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Cod. app.: 10299.048.1.0 (230V ~ 60Hz)E

USA

GOLDEN SUN

TECHNICAL MANUAL

INSTALLATION AND MAINTENANCE

c ETL LISTED US

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1 - GENERAL INFORMATION

USA

1.1 INTRODUCTION

IMPORTANT

BEFORE OPERATING THE MACHINE, READ THE TECHNICAL INSTRUCTIONS CONTAINED IN THIS TECHNICAL MANUAL CAREFULLY AND COMPLETELY.

This Technical Manual is designed for use by installers and operators, and should be read carefully and completely before the machine is operated. The manual should always be available for reference and should be kept in a safe place so that it stays in good condition for future reference. For further copies or updates of the manual, contact the manufacturer at the address on the front page.
Sportarredo SpA reserves the right to make changes to the product and to the manual without being obliged to update the preceding manuals.
This manual contains all the instructions and information necessary to operate the machine:

- Correct installation of the machine.
- Description of the functions of the machine.
- Circuit diagrams.

The installers and the operators can use this manual to understand the characteristics of the machine and to learn the correct operating procedure.

THE UNIT IS SUPPLIED FOR INPUT VOLTAGE AT 230V ~ 60 Hz AND IT IS SUPPLIED WITH OUT THE FEEDING CABLE

To make a **power cable connection**, make reference to the chapter "INSTALLATION INSTRUCTIONS " paragraph "ASSEMBLY INSTRUCTIONS" table 2 and to the **GOLDEN SUN n° 1/5** diagram.

To make a **voltage-change**, make reference to the chapter "INSTALLATION INSTRUCTIONS" paragraph "VOLTAGE-CHANGE".

THE **BREAKER** MUST BE INSTALLED IN THE POWER SUPPLY BOARD OF THE ESTHETICAL CENTRE AND IT MUST BE DONE BY THE CENTRE ITSELF.

GOLDEN SUN: (2x50A-30mA) to feed 230V ~

The installation must be done by technical personnel.

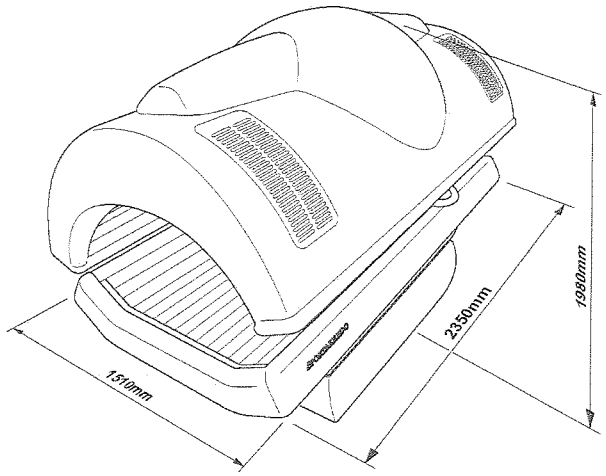
THE POWER SUPPLY CONNECTION (UNIT- BOARD) MUST BE DONE BY THE CENTRE. THE SKILLED TECHNICIAN MUST USE A CERTIFIED CABLE WITH THE PROPER SECTION AND WITH ADEQUATE MECHANICAL PROTECTION, IN ACCORDANCE WITH THE RULES IN FORCE.

SEE CAHAPTER 2.2 TABLES FOR TECHNICAL DATA "POWER SUPPLY CABLE SECTION"

BEFORE THE EVENING CLOSING OR THE CLOSING FOR A PROLONGED PERIOD YOU SHOULD **OPERATE ON THE MAGNETOTHERMIC BUTTON IN ORDER TO DISCONNECT THE POWER SUPPLY.**

TO HAVE A CORRECT USE OF THE EQUIPMENT, THE ROOM TEMPERATURE **MUST NOT EXCEED THE 33°C DEGREES.** IF ROOM TEMPERATURE EXCEEDS THIS VALUE, WE SUGGEST TO UTILIZE AN AIR-CONDITIONING UNIT.

