game, and a telephone style keyboard for game 'calling'.
- RS485 network connection with other Minidart machines.
- Game number showed on display.
- It can have 2 kinds of targets, easy to change into European and American target.
- Target illumination "without shadows" by electroluminescent diodes ring.
- Volume Sound Adjust Potenciometer (*see pag. 58*).
- Easy wiring, assembling and service.
- Big display PCB.
2.2- CHANGE TARGET TYPE

Minidart machine has two types of target:

- The small target, also known as "European".
- The big target, also known as "American"

Please follow enclosed instructions step by step how to change the target:

2.2.1- REMOVING THE TARGET.

1- Take out 4 wing nuts which are marked with letter B.
2- Disconnect the flat cable A from the Target.
3- Take out the set from the door.

FIGURE 1
(Inside machine)
Minidart machine can be fixed to the wall using the security machine hanger (Part number 00-000-116). See figure 2.

1- Fix the security machine hanger to the wall by the screws introducing them through the 18 holes marked with A.

**ATTENTION:** Check the stiffness of the wall and use the corresponding screws. The security hanger has to resist the 40 kg./87 pounds weight.

2- Take out the inner target following the steps in *(see paragraph 2.2.1)*.

3- 1.88 m / 74" is the exact height from hole A (security hanger) to the floor. See figure 2.

4- Put the 4 screws (cone head hex screw m10x18 mm./0.70" ) marked B following the figure 2, with two nuts C, each one at both sides of the metal case. Add the four washers H. Check that the distance D is about 20 mm./0.78".

5- Put the machine on the security hanger. The screws B have to fit inside mooring charge marked with E.

6- Put the security screw F (hexagonal m10x20 mm./0.78") and fix it by the nut G.
7- Put the extracted target again on its place, following the inverse procedure already described (see paragraph 2.2.1).

8- Measure the 2.93 m. / 115.3” from center of the target X to the edge of throw line Y. See figure 3.

9- Check the surface of the floor, it should be flat (unadorned). Any other surface can’t be suitable for the adhesive.

10- Clean the zone of the floor with alcohol or some appropriate product.

11- Take out the cover of adhesive side and put the throw line parallel to the wall. See figure 3.
2.4- ASSEMBLE OF THE METALLIC STAND

Minidart machine can be mounted in the optional metallic stand. The procedure of assembling is detailed below. See figure 4.

1.- Insert the metallic cylinders in the base and fix it with the screws A.

2.- Fix the upper base to the metallic cylinders with the screws B.

3.- Join the back support to the upper base with the screws C.

4.- Join the machine to the upper base and the back support with the screws D.

FIGURE 4
2.5-AUTO PROGRAMMABLE MULTI COIN ACCEPTOR

2.5.1-FEATURES

- Standard front plate measures.
- The microprocessor identifies the coin.
- Identifies 3 different kinds of coins. Up to 15 coins must be programmed to complete the self learning routine.
- Easy adjustment of 3 levels of sensitivity.
- Safety system CPU with manipulation prevention for a reliable and safe operation.
- Mechanical coin counter output (120 ppm). (counter not included).
- 2 different sizes of pulses to adapt to any device.

2.5.2-SPECIFICATIONS

Coin diameter: 18mm - 29mm
Coin width: 1.2mm - 3mm
Voltage: DC 12 V +/- 20%
Operating temperature: 10 °C ~ 45 °C
Power consumption: 50 mA (no counter)
Note: Turn-on the unit for 10 minutes before programming, to allow temperature to stabilize in the components.
INTRODUCTION AND OBSERVATIONS

2.5.3- PROGRAMMING MULTI COIN

2.5.5- SWITCH OPTIONS

INTRODUCTION AND OBSERVATIONS

2.5.3- PROGRAMMING

The programming mode shows in display the different registers of memory. Every register match with the number of pulses given. So if we program register number 2 means the coin introduced will give 2 pulses.
1. At the beginning put the switch E in «normal» position, put mode switch B in «set».
   The display shows «00».
2. press and release «A» button every time for reaching the desired register. The display will show 1.2.3...99
3. Insert 15 different coins (same value). When finishing the unit will show «F» and a «beep» can be heard.
4. Put the switch «B» in «start» position for normal operation.

2.5.4- CLEANING REGISTERS

1- To clean only one register put the switch B in “set”(display 00), select the desire register throught button A , then press button A and keep pressed until you hear a “beep” (2 seconds).
2. To clean ALL registers press button A for 2 seconds when display shows «00». Then it shows «C».
3. Return switch B to «start» position when finishing for normal operation.

2.5.5- SWITCH OPTIONS

B. Mode of operation: «Start» normal operation  «SET» Programming. 1- 99 reg/pulses
C. Width of pulse: Fast 25ms. Medium 45ms  Slow 65 ms
D. Output pulse type: NO normally open (0),(standar). NC normally closed (1)
2.6- CARD READER

The IC Card can be used in this machine to identify players, payment, bonus, etc.

A Computer and its software must be connected in order to use all this features.

2.7- NETWORKING MACHINES

Up to 32 machines can be connected to play in RS485 network. Connect a wire with 2 connectors RJ11 to the CPU (CN20,CN21).

Connect a RS485/USB converter to the computer. See figure 10.

The TOTAL length of the wire can’t exceed 100 m. (3937”). Wires between machines can’t exceed 3 m. (118,11”).

![FIGURE 10](image-url)
3- PROGRAMMING

Programming your CPU correctly will make your machine operate perfectly forever. Incorrect programming will make the machine uncomfortable to play, or will produce mistaken results from the player's action. The following paragraphs explain how to program the machine correctly.

3.1- HOW TO PROGRAM THE CPU

We will get into the programming menu moving the test switch to the left. The menu items appear on the players displays of the display board, summarized in seven segment expressions.

If just after the activation of the test switch, you enter the code 5-2-9-2, by pressing on the target sectors with your finger, you will access ALL the menu points. This code is only for manufacturers. If you give this code to your customers, then they will be able to modify critical values that alter your peripheral information, and maybe you will have to send your service engineers to reprogram the machine.

Anyway, see menu point 'RESET VALUES' (page 34) for help.

If just after the activation of the test switch, you do nothing, you will access ONLY the highlighted and underlined menu points. These points correspond to the normal machine servicing. The menu points are:

<table>
<thead>
<tr>
<th>PRICE ADJUST</th>
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<tr>
<td>TIME LIMIT</td>
</tr>
<tr>
<td>ACCEPTOR TYPE</td>
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</tr>
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</tr>
<tr>
<td>CREDIT IN 4</td>
</tr>
<tr>
<td>CREDIT IN 5</td>
</tr>
<tr>
<td>CREDIT IN 6</td>
</tr>
<tr>
<td>CREDIT IN KEY</td>
</tr>
<tr>
<td>BONUS AT</td>
</tr>
<tr>
<td>BONUS ABS</td>
</tr>
<tr>
<td>IN 1 PULSE</td>
</tr>
<tr>
<td>IN 2 PULSE</td>
</tr>
<tr>
<td>IN 3 PULSE</td>
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</table>

IN 4 PULSE
IN 5 PULSE
IN 6 PULSE
KEY PULSE
LOTTERY
LOTTER PERCEN
TEST TARGET
TEST LEDS
ROUND HIGH SCORE
ROUND 180
ROUND 301
ROUND 501
ROUND 501 FIVE
ROUND 701
ROUND CRICKET
PLAYER CHANGE
DELAY TIME
ATTRACT
BUST LIMIT
TYPE TARGET
PLAY-OFF
LANGUAGE
PUBLICITY
SOUND TYPE
RETURN DART
FIRST DART
TYPE DIGIT
END PLAY
CLASSIFY
BLINK PLAYER
AVERAGE
ROUND WINNER
THROW ON LED
GAME ON LED
ALARM VOL
LOTTO VOL
RESET VALUES
INFO SPEED
RESET BAR
EQUAL ALL
LAMP MODE
SINGLE BULL
DISPLAY TYPE
HOUR ADJUST
When we see the submenu name we have to press the button to enter into this submenu, where we will see the name of the first game.

Here we have an additional submenu, which is the game whose price we want to change. We change the game with the button while with

We are able to change and fix the price in credits for each GAME in the machine. The price can be adjusted to any value of credits between

and

the price is shown in the temp score displays, if a strange symbol appears during price selection of a concrete GAME (for example 180), this GAME can be adjusted for 'half credit'. If you adjust price = ½, two players can play with one credit, and that the minimum number of players for this GAME will be two, since the machine cannot hold half of credit.

Once we are finished with all the price adjustments, to confirm and store the values we have to press the button
and return to root menu (see page 15).

### 3.3- TIME LIMIT

Press

and display will show

When we see the submenu name, we have to press the button

TEAM

to enter into this submenu, where we are able to change and fix the maximum time that the player has for throwing each dart to the target.