2.1 EXTERNAL DIMENSIONS / TABLES OF TECHNICAL DATA GOLDEN SUN



EXTERNAL DIMENSIONS

GOLDEN SUN

MAXIMUM LENGTH	2350 mm
MAXIMUM WIDTH	1510 mm
MAXIMUM HEIGHT	1980 mm
WEIGHT	410 Kg

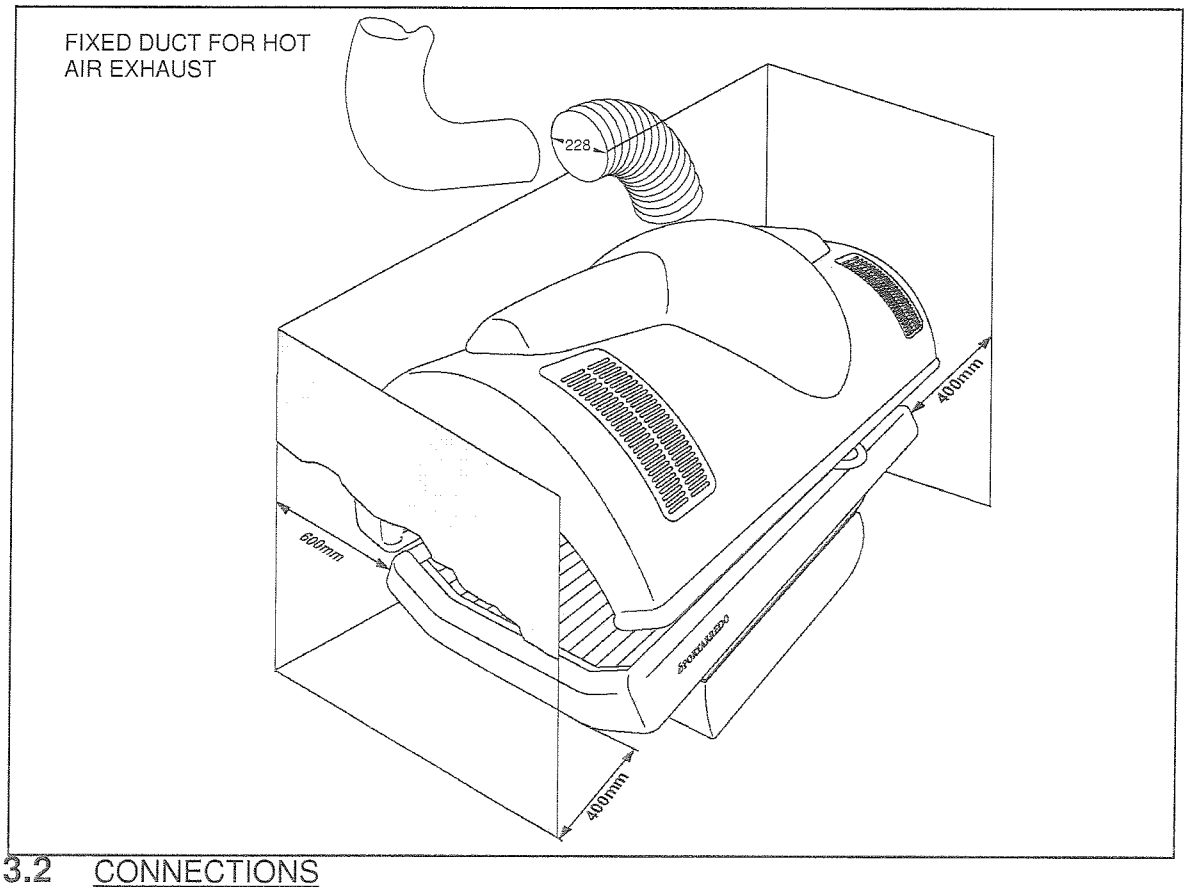
GOLDEN SUN	UNIT	DATA
POWER SUPPLY	V	230V ~
POWER ABSORPTION	KW	8.5
CURRENT ABSORPTION	A	39
POWER FACTOR CORRECTION		0.97
FREQUENCY	Hz	60
SECTION OF POWER CABLE	mm^2	10
FEEDING PLUG		2P+⏚(63A)
PRODUCED THERMIC ENERGY	Kcal/h	6800
EXPELLED CALORIES	Kcal/h	4100
EXHAUST AIR FLOW	m^3/h	900
HEAD	Pa	15
FACIAL LAMPS TYPE	N°	3 KALFASUN 630F
CEILING LAMPS TYPE	N°	20 KALFASUN B23-S White 160W
BED LAMPS TYPE	N°	16 KALFASUN B23-S White 160W

3 - INSTALLATION INSTRUCTIONS

USA

3.1 PRE-INSTALLATION

In order to ensure correct operation of the machine, it should be installed in an area which has been prepared as shown in the figure.
The connection of the exhaust air pipe must have on the first part (50-60cm from the edge of the fan) the minimum curving. This device has to be done to reduce the noise of the fan caused by the resistance of the hair, to improve the cooling of the lamps and to have a better air flow during the tanning session.



3.2 CONNECTIONS

- The area in which the machine is installed **must be adequately ventilated**.
- The metal structure of the machine is earthed by means of insulated wires connected to the earth terminal in the electrical junction box.
- The earth circuit must be in full compliance with **IEC standard 64-8, section IX.**
- The earth connection must also be fitted to low-voltage systems situated in wet or very damp areas (if the voltage to earth is in excess of 25V for alternating current or 50V for direct current).
- The earth wires connected to every part of the various sections of the machine and the earth wires from the various power circuits and user groups must be connected to a single earthing circuit.
- Ensure that the materials used for the earth system are suitably robust and provided with adequate protection.
- The connection to the main earth terminal should be as short as possible. The earth wires should not be subjected to mechanical stress of any kind, and must be protected against corrosion.

3.3 ASSEMBLY INSTRUCTIONS

SEE ENCLOSED TABLE 1

1 Fix the lateral **B** to the bed **A** with 4 screws 12x30 with the Allen screws and the specific washer of 12x36. Fix the plastic panel **C1** into the bed **C**. Fix the plastic panel **C2** with 4 screws 4.8x13 into the bed **C**.