With

1  2

we change the time limit between

**NO TIME LIMIT**

and

**60 SECONDS**

in 10 seconds increments. The time is shown in the temp score displays, if we choose '0', then the player has unlimited time for all darts.

Once we are finished with the time limit adjustment, to confirm and store the values we have to press the button

TEAM

### 3.4- ACCEPTOR TYPE

Press

and display will show

When we see the submenu name, we have to press the button

TEAM

we change the acceptor type between

**PARALLEL**

**SERIAL PIN 7**

**SERIAL PIN 8**

**SERIAL PIN 9**

**SERIAL PIN 10**

**SERIAL PIN 3**

**SERIAL PIN 4**

Serial means that there is an electronic acceptor mounted with a serial output connected to this pin. Only one coin input can be set to serial.

The pin number (0,7,8,9,10,3,4) is also shown in the temp score displays, '0' means Parallel acceptor.

Once we are finished with the adjustment, to confirm and store the values we have to press the button

TEAM

### 3.5- CREDIT IN 1

Press

and display will show

This input refers to pin 7 of connector CN13, and also to the 2 pin connector CN6 (used in this machine), when you plug the acceptor to this connector. When we see the submenu name, we have to press the button

TEAM
to enter into this submenu, where we are able to change and fix the number of credits and bonus per every pulse received in the coin input 1 pin. With

1
2

we change the number of credits per pulse

![Image 1 CREDIT]

and

![Image 20 CREDIT]

finally with button

PLAYERS

we change the number of bonus. The values are also shown in the temp score and round displays.

Once we are finished with the 'credit in 1' adjustment, to confirm and store the values we have to press the button

TEAM

NOTE: This system only works if we select the Parallel Acceptor Type.

3.6- CREDIT IN 2

Not used in this model.

3.7- CREDIT IN 3

Not used in this model.

3.8- CREDIT IN 4

Not used in this model.

3.9- CREDIT IN 5

Not used in this model.

3.10- CREDIT IN 6

Not used in this model.

3.11- CREDIT IN KEY

Not used in this model.

3.12- BONUS AT

Not used in this model.
3.17- IN 4 PULSE
Not used in this model.

3.18- IN 5 PULSE
Not used in this model.

3.19- IN 6 PULSE
Not used in this model.

3.20- KEY PULSE
Not used in this model.

3.21- LOTTERY
Press

When we see the submenu name, we have to press the button TEAM
to enter into this submenu, where we'll be able to activate the lottery option.
A random number is displayed on the temp score displays at the end of the game.

If this number matches the points of one or more of the players, the number of credits spent by the fortunate players in that particular GAME are returned to the credit meter.

With

we choose between

NO LOTTERY

and

LOTTERY

(To activate the lottery option)

The equivalent 0, or 1 are also shown in the temp score displays.

Once we are finished with the lottery setting, to confirm and store the values we have to press the button TEAM.

3.22- LOTER PERCEN

Press

and display will show

When we see the submenu name, we have to press the button TEAM
to enter into this submenu, where we select the payout percentage of the lottery system (if activated).

This payout is calculated on a credit basis. That means, if the percentage is set to 30%, 30 free credits would be given for every 100 credits played in the machine.

With

we set the percentage between

1 PERCENT

and

50 PERCENT

in 1 % increments.

The value selected is also shown in the temp score displays

Once we are finished with the adjustment, to confirm and store the values we have to press the button TEAM.
3.23- TEST TARGET

Press 1

and display will show

When we see the submenu name, we have to press the button TEAM

to enter into this submenu, where we are able to test the correct connection of all the target segments to the foil matrix sensor in the machine. When we press a sector, for example double 15, we see

you can use the display board, where the 'game' display indicate if the sector is single, double or triple by indicating 1, 2 and 3 respectively, while the correct sector number is displayed on the 'round' display.

3.24- TEST LEDS

Press 1

and display will show

When we see the submenu name, we have to press the button TEAM

to enter into this submenu, where we are able to test the correct lighting of all the LEDS in the machine.

We change the test mode with the button PLAYERS

and with 1 2

we move up and down between

where we LED BY LED TEST

where we HORIZONTAL LINES

where we DIGIT UNITS

where LED's turn on display by display with all the segment lighted.

Here the DIGIT SEGMENTS

led on in all the displays, then segment 'b', and so until segment 'g'.

All displays ALL LED at same time, including displays and leds ring on target.

Once we are finished with all the tests, to leave the submenu we have to press the button TEAM

3.25- ROUND HI-SCORE
Press 1

and display will show

When we see the submenu name, we have to press the button TEAM to enter into this submenu, where we are able to change and fix the round limit for the HI-SCORE, LO-SCORE and SUPER-SCORE games of the machine.

With 1 2

we change the option between

and

The value '0' means that the rounds are unlimited. In the case that we set a number, this number is the round limit for all the game's options and variations (in, out, masters, equal...).

Once we are finished with the setting, to confirm and store the values we have to press the button TEAM

Press 1

and display will show

When we see the submenu name, we have to press the button TEAM to enter into this submenu, where we are able to decide if we want an extra round limit for the 180 games of this machine.

With 1 2

we change the option between

and

The value is also shown in the temp score displays.

Once we are finished with all the round limit adjustment, to confirm and store the values we have to press the button TEAM

Press 1

and display will show

When we see the submenu name, we have to press the button TEAM to enter into this submenu, where we are able to decide if we want an extra round limit for the 301 games of this machine.

Press 1

and display will show

When we see the submenu name, we have to press the button TEAM
With 1 2 we change the option between **NO ROUND LIMIT** and **95 ROUNDS** in increments of 5 rounds.

The value is also shown in the temp score displays. The value '0' means that the rounds are unlimited. In the case that we set a number, this number is the round limit for all the game's options and variations (in, out, masters, equal...).

Once we are finished with the setting, to confirm and store the values we have to press the button **TEAM**.

3.28- ROUND 501

Press 1 and display will show

When we see the submenu name, we have to press the button **TEAM** to enter into this submenu, where we are able to decide if we want an extra round limit for the 501 games of this machine. With 1 2 we change the option between **NO ROUND LIMIT** and **95 ROUNDS** in increments of 5 rounds.

The value is also shown in the temp score displays. The value '0' means that the rounds are unlimited. In the case that we set a number, this number is the round limit for all the game's options and variations (in, out, masters, equal...).

Once we are finished with the setting, to confirm and store the values we have to press the button **TEAM**.

3.29- ROUND 501 FIVE

Press 1 and display will show

When we see the submenu name, we have to press the button **TEAM** to enter into this submenu, where we are able to decide if we want an extra round limit for the 501 FIVE games of this machine. With 1 2 we change the option between **NO ROUND LIMIT** and **95 ROUNDS** in increments of 5 rounds.

The value is also shown in the temp score displays. The value '0' means that the rounds are unlimited. In the case that we set a number, this number is the round limit for all the game's options and variations (in, out, masters, equal...).
3.30- ROUND 701

Press

and display will show

When we see the submenu name, we have to press the button

TEAM

to enter into this submenu, where we are able to decide if we want an extra round limit for the 701 games of this machine. With

1

2

we change the option between

NO ROUND LIMIT

and

95 ROUNDS

in increments of 5 rounds.

The value is also shown in the temp score displays.

The value '0' means that the rounds are unlimited. In the case that we set a number, this number is the round limit for CRICKET, CRICKET CUT THROAT and BLACK OUT JOE.

Once we are finished with the setting, to confirm and store the values we have to press the button

TEAM

3.31- ROUND CRICKET

Press

and display will show

When we see the submenu name, we have to press the button

TEAM

to enter into this submenu, where we are able to decide if we want an extra round limit for the CRICKET games of this machine. With

1

2

we change the option between

NO ROUND LIMIT

and

30 ROUNDS

in increments of 5 rounds.

The value is also shown in the temp score displays.

The value '0' means that the rounds are unlimited. In the case that we set a number, this number is the round limit for CRICKET, CRICKET CUT THROAT and BLACK OUT JOE.

Once we are finished with the setting, to confirm and store the values we have to press the button

TEAM

3.32- PLAYER CHANGE

Press

and display will show

When we see the submenu name, we have to press the button

TEAM

to enter into this submenu, where we are able to activate different options for the automatic player change.
With

1
2

we choose between

**MANUAL**
The automatic player change option is cancelled (manual change by pushing the players button).

**AUTO NC**
Not used in this model.

**AUTO NO**
Not used in this model.

**AUTO NC + TIMER**
Not used in this model.

**AUTO NO + TIMER**
Not used in this model.

**TIME 5 SECONDS**
Player change is produced 5 seconds after last dart of previous player reaches the target.

Player change is produced 6 seconds after last dart of previous player reaches the target.

Player change is produced 7 seconds after last dart of previous player reaches the target.

Player change is produced 8 seconds after last dart of previous player reaches the target.

Player change is produced 9 seconds after last dart of previous player reaches the target.

The correspondent value (0...9) is shown in the temp score displays.

Once we are finished with the player change setting, to confirm and store the values we have to press the button

**TEAM**

Press

1

and display will show

When we see the submenu name, we have to press the button to enter in that submenu and are able to activate: 3.33- DELAY TIME

3.34- ATTRACT
If the option is activated, the music will play after some minutes without credits in the machine.

With

1
2

we choose between

to cancel the attract music option

**NO ATTRACT**

00

TEMP SCORE


to activate the American music option

**AMERICAN MUSIC**

01

TEMP SCORE

for 'I Feel Good' music.

The equivalent 0, 1, 2 or 3 are also shown in the temp score displays.

**NO WOW**

03

TEMP SCORE

Once we are finished with the attract setting, to confirm and store the values we have to press the button

TEAM

When we see the submenu name, we have to press the button to enter in the submenu and be able to activate the possibility of a player being out of the game (only for '01 type games) when he produces the fifth bust.

If the option is activated, after one player produces the bust number five, this player comes automatically out of the game.

With

1
2

we choose between

to cancel the bust limit option, or

**NO BUST LIMIT**

00

TEMP SCORE


to activate the bust limit option.

The value is also shown in the temp score displays. In this case, the '0' means that there is no bust limit.

Once we are finished with the bust limit setting, to confirm and store the values we have to press the button

TEAM

**MAXIMUM 5 BUST**

01

TEMP SCORE

**3.35- BUST LIMIT**

Press

1

and display will show

**3.36- TYPE TARGET**

Press

1

and display will show
We have to press the button

where we are able to set the sensor matrix orientation in 90 degrees increments for 16x4 (20 pins) sensor models. With the classic target we choose between
to activate 0º, 90º, 180º or 270º turning option, and
to activate 0º, 90º, 180º or 270º turning option with reverse connection on the Microdar CPU board.
In a possible target receiver for steel darts we would choose between
to activate 0º, 90º, 180º or 270º turning option, and
to activate 0º, 90º, 180º or 270º turning option with reverse connection on the Microdar CPU board.
The correspondent value (0 ... 7) or (8..15) is shown in the temp score displays.

Once we are finished with the target setting, to confirm and store the values we have to press the button

We have to press the button

to enter into this submenu, where we are able to activate or cancel the play-off option.
We have to press the button

to enter into this submenu, where we are able to activate or cancel the play-off option.

When more than one player have the same points at the end of the game, one extra round is allowed with only one dart, in order to decide which player is the winner.

With

we choose between

and

The correspondent value (0 ... 7) or (8..15) is shown in the temp score displays.

Once we are finished with the play-off setting, to confirm and store the values we have to press the button

Press

and display will show

Press

and display will show
and display will show

When we see the submenu name, we have to press the button

TEAM

To enter into this submenu where we are able to set the word that will appear alternately with the word ‘DARTS’ during the machine attract mode show, the last programmed text will appear in the display:

With

1
2

we choose between

The correspondent value (1 ... 11) is shown in the display.

Once we are finished with the publicity setting, to confirm and store the values we have to press the button

TEAM

3.40- SOUND TYPE

Press

1

and display will show

CZECH

PORTUGUESE

SERBO CROAT

ENGLISH

SPANISH

GERMAN

SLOVEN

FRENCH

ITALIAN

CZECH

MAGIAR

POLISH

Once we are finished with the language setting, to confirm and store the values we have to press the button

TEAM

3.38- LANGUAGE

3.39- PUBLICITY
When we see the submenu name, we have to press the button `TEAM` to enter into this submenu, where we are able to choose between different sound types.

With

1
2

we choose between

to activate the 'peep' American sound in all sectors

for 'peep' American sound only in some sectors

for 'Middle European' sound

Peep All

Peep Some

Middle European Low

The correspondent 0, 1, or 2 are shown in the temp score displays.

Once we are finished with the sound type setting, to confirm and store the values we have to press the button `TEAM`.

3.41- RETURN DART

When we see the submenu name, we have to press the button `TEAM` to enter into this submenu, where we are able to activate or cancel the return dart option.

If the option is activated, the player can rewind the game '1 dart backwards' by pressing the key 'BULL' during 5 seconds.

With

1
2

we choose between

to cancel the option

to return the first dart of the player turn

No Return

Only First

The equivalent 0, 1, or 2 are shown in the temp score displays.

Once we are finished with the return dart setting, to confirm and store the values we have to press the button `TEAM`.

3.42- FIRST DART

Press

1

and display will show
When we see the submenu name, we have to press the button

**TEAM**

to enter into this submenu, where we are able to activate or cancel the first dart option.

If the option is activated, the ‘false dart’ signal (the dart impacts on the door) is accepted on the first dart of the game (first dart of first round of first player).

In this case, because the game has not started yet, if the player changes the game again and hits the buttons on the door strongly, the detector can be activated and the machine will remove one dart.

If the option is cancelled, the ‘false dart detector’ is not operational on the first dart, to avoid detecting the push-button mechanical noise. With

1

2

we choose between

to cancel the first dart option, or

to activate the first dart option.

The equivalent 0 or 1 is shown in the temp score displays.

Once we are finished with the first dart setting, to confirm and store the values we have to press the button

**TEAM**

3.43- TYPE DIGIT

Press

1

and display will show

When we see the submenu name, we have to press the button

**TEAM**

3.43- TYPE DIGIT

3.44- END PLAY

Press

1

and display will show

When the option is cancelled, all meaningless zeros are shown building up to three digits per active player, then, for example, 5 points are shown as

With

1

2

we choose between

to cancel the type digit option, or

to activate the type digit option.

The correspondent 1 or 2 is shown in the temp score displays.
When we see the submenu name, we have to press the button TEAM to enter into this submenu, where we are able to change the minutes of total inactivity needed for the machine to self-cancel the current game.

With 1 or 2, we choose between

and

in 5 minutes increments.

If the value is set to 'n', and the machine is on the middle of a game, after 'n' minutes of no activity (nobody playing), the current game will be finished, and the players will never be able to continue the interrupted game again.

After '2 times n' minutes, all the credits in the machine will be set to zero. For example, if the value is set to 10, after '10' minutes of no activity, the current GAME will finish, and after '20' minutes of no activity all the credits in the machine will be removed.

The correspondent value (0 ... 30) is shown in the temp score displays. If the value is set to '0' the current GAME is never reset.

Once we are finished with the end play adjustment, to confirm and store the values we have to press the button TEAM.

When we see the submenu name, we have to press the button TEAM to enter into this submenu, where we are able to show the provisional classification of the players at the beginning of a round. If the option is activated, the classification is shown during the first five seconds of the 'throw darts' time of the first player, ONLY FOR GAMES where the 'team totals' are needed.

The classification, providing player 2 is the provisional winner, is shown somehow like

If the option is cancelled, no provisional classification is shown.

With 1 or 2, we choose between

to cancel or

to activate the classify option.

The equivalent 0 or 1 is shown in the temp score displays.

Once we are finished with the classify setting, to confirm and store the values we have to press the button TEAM.

When we see the submenu name, we have to press the button TEAM to enter into this submenu, where we are able to show the provisional classification of the players at the beginning of a round. If the option is activated, the classification is shown during the first five seconds of the 'throw darts' time of the first player, ONLY FOR GAMES where the 'team totals' are needed.

The classification, providing player 2 is the provisional winner, is shown somehow like

If the option is cancelled, no provisional classification is shown.

With 1 or 2, we choose between

and

Press

and display will show

and display will show
When we see the submenu name, we have to press the button

![TEAM](image1)

To enter into this submenu, where we are able to activate or cancel the blinking (ON and OFF) of the current player's points during the 'throw darts' time.

If the option is activated, the current player's points blink during the 'throw darts' time. If the option is cancelled, only the player number led blinks.

With

1
2
we choose between

- To cancel the blink player option, or
- To activate the blink player option.

The equivalent 0 or 1 is shown in the temp score displays.

Once we are finished with the blink player setting, to confirm and store the values we have to press the button

![TEAM](image2)

Press

3
NO

and display will show

When we see the submenu name, we have to press the button

![TEAM](image3)

To enter into this submenu, where we are able to show the average points of the three darts of the player at the end of every turn.

If the option is activated, the average is shown in the temporary score displays preceded by a letter 'A'. For example, if the result of the first throw is 14 points, the second 11 points, and the third 14 points, the temporary score is 30 points and the average is 10 points, which are shown like

With

1
2

we choose between

- To cancel the average option, or
- To activate the average option.

The correspondent 0 or 1 is shown in the temp score displays.

Once we are finished with the average setting, to confirm and store the values we have to press the button

![TEAM](image4)

Press

3
NO

and display will show

When we see the submenu name, we have to press the button

![TEAM](image5)
to enter into this submenu, where we are able to show the provisional winner of every round. This menu point is totally different from the ‘Classify’ option. Here, we refer to the winner of ONLY the last round, and in the ‘Classify’ option we refer to the provisional winner of all previous rounds up to now.

If the option is activated, the provisional winner points meter shows the character string (from round), after the last player of the round has finished, and until the ‘throw darts’ light is activated for the first player of the next round. If the option is cancelled, no round winner is shown.

With 

1

2

we choose between

to cancel the round winner option, or

to activate the round winner option.

The correspondent 0 or 1 is shown in the temp score displays.

Once we are finished with the round winner setting, to confirm and store the values we have to press the button

TEAM

3.49- THROW ON LED

Press

NO

and display will show

YES

When we see the submenu name, we have to press the button

TEAM

to enter into this submenu, where we are able to show or cancel some additional messages in the cricket led’s. If the option is activated, all the possible messages are shown on the cricket led’s. If the option is cancelled, only the basic messages (Throw-Remove) are shown.

With

1

2

we choose between

‘Throw’ and ‘Remove’ aren’t displayed, or

‘Throw’ and ‘Remove’ are displayed on the cricket led’s, in the specified language.

The equivalent value (0, 1) is shown in the temp score displays.

Once we are finished with the adjustment, to confirm and store the values we have to press the button

TEAM

3.50- GAME ON LED

Press

YES

and display will show

When we see the submenu name, we have to press the button

TEAM

to enter into this submenu, where we are able to show the provisional winner of every round. This menu point is totally different from the ‘Classify’ option. Here, we refer to the winner of ONLY the last round, and in the ‘Classify’ option we refer to the provisional winner of all previous rounds up to now.
to cancel the 'game on leds' option, or
activate the 'game on leds' option.
The equivalent 0 or 1 is shown in the temp score displays.
Once we are finished with the 'game on leds' setting, to confirm and store the values we have to press the button

3.51- ALARM VOL

Press

<table>
<thead>
<tr>
<th>NO</th>
<th>1</th>
</tr>
</thead>
</table>

and display will show

| YES | |

When we see the submenu name, we have to press the button

TEAM
to enter into this submenu, where we adjust by software the volume of the alarm sound (The sound that the machine produces when somebody is playing without paying credits for the game).

We choose the desired volume with

| 1 |

as follow

The alarm volume is set to twice the normal game sound volume.
The alarm volume is set to the same level as the normal game sound volume.
The equivalent value (0,1) is shown in the temp score displays.

Once we are finished with the adjustment, to confirm and store the values we have to press the button

TEAM

| HIGH |

3.52- LOTTO VOL

Press

| LOW | 1 |

and display will show

When we see the submenu name, we have to press the button

TEAM
to enter into this submenu, where we adjust by software the volume of the lottery sound (The sound that the machine produces after a game, when making the random number selection for free credits or no lottery. See item 9 of this menu).

We choose the desired volume with

| 1 |

as follow

The lottery volume is set to twice the normal game sound volume.
The lottery volume is set to the same level as the normal game sound volume.
The equivalent value (0,1) is shown in the temp score displays.

Once we are finished with the adjustment, to confirm and store the values we have to press the button

TEAM

| HIGH |

3.53- RESET VALUES

-33-
Press **1**

and display will show

When we see the submenu name, we have to press the button **TEAM**

to enter into this submenu, where, and just after entering it, the machine *ask us to introduce a code* through the target.

Then we can introduce a 4 digit code by pushing with the fingers on the surface of the target sectors.

After that, **ALL THE VALUES FROM THIS TEST MENU** will be reset to a determinate set of values.

This is an emergency solution when someone has manipulated the test points incorrectly and has recorded an incoherent set of values.

Ask the manufacturer of your machine about his **RESET CODE**.

With the code **'5 - 8 - 9 - 5'** the machine is reset to 'Compumatic' original reset values, which are the following:

**PRICE ADJUST:**

*Pub and all 180’s = half credit.*

*Scram, all 501’s and Cricket’s = 2 credits.*

*All 701’s =3 credits.*

*Bull Master and Black out Joe = 2 credits.*

*All other games = 1 credit.*

**TIME LIMIT** 0

**ACCEPTOR TYPE** 0

<table>
<thead>
<tr>
<th>Credit in</th>
<th>Price Adjust</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pub and all 180’s = half credit.</td>
</tr>
<tr>
<td>1</td>
<td>Scram, all 501's and Cricket's = 2 credits.</td>
</tr>
<tr>
<td>1</td>
<td>All 701's = 3 credits.</td>
</tr>
<tr>
<td>1</td>
<td>Bull Master and Black out Joe = 2 credits.</td>
</tr>
<tr>
<td>1</td>
<td>All other games = 1 credit.</td>
</tr>
</tbody>
</table>

**RETURN DART** 1

**PLAY OFF** 1

**FIRST DART** 0

**DELAY TIME** 1

**TYPE DIGIT** 1

**END PLAY** 0

**CLASSIFY** 1

**BLINK PLAYER** 1

**AVERAGE** 1

**ROUND WINNER** 1

**GAME ON LED** 0

**ALARM VOL** 1

**LOTTO VOL** 1

**THROW ON LED** 1
When we see the submenu name, we have to press the button

TEAM

to enter into this submenu, where we decide if we allow the bar tender to cancel the current game, or to reset the credits, in the actual machine.

We change as follows:

The bar tender cannot cancel the current game, or reset the actual credits.

The bar tender can cancel the current game and reset the actual credits, in the following way:

Keeping the key in the keyboard permanently pressed during 10 seconds, player button light will flash. At this moment, the bar tender can enter the following codes:

With his finger, on the target TRIPLE sectors:

- Code '1 - 2 - 3', Finishes the current game completely at any moment.
- Code '4 - 5 - 6', Resets the credits to zero.

The equivalent numerical value (0, 1) is shown in the temp score displays.

Once we are finished with the adjustment, to confirm and store the values we have to press the button

TEAM

3.55- EQUAL ALL

Press
and display will show

When we see the submenu name, we have to press the button

TEAM

to enter into this submenu, where we decide if the EQUAL option is offered to the player automatically when selecting any '01 game (301, 501, 701).

We change the value with

as follows:

The EQUAL option is offered to the player automatically ONLY with 180. The player can de-select the EQUAL option for 180 game if he wants. The player must select the EQUAL option for Parchessi, 301's, 501's, 501 five's and 701's if he wants to play '01 EQUAL.

The EQUAL option is offered to the player automatically when selecting any '01 game (180’s, Parchessi, 301’s, 501’s, 501 five's and 701's). The player can de-select the EQUAL option if he wants. The player must select the EQUAL option for Parchessi, 301's, 501's, 501 five's and 701's if he wants to play '01 EQUAL.

The equivalent numerical value (0,1) is shown in the temp score displays.

Once we are finished with the adjustment, to confirm and store the values we have to press the button

TEAM

3.57- TARGET ILLUMINATION

YES

Press

and display will show

When we see the submenu name, we have to press the button

TEAM

to enter into this submenu, where we decide how the target ilumination works.

We change the value with

1 2

as follows:

OFF IF NO CREDIT

The target ilumination turn off 10 seconds after the game is over if there are no credits.

ON IF NO CREDIT

Press

The target ilumination is always on.

At the end of each game it blinks.

and display will show

Once we are finished with the adjustment, to confirm and store the values we have to press the button

TEAM

When we see the submenu name, we have to press the button
to enter into this submenu, where we decide the behaviour of the double bull system on the target. We change the value with

1
2

as follows:

The bull is offered initially as full double (50 points inside and 25 points outside).
The player can reverse to 'single 50 points bull mode' manually with the key

BULL

before the game starts. Pushing the key

BULL

shortly after the game starts the cricket display will show how is the Bull programmed.

For example:

The bull is offered initially as full double (25 points inside and 25 points outside).
The player can reverse to 'single 50 points bull mode' manually with the key

BULL

before the game starts. Pushing the key

BULL

shortly after the game starts the cricket display will show how is the Bull programmed.

The bull is offered initially as full double (50 points inside and 50 points outside). The player can reverse to 'full double bull mode (25-50)' manually with the key

BULL

The equivalent numerical value (0,1,2,3) is shown in the temp score displays.

Once we are finished with the adjustment, to confirm and store the values we have to press the button

TEAM

3.59- DISPLAY TYPE

Not used in this model.

3.60- HOUR ADJUST

Press

1

and display will show

When we see the submenu name, we have to press the button

TEAM

to enter in this submenu, where we set the hour.

We change the value with

1
2

as follows.
The equivalent numerical value (0,23) is shown in the temp score displays.
Once we are finished with the adjustment, to confirm and store the values we have to press the button

**TEAM**

### 3.61- MINUTE ADJUST

When we see the submenu name, we have to press the button

**TEAM**

to enter in this submenu, where we set the minute. We change the value with

1
2

as follow:

The equivalent numerical value (0,59) is also shown in the temp score displays.
Once we are finished with the adjustment, to confirm and store the values we have to press the button

**TEAM**

### 3.62- DAY ADJUST

When we see the submenu name, we have to press the button

**TEAM**

to enter in this submenu, where we set the day. We change the value with

1

as follow:

The equivalent numerical value (1,31) is shown in the temp score displays.
Once we are finished with the adjustment, to confirm and store the values we have to press the button

**TEAM**

### 3.63- MONTH ADJUST

When we see the submenu name, we have to press the button

**TEAM**

to enter in this submenu, where we set the month. We change the value with

1

as follow:

The equivalent numerical value (1,12) is shown in the temp score displays.
Once we are finished with the adjustment, to confirm and store the values we have to press the button

**TEAM**
3.64- YEAR ADJUST
Press TEAM
and display will show

When we see the submenu name, we have to press the button

TEAM

to enter in this submenu, where we set the year. We change the value with

as follows:

The equivalent numerical value (0,99) is shown in the temp score displays.
Once we are finished with the adjustment, to confirm and store the values we have to press the button

TEAM

3.65- H HOUR START
Press TEAM
and display will show

When we see the submenu name, we have to press the button

TEAM

to enter in this submenu, where we set the start hour of the Happy Hour. “Happy hour” means that every coin introduced count as double credits.

The equivalent numerical value (0,23) is shown in the temp score displays.
Once we are finished with the adjustment, to confirm and store the values we have to press the button

TEAM

3.66- H MIN START
Press TEAM
and display will show

When we see the submenu name, we have to press the button

TEAM

to enter in this submenu, where we set the start minute of the Happy Hour.

The equivalent numerical value (0,59) is shown in the temp score displays.
Once we are finished with the adjustment, to confirm and store the values we have to press the button

TEAM

3.67- H HOUR STOP
Press TEAM
and display will show

When we see the submenu name, we have to press the button

TEAM

to enter in this submenu, where we set the start hour of the Happy Hour. “Happy hour” means that every coin introduced count as double credits.
We have to press the button to enter in this submenu, where we set the stop hour of the Happy Hour. We change the value with

The equivalent numerical value (0.23) is shown in the temp score displays. Once we are finished with the adjustment, to confirm and store the values we have to press the button

The equivalent numerical value (0.59) is shown in the temp score displays. Once we are finished with the adjustment, to confirm and store the values we have to press the button

We have to press the button to enter in this submenu, where we can adjust the days of the week with active Happy Hour. We change the value with

3.68- H MIN STOP

The equivalent numerical value (0.23) is shown in the temp score displays. Once we are finished with the adjustment, to confirm and store the values we have to press the button

3.69- H DAY ACTIVE

Press and display will show

3.70- REV KEYBOARD
Press the button

**team**

and display will show

We have to press the button

**team**

to enter into this submenu, where we are able to choose the reverse connection of the keyboard. With

we choose to cancel the option,
to activate the option.

The equivalent 0 or 1 is shown in the temp score displays. Once we are finished with the reverse keyboard setting, to confirm and store the values we have to press the button

**team**

### 3.71- TEAM CRICKET

Press

**0 DEGREE**

and display will show

When we see the submenu name, we have to press the button

**team**

to enter in this submenu, where we can adjust the condition for one team or pair, to be the winner in the Cricket games. Some Country federation follow one rule, and some Country follow the other. The first option is the most popular.

We change the value with

as follows:

Once we finished with the adjustment, to confirm and store the values we have to press

**team**

### 3.72- PARCHIS MODE

Press

**1**

and display will show

When we see the submenu name, we have to press the button

**team**

to enter in this submenu, where we can adjust the condition for one player, to kill when scoring back in the Parchis games. Some Country federation follow one rule, and some Country follow the other. The first option is the most popular.

We change the value with

as follows:

Once we finished with the adjustment, to confirm and store the values we have to press

**team**

### 3.73- PPD ON

Press

**1**

and display will show

- **NO KILL BACK**
- **KILL BACK**

---
When we see the submenu name, we have to press the button

TEAM

to enter in this submenu, where we can adjust the digit view of the temp score display of the PPD value (average score by dart) when the game finish.

We change the value with

1
2

as follows:

Once we finished with the adjustment, to confirm and store the values we have to press

TEAM

3.74- ROUND BULMAS

Press

1

ar

NO

YES

When we see the submenu name, we have to press the button

TEAM

to enter in this submenu, where we can adjust the round limit of the Hi-Score Masters game.

We change the value with

1
2

between:

or

fixed on one

fixed on three.

Once we finished with the adjustment, to confirm and store the values we have to press

TEAM

3.75- CRAZY MODE

Press

10 ROUNDS

and display will show

20 ROUNDS

When we see the submenu name, we have to press the button

TEAM

to enter in this submenu, where we can adjust the necessary impact number to avoid changing a number between rounds.

We change the value with

as follows:

fixed on one

fixed on three.

Once we finished with the adjustment, to confirm and store the values we have to press

TEAM

3.76- CUT THROAT TEAM MODE

Press

1

 NUM FIX ON ONE

and display will show

 NUM FIX ON THREE
When we see the submenu name, we have to press the button

TEAM

to enter in this submenu, where we can choose that it happens when player of a team hits on one of the numbers of cricket having closed it.

We change the value with

1

2

We can

NORMAL

TEAM

DIVIDE

where the score that is obtained adds the same to all the members of the opposite team, or

where the score that is obtained divides between all the members of the opposite team.

Once we finished with the adjustment, to confirm and store the values we have to press

TEAM

NOTE: Option means "normal" playing.

4.2- CODE 6-7-8-9

Total credits entered through coin input 1 and coin input 2 during the machine life, are shown in the meters.

For 48.215.- credits entered through coin input 1, and 38.664.- credits entered through coin input 2, we would see on the players meters as follows:

3.77- FREE PLAY

When we see the submenu name, we have to press the button

TEAM

to enter into this submenu, where we will see

Here we can configure the machine in Free Game mode.

We change the value with

1

2

We can choose between

NUMBER

and

NUMBER

Once we finished with the adjustment, to confirm and store the values we have to press

TEAM

-43-
When we see the submenu name we have to press the button to enter into this submenu, where we will see.

Here we can change the way of illumination of the Leds during the game. We change the value with.

We can choose between

and

Once we finished with the adjustment, to confirm and store the values we have to press.

---

Press 1 and display will show.

When we see the submenu name, we have to press the button to enter in this submenu, where we can choose the number of machine in a RS485 network.

We change the value with

We can choose between

and

Once we finished with the adjustment, to confirm and store the values we have to press.

NOTE: Option means "normal" playing. Otherwise machine is waiting for computer control.
This electronic system includes a safety battery free, double accounting system for a permanent control of the machine incomes.

After, and only after connecting the test switch, a four digit code must be introduced sequentially through the target.

4.1- CODE 1-2-3-4

Total credits entered through coin input 1 and coin input 2 since last reading, are shown in the meters. These electronic meters are automatically reset to zero each time that they are read.

For 1,569.- credits entered through coin input 1, and 8,901.- credits entered through coin input 2, we would see on the players meters as follows:

Pushing the button
we see the meters for coin 3 and coin 4.

Pushing one more time the button
we see the meters for coin 5 and coin 6.

Pushing one more time the button
we see the meters for the credits entered with the electronic key (not used in this machine), and the total credits.

That means, 34.813 total credits entered since last reading.

NOTE: Coin 2 to Coin 6 are not used in this model.

4- ELECTRONIC BOOKKEEPING

After, and only after connecting the test switch, a four digit code must be introduced sequentially through the target.

4.1- CODE 1-2-3-4

Total credits entered through coin input 1 and coin input 2 since last reading, are shown in the meters. These electronic meters are automatically reset to zero each time that they are read.

For 1,569.- credits entered through coin input 1, and 8,901.- credits entered through coin input 2, we would see on the players meters as follows:

Pushing the button
we see the meters for coin 3 and coin 4.

Pushing one more time the button
we see the meters for coin 5 and coin 6.

Pushing one more time the button
we see the meters for the credits entered with the electronic key (not used in this machine), and the total credits.

That means, 34.813 total credits entered since last reading.

NOTE: Coin 2 to Coin 6 are not used in this model.

5- DART

To advance a dart on the Minidart System, just keep the button pressed for three seconds.

6- PLAYER

To advance to the next player push the button.
shortly at any time of the play except for three seconds after the throw dart indication appears.

7- **HOW TO ABORT THE GAME**

To abort the current game turn on and off the test switch while keeping the button **OUT CHANCE** pressed.

8- **HOW TO CANCEL THE CREDITS**

To cancel all the credits turn on and off the test switch while keeping the button **IN PICKIT** pressed.

9- **HOW TO SWITCH THE LED RING ON/OFF** *(ONLY EUROPEAN AND AMERICAN TARGETS)*

The player can switch the Led Ring off or on, at any moment by keeping the button **OUT** pressed 6 seconds.

10- **HOW TO MUTE THE MACHINE SOUND**

The player can mute the machine sounds at any moment by pressing 6 seconds the button **EQUAL**.

11- **HOW TO ADJUST THE DATE AND THE HOUR WITHOUT OPENING THE MACHINE**

You can change the date and the hour without entering in test. This is the procedure:

1.- You have to keep the button 1 pressed **10 seconds** of the numeric keyboard. After this time, the button **PLAYERS** will blink quickly.

2.- Keeping the button pressed, you have to introduce the next code: Triple 20 - Triple 5 - Triple 12 pressing the target. Release the key pressed.

3.- In the cricket leds, you will see the hour. You have to introduce four numbers, to correct the hour. For example, to introduce 9:04, you have to push the numbers '0';'9';'0' and '4'. The changes will be reflected in the cricket leds, simultaneously.

4.- To change from hour to date, you have to push the button **PLAYERS**.

To adjust the date, you have to proceed by the same way, but you have to introduce 6 numbers, which it will indicate the day, month and year.

5.- You can exit not pressing anything during 5 seconds.

**NOTE:** This system will only be active, if the ‘RESET BAR’ setting is adjusted to ‘Yes’ or ‘1’.

You can't accede if the machine is not in show (with or without credits).
12- **COMPETITION MANAGEMENT SYSTEM**

12.1- **DESCRIPTION**

The system is based on the control and management of 32 Minidart machines in competition interconnected through an electrical link type RS485 that communicates with a PC that controls the game development.

12.2- **CHARACTERISTICS**

- The interconnected network functions at 38400 bits/s.
- The bytes transmitted are made up of:
  - 1 BIT OF START
  - 8 BIT OF DATA
  - 1 BIT OF STOP
  - NO BYTE PARITY IS USED

The general functioning of the communication system is based on the constant interrogation of the PC to the machines (one by one). The general rules are:

- Each machine has a unique identification number (that is programmed in the test, in the ‘Num. Machine’ point. (see pag. 44).
- The PC continually interrogates, in a cyclical form, all of the machines (maximum 32).
- The PC detects, in consequence, the presence or disconnection of the machines attending to the answer of these interrogations.
- No machine directly addresses the PC. The machine can only answer when the PC sends it an interrogation command.
- According to the machines that the PC considers connected, it will assign ‘MATCHES’ to each machine.
- The machines, once assigned a Match, will play autonomously the group of games and limit themselves to informing the PC of the data they generate, how the darts are thrown and the winners of each game. The assignment of a Match to a machine has the following characteristics:
  - Once the Match has started, it cannot be cancelled by remote form. If the command is sent to free the machine from the PC, the machine will send a blocking code.
  - If once the Match has started, the communication is lost, the games will continue if the player notices. When the connection is reestablished, the data is sent to the PC.
  - When the PC detects that it has reached the end of the Match, it sends a command ‘END MATCH’, that blocks the machine until there is a new assignment.

12.3- **MESSAGE TYPES**

**INTERROGATION MESSAGES**

The PC continuously interrogates the machines.

The machines can answer with:

- **A simple message**
- **Information messages**. These messages can be:
  - Message informing the winner of the game.
  - Informing that player 1 has appeared
  - Informing that player 2 has appeared
  - Informing the start of a game
  - Informing the darts thrown in a turn

If the machine returns a message with information, wait during the next 100 ms for a confirmation message to be returned. In the case that it is not received, it will be resent with the next interrogation that the PC receives.
ASSIGNMENT MESSAGES

The PC can send the following assignment messages to the machine:

- Information with the name of player 1
- Information with the name of player 2
- Synchronization of flashes
- Hour synchronization message
- Match assignment
- Cancellation of a Match in a Machine
- Elimination or disqualification of a player

The last three provoke the machine to return an additional message confirming that it has been received. The PC, in case this confirmation is not received should be sent the command again.

12.4- MESSAGE FORMAT

In general, the message format that the PC sends to the Machines is:

```
DLE  LEN  IDMACH  COMMAND+DATA  CRC
```

- **DLE**: The byte of fixed heading that always has the value 10H.
- **LEN**: The total length, including DLE and CRC.
- **CRC**: The sum of all the bytes of the message (Len-1), excluding CRC.
- **ID**: The Machine number. So that the machine ‘listens’ to a message, the number of the programmed machine in the test adjustment ‘Num Machine’ should coincide with the one sent here. The valid values are 1 to 32.
- **COMMAND+DATA**: The codes of the different commands that can be sent to the machines.

The format of the answer of the machines to the PC is:

```
ACK  LEN  IDMACH  COMMAND+DATA  CRC
```

- **ACK**: The fixed heading byte in all responses that always have the value 06H.

12.5- COMMANDS TO MACHINE

**00H  NN  ST  FLG**

Message that the PC sends and that obligates the machines to respond, serves as a presence test and also informs of the status of the machine.

- **NN**: The number of the machine that will receive the message.
- **ST**: Status of the machine. This byte is made up of two fields:

  **Bit 7**: Activates / deactivates game simulation. Should always be 0 during the competition. If a 1 is transmitted in this position, the machine will simulate the receipt of darts and advance the game quickly. (Note: Not all versions of the MINIDART program incorporate this function).

  **Bit 0 ..2**: indicates status of the machine:

  Status :
  000 - Machine Free. (Blocked) (Not Assigned)
  001 - Machine Assigned. (Wait presentation)
  010 - Machine Warm-up. (After presentation)
  011 - Machine in Play. (Competition game)
  100 - Game Over. (Between games / busy)
  101 - Machine Blocked. (Forces the block)
  110 - Machine for external use. (Normal machine)

- **FLG**: In this message a byte called flg is used, that is made up of the following bits:

  **bit 0**: Activates / Deactivates the sending of darts. If it is activated (1), the machine will transmit the darts that they player has thrown throughout the game.
**10H NPLH NPLL PT1 COUNTRY NAME**
Message that send information to player 1.

-NPLH: Digit superior number of player in ASCII.
-NPLM: Digit middle number of player in ASCII.
-N PLL: Digit inferior number of player in ASCII.
-PT1: Current points of player 1 in the MATCH.
-COUNTRY: Country code (According to table).
-NAME: Up to 8 bytes with the name of the player.

**11H NPLH NPLL PT2 COUNTRY NAME**
Message that send information to player 2.

-NPLH: Digit superior number of player in ASCII.
-NPLM: Digit middle number of player in ASCII.
-NPLL: Digit inferior number of player in ASCII.
-PT2: Current points of player 2 in the MATCH.
-COUNTRY: Country code (According to table).
-NAME: Up to 8 bytes with the name of the player.

**24H**
Simple message that synchronizes the flashing of all the machines. It is recommended to send every 10 seconds, only for esthetical reasons, that way the light buttons of the machines flash simultaneously. This message is directed to all the machines and none of them have to respond to the PC.

**25H SEG MIN HOUR DAY MONTH YEAR**
Simple message that synchronizes the hour of all the machines. It is recommended to send at the beginning of the day. After, it is not necessary because the machines save the time even when turned off.

**30H NN AA BB START GAME**
Message that assigns a Match to a machine.

-NN: Maximum number of games that make up a Match (3 games normally or 5 in the semifinals and finals)
-AA: Current points of player A in this Match. (Normally it will be 0, but if the Match is interrupted and another machine, here it would indicate the points obtained before. For example, 1 if a game was already won in the first assignment of this Match.)
-BB: Same as the anterior, but for player B.
-Start: This is a byte made up of 3 types of information.
  -Start.7: The bit 7 determines the order of the start pre-established for the players. A ‘0’ indicates that player A will be the one for the first game and a ‘1’ indicates player B.
  -Start [2..3]: The bits 2 and 3 determine the round within a quadrant of the Match. It is only useful to send this information if there is a printer for each machine.
  -Start [0..1]: The bits 0 and 1 determine the quadrant phase of the Match. It is only useful to send this information if there is a printer for each machine.
-Game: Code of the game to be played. These codes are referenced in a separate table. This message provokes a response from the machine in this format:
  ACK LEN MACH (80H+30H) CRC if the machines accepts the Match, or
  ACK LEN MACH (40H+30H) CRC if the machine does not accept the Match.
Message that unassigns a Match to a machine. After the receipt of the message, the machine is available to be assigned.

- **PA**: Points that the PC has for player A in the Match played. These points will remain visible in the machine until there is a new assignment.

- **PB**: Same, but with player B.

This message provokes a response from the machine with the following format:

```
ACK LEN MACH (80H+31H) CRC
```

Message that informs the machine if a certain player is eliminated, ending the match.

- **NPLH**: Digit superior number of player in ASCII.

- **NPLM**: Digit middle number of player in ASCII.

- **NPLL**: Digit inferior number of player in ASCII.

- **TYPE**: Informs the machine of the type of elimination that is applied to the player. There are two types:

  0— **Simple elimination**: The player loses the Match, but can still play another if the competition is a double ko.

  1— **Complete elimination or disqualification**: The player cannot continue playing in this competition.

These types of elimination only affect the information that shows on the machine’s alphanumerical display.

This message provokes a response from the machine with the following format:

```
ACK LEN MACH (80H+37H) CRC
```

The general format is

```
ACK LEN ID (COMMAND+DATA) CRC
```

**ID** is the number of the machines, from 1 to 32. When receiving an interrogation from the PC (command 00H), if a machine wants to communicate something, it does it through the following messages:

```
80H NUMHI NUMLO SUM CRC
```

Gives the winner of a game at the end in the machine.

- **NUMHI**: High part of player number (N/256).

- **NUMLO**: Low part of player number (N%256).

- **SUM**: Number of games played in the match.

```
81H
```

Informs the PC that a player showed up to the machine, inserting his/her card.

- **81H**: Player A shows.

```
82H
```

Informs the PC that a player showed up to the machine, inserting his/her card.

- **82H**: Player B shows.

```
85H
```

Informs the PC that a game just started.

- **85H**: Start game.
Informs the PC the darts thrown by a player.

**-HHLL:** This is a number made up of two bytes, which sends two types of information:

**The bits 14 and 15:** indicate which darts belong to which player (can be from 0 to 3, taking into account the team Matches).

**The bits 0 to 13 (14 bits):** indicate the number of the player (for example, 321).

**-ROUND:** Informs of the round that the darts were thrown.

**-D1:** First dart of the round. Value dart received in the bits 0 to 5. If it is a double number, it will receive the number and the bit 6 to 1. If it is a triple number, it will receive the number and the bit 7 to 1.

**-D2:** Same as previous, but for the second dart thrown.

**-D3:** Same as previous, but for the third dart thrown.

The PC should inform the machine immediately sending a message like the following:

```
DLE 5    MACH      COD      CRC
```

where **COD** is the code that the machine receives.

### GAME CODES

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>501</td>
<td>DOUBLE OUT 23</td>
</tr>
<tr>
<td>701</td>
<td>TRIPLES 29</td>
</tr>
<tr>
<td>501</td>
<td>DOUBLE OUT PAIR 151</td>
</tr>
<tr>
<td>2</td>
<td>TIMBA CRICKET 171</td>
</tr>
<tr>
<td>23</td>
<td>CRICKET CUT THROAT 43</td>
</tr>
</tbody>
</table>

### COUNTRY CODES

<table>
<thead>
<tr>
<th>Country</th>
<th>Code</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNKNOWN</td>
<td>0</td>
<td>ENGLISH</td>
</tr>
<tr>
<td>CROATIA</td>
<td>1</td>
<td>SERBO-CROAT</td>
</tr>
<tr>
<td>UK</td>
<td>2</td>
<td>ENGLISH</td>
</tr>
<tr>
<td>SPAIN</td>
<td>3</td>
<td>SPANISH</td>
</tr>
<tr>
<td>AUSTRIA</td>
<td>4</td>
<td>GERMAN</td>
</tr>
<tr>
<td>SERBIA</td>
<td>5</td>
<td>SERBO-CROAT</td>
</tr>
<tr>
<td>FRANCE</td>
<td>6</td>
<td>FRENCH</td>
</tr>
<tr>
<td>ITALY</td>
<td>7</td>
<td>ITALIAN</td>
</tr>
<tr>
<td>SWITZERLAND</td>
<td>8</td>
<td>ITALIAN</td>
</tr>
<tr>
<td>CZECH REP</td>
<td>9</td>
<td>CZECH</td>
</tr>
<tr>
<td>SLOVENIA</td>
<td>10</td>
<td>CZECH</td>
</tr>
<tr>
<td>PORTUGAL</td>
<td>11</td>
<td>ENGLISH</td>
</tr>
<tr>
<td>HUNGARY</td>
<td>12</td>
<td>HUNGARIAN</td>
</tr>
<tr>
<td>POLAND</td>
<td>13</td>
<td>CZECH</td>
</tr>
<tr>
<td>BULGARIA</td>
<td>14</td>
<td>BULGARIAN</td>
</tr>
<tr>
<td>RUSSIA</td>
<td>15</td>
<td>RUSSIAN</td>
</tr>
<tr>
<td>LATVIA</td>
<td>16</td>
<td>RUSSIAN</td>
</tr>
<tr>
<td>UKRAINE</td>
<td>17</td>
<td>RUSSIAN</td>
</tr>
<tr>
<td>BELGIUM</td>
<td>18</td>
<td>FRENCH</td>
</tr>
<tr>
<td>YUGOSLAVIA</td>
<td>19</td>
<td>SERBO-CROAT</td>
</tr>
<tr>
<td>LITHUANIA</td>
<td>20</td>
<td>RUSSIAN</td>
</tr>
<tr>
<td>TURKEY</td>
<td>21</td>
<td>ENGLISH</td>
</tr>
<tr>
<td>DENMARK</td>
<td>22</td>
<td>ENGLISH</td>
</tr>
<tr>
<td>LUXEMBOURG</td>
<td>23</td>
<td>FRENCH</td>
</tr>
</tbody>
</table>

The function of these codes is to inform the machine of the nationality of the player so that the message “THROW PLAYER” appears in the player’s language.
13- CARD INITIALIZATION

13.1- DESCRIPTION

The mechanism for the initialization of cards, to be used in competition mode, consists in running a program in a standard PC, which has connected an adaptor programmer card to a parallel port.

13.2- HOW TO INITIALIZE CARDS

The process is the following:

A **KEY card** should be introduced that allows access to initialize cards. Each time the program is executed, it is obligatory to insert the **KEY card**. Initially, when the program starts will ask for the key card.

Once in place and verified, it should be removed in order to insert new cards or modify existing ones.

When inserting a card, the PC will let us know if we are initializing by showing the assigned player number.

To program the player number shown on the screen, **press the ‘G’ key**.

If it is not initialized, the player number shown on the screen will be automatically programmed.

When removing a card, the number will increase **automatically**.

To modify the number, **press the ‘N’ key**.

To exit the program, **press the “ESC” key** once or more depending on the status of the program.

14- ACCESS TO GAMES WITH THE KEYBOARD

14.1- KEYBOARD PRESENTATION

```
1  PUB
2  WILDCARD
3  BULLS
4  601
5  BRANCA
6  SCRAPER
7  PINBALL (PRO)
8  ROULETTE
9  BASEBALL
0  CRICKET
IN PICK IT
OUT CHANGE
MASTER SHUFFLE
EQUAL END
BULL
TEAM MODE
PLAYERS
```

14.2- DIRECT ACCESS TO GAMES

We can access the game we want to play with the keys 0 to 9 as follows:
1 – PUB

2 – Whenever we touch this key, we’ll change between:
- HI-SCORE
- LO-SCORE
- SUP-SCORE

3- BULL MASTERS

4 - Whenever we touch this key, we’ll change between:
- 501 OUT
- 301 OUT
- 180 OUT
- 701 OUT

5- SHANGHAI

6- SCRAM

7 - Whenever we touch this key, we’ll change between:
- PARCHIS
- PARCHIS PRO

8 – ROULETTE

9 – BASEBALL

0 - Whenever we touch this key, we’ll change between::
- CRICKET
- CUT THROAT
- BLACK OUT

14.3- SELECTION OF THE NUMBER OF PLAYERS

If there is enough credits, the machine will select to “2” players for the game. We can change the number of players by pressing the players key.

For ’01 Games, and Cricket, two teams of 2 players each are selected automatically if there is enough credit. Touch the Players button to release “Team Mode” and choose individual players, and the Team Button to change the Team configuration.
APPENDIX A - DESCRIPTION OF THE GAMES

1 - PUB GAME
* Game for 2 to 8 players.
* Each player throws three darts in only one round.
* A discounting number, beginning by ten, appears in the cricket led's. The dart points are multiplied by this number, and the player must fit the three darts the faster possible into the target.
* The player with the highest score is the winner.

2 - HIGH SCORE
* Game for 1 to 8 players
* Each player throws three darts every time up to seven or ten rounds. (see programming)
* The player with the highest score is the winner.

3 - LO SCORE
* Same as Hi Score but the player with the lowest score is the winner.

4 - SUPER SCORE
* Same as Hi Score but only the ‘double’ and ‘triple’ sectors produce score. ‘Single’ sectors produce no score at all.

5 - BULL MASTERS
* Game for 2 players or 2 Teams.
* Each player throws three darts every time up to seven or twenty rounds.
* During the first 10 Rounds the first player (Team) must throw only the Bull, and the second player (Team) the whole target. The second player (Team) has 40 points less.
* During the second 10 Rounds the second player (Team) must throw only the Bull, and the first player (Team) the whole target. The first player (Team) has 40 points less.
* The player with the highest score is the winner.

6 - SCRAM
* Game for an even number of players.
* 7 rounds of 6 darts each player.
* The Game is played in pairs. All the numbers hit by the first player of one pair (stopper) are locked for the second player of the same pair (scorer), that, in order to score, must choose from the numbers that the first player has not hit.
* Each player in one pair plays as <<stopper>> and as <<scorer>> alternatively.
* The player with the highest score is the winner.

7 - SHANGAI
* Game for 1 to 8 players.
* Each player has 3 darts every round up to seven rounds.
* All 21 numbers in the target must be hit sequentially, beginning with number 1 and finishing with number 20 and the Bull. A throw only scores if the correct number is hit.
* The player who has the highest score or reaches <<Shangai>> wins the Game.
<<Shangai>> happens when the three darts in the same round hit three correlative numbers in one turn, each dart hitting a different sector, that is, one dart in single, one in double, and one in triple.

8 - ROULETTE
* Game for 1 to 8 players.
* Each player has three darts every round.
* The led ring starts moving and stops on a number between 1 and 20 or in the Bull. The players must hit the number where the roulette stops
* A single hit counts 1 point, a double counts 2 points and a triple counts 3 points.
* After 7 rounds the player with the highest score is the winner.

9 - BASEBALL

* Game for 1 to 8 players.
* Each player has three darts every round.
* The player must hit the sector whose number is the same as the number of the current round and all the other sectors are ignored.
* A single hit counts 1 point, a double counts 2 points and a triple counts 3 points.
* After 9 rounds the player with the highest score is the winner.

10 - 301 PARCHESI

* Game for 1 to 8 players.
* Each player has three darts every round.
* All players begin initially with 0 points. The score reached in each dart is added successively to the original score.
* When a player reaches, after one dart, the same points of another player, the score of this other player resets to zero points. In the case of ‘TEAM’ only the players that belong to the other team can have their score reset.
* The first player who reaches number 301 exactly is the winner. When a player scores over 301, then a <<burst>> is produced, and the new score value for the player is 301 minus the excess score (The value exceeded from 301). After the fifth <<burst>> the player is out of the Game. (See programming Burst Limit)

11 - 180

* Game for 1 to 8 players.
* Each player has three darts every round.
* All players begin initially with 180 points. The score reached in each dart is subtracted successively from the original score.
* The first player who reaches number 0 is the winner. In the case of ‘TEAM’ playing, for a team to win, the total score of this team must be lower than the total score of the other team.
* When a player scores over 0, then a <<burst>> is produced, and the total score of the current round is cancelled. After the fifth <<burst>> the player is out of the Game. (See programming Burst Limit)
* .*. In the case of EQUAL option, when one player reaches ’0’ points, the round is followed until the end, and in the case that several players have reached ’0’ points in the same round, the player that has used LESS DARTS is the winner.
* .*. In the case of END option, the Game goes on and on until only ONE PLAYER is left, so we always have a looser.

180 DOUBLE IN

* Same as 180 but the subtraction begins when one dart hits double.

180 DOUBLE OUT

* Same as 180 but the discount to zero must finish with a double.
180 MASTER OUT
* Same as 180 but the discount must be finished with a double, triple or bull.

180 DOUBLE IN - MASTER OUT
* Same as 180 but the discount must be finished with a double, triple or bull.

180 DOUBLE IN - OUT
* Same as 180 but the subtraction begins when one dart hits double and the discount to zero must finish with a double.

EQUAL
* When a player reaches 0 the round is followed until the end. The player who has used less darts is the winner.

END
* When a player reaches number 0 the round is followed until there is only one player (the looser).

12 - 301, 13 - 501 AND 14 - 701
* This games are exactly as 180 but all players begin with 301, 501 or 701 points respectively.

15 - 501-FIVE
* This Game is identical to 501 except that the target segments that normally perform as triple, here perform as 'five times' since the beginning of the Game until the first round when one or more players have 301 points or less.

16 - CRICKET
* Game for 1 to 8 players.
* Each player has three darts every round.
* The players must hit segments 15,16,17,18,19,20 and Bull. Every number is closed when the player hits it three times.
* If the player chooses the 'Pick it', 'Chance it' or 'Shuffle it' variable cricket options, then the cricket numbers will be chosen by the player (Pick it), decided by the first darts (Chance it) or picked at random by the processor (Shuffle it).
* Closed numbers score at its value while opened for another player.
* The first player who closes all six numbers, the Bull, and has the highest score, is the winner.

17 - CRICKET CUT THROAT
* The same rules as in Cricket, except that the hits in a closed number will score for all the other players who have this number still opened.
* The first player who closes all six numbers, the Bull, and has the lowest score, is the winner.

18 - BLACK OUT JOE
* Game for 1 to 8 players.
* It is a variation of Cricket Cut Throat
* Initially all players must hit the first number of the Cricket Displays, on the left (20 for Standard Cricket)
* NOT ANY player can go to the next number, until this number is closed by ALL players.
* If one player has the current number closed, all points made by hitting this number, are entered to ALL the other player that have the current number not closed yet.

* If one player hits any number other then the current, the points are entered to his point meter.

* The player with all numbers closed, and the lowest score, is the winner.

**19 -SOLO 301**

* 301 for only one player.

* SOLO is always limited to ten rounds.

* After the Game, the machine will give the player a ‘HANDICAP NUMBER’ to orientate him about his level of qualification for the Game. Minimum handicap is 0 and maximum is 99. This handicap number can be used to classify the players in the beginning of a league.

**VARIABLE CRICKET: PICK-IT**

* In all cricket games, the player can choose the cricket numbers by pressing on the target segments. This is FULL VARIABLE CRICKET, so the player can choose the seven numbers.

**VARIABLE CRICKET: CHANCE-IT**

* In all cricket games, the cricket numbers will be the first 7 different numbers hit on the game. This is FULL VARIABLE CRICKET, so seven numbers will be chosen.

**VARIABLE CRICKET: SHUFFLE-IT**

* In all cricket games, the machine will choose the cricket numbers at random. This is FULL VARIABLE CRICKET, so the machine will choose the seven numbers.
1- Unscrew the nuts A from the back cover and separate from the dartboard.

2- Disconnect the 34 ways cable.

3- Connect the 20 ways cable, with the 1st PIN (red line) seeded in the left side, now it’s compatible with V3.
4- Close the cover and screw back the nuts A.

5- Connect the other end of the cable with the 1st PIN (red line) upper side.

6- Place the dartboard on the machine.
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APPENDIX I- MINIDART DISPLAY AND LEDS MAP
### USA-CANADA VERSION

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<th>Specification</th>
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<td>Size (Hig., dep., wid.)</td>
<td>980 mm x 125 mm x 680 mm</td>
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<tr>
<td>Weight</td>
<td>40 kg</td>
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<td>Temperature range</td>
<td>Storage: -30 °C a + 60 °C</td>
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<td>Operating: -10 °C a + 50 °C</td>
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<td>Caution: Only indoor using machine</td>
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<td>Input voltage range</td>
<td>110 V - 130 V</td>
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<tr>
<td>Frequency</td>
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<td>Audio power</td>
<td>3 W RMS</td>
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### EUROPEAN VERSION

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P. PLA DEL MAS NAVE 4 PONT DE CABRIANES
08650 SALLENT
BARCELONA (SPAIN)
Telf. 34-93-837.49.49
Fax. 34-93-396.08.25
ACCESS TO COMPUMATIC:

FROM BARCELONA CENTRE
Take C58 highway Terrasa-Manresa. Take 36B out. C25 to Manresa-Lleida and take out to Navarcles.

ARRIVING FROM FRANCE
Take AP7 highway. Out to C25 Manresa-Lleida and take out to Navarcles.
On-Line Registration
www.compumatic.net

Please fill this warranty registration card immediately at the time of purchase and make on-line registration on our Web within 10 days. Otherwise will not be effective.

PRODUCT WARRANTY CARD

COMPANY ________________________________
FIRST NAME ________________________________
LAST NAME ________________________________
ADDRESS __________________________________
EMAIL ___________________________________
DEALER NAME ________________________________
PURCHASE DATE _______ (dd) _______ (mm) _______ (yyyy) ________________ DEALER’S CHOP

THIS WARRANTY CARD IS VALID ONLY WITH THE PURCHASE INVOICE ACCORDING TO DE LAW.

FOLD

TERMS AND CONDITIONS

1. Customer must produce this warranty card when warranty service is requested during warranty period.

2. Warranty: Compumatic hardware products are warranted against defects material and workmanship. If Compumatic receives notice of such defects during the warranty period, Compumatic shall, at its opinion, either repair or replace hardware products which prove to be defective.

3. Place of Performance:
Warranty services are provided by Compumatic, only at office in Barcelona-Spain. The Customer is requested to return warranty goods to the adress on this warranty card for warranty service. Other service points outside Spain will be listed on our web page if available.

4. Limited Warranty: Warranty shall not apply to defects resulting from:
   a. Improper of inadequate maintenance by Customer;
   b. Customer supplied software or interfacing;
   c. Unauthorized modification or misuse;
   d. Operation outside of the environmental specifications for the products, or
   e. Improper site preparation and maintenance.

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