2 Set the ceiling **D**, slide it along the arms **B** to its maximum slide point. Take off the 4 **D2** brackets situated in the 4 corners of the sky. Fix the bracket and the plastic panel **D1** into the ceiling **D**.

3 Manual machine:
Attention: remove the mechanical block **B1** (unscrewing slowly the 2 self-cutting screws M8x80) **only after** the installation of the ceiling **D**.

4 Attach the body ventilation unit **E** to the lower section **C** and assemble the cover plastics. Connect the ventilator wiring.

5 Put the boxes **A1** and **A2** into the bed A.

6 Make the following connections:
-32 pins connector from ceiling to the box **A2**,
-10 pins connector from box **A2** to the box **A1**,
-10 pins connector from ceiling to the box **A1**,
-24 pins connector from bed to the box **A1**,
-3 pins Wieland connector from body ventilation box to the box **A1**,
-3 pins Wieland connector from actuator for lowering the ceiling to the box **A1**,
(ELECTRICAL)
-power cable connection.

7 Fix the frontal plastic panel **F** on bed **A**.

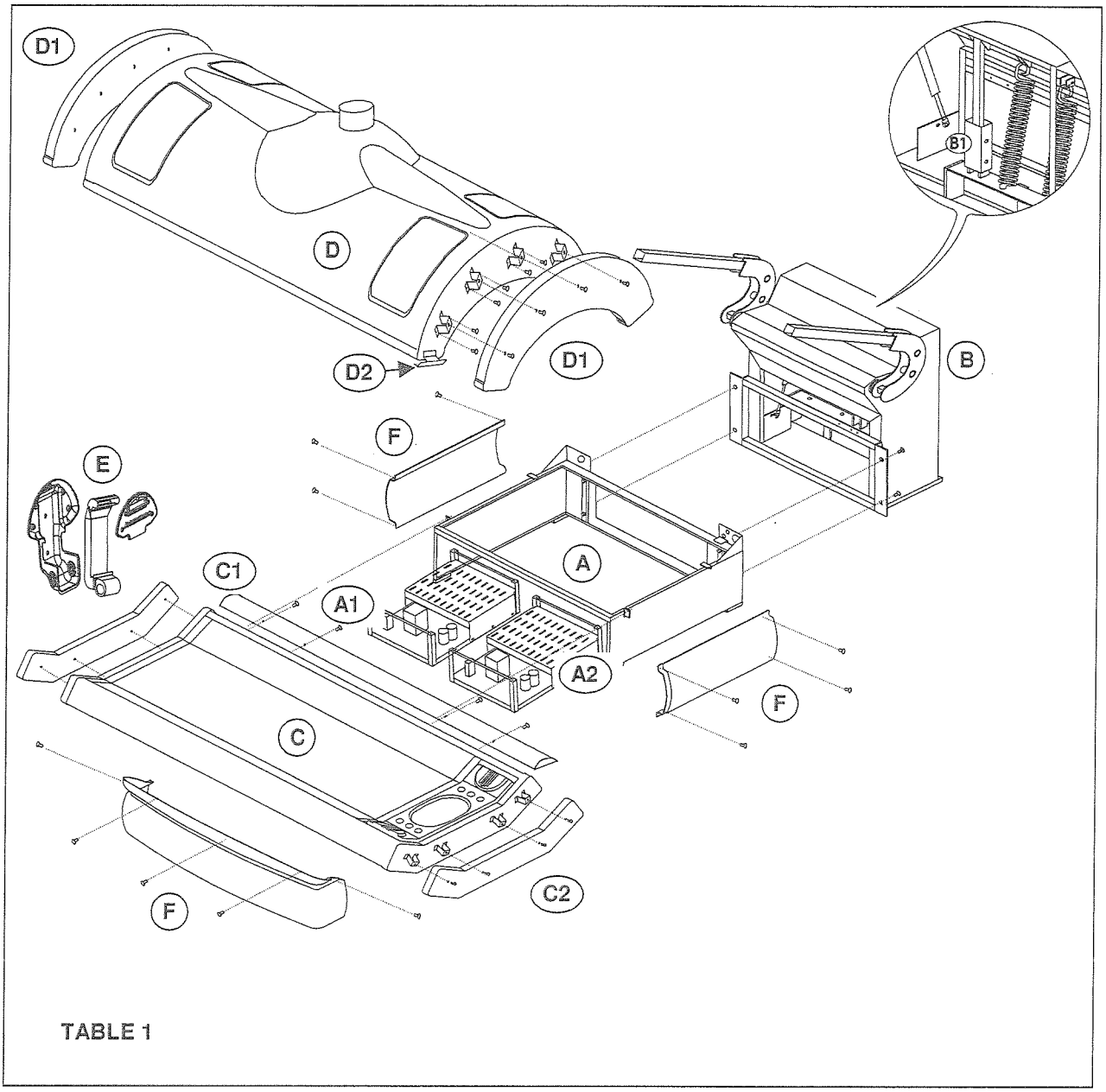


TABLE 1

POWER CABLE CONNECTION TO FEED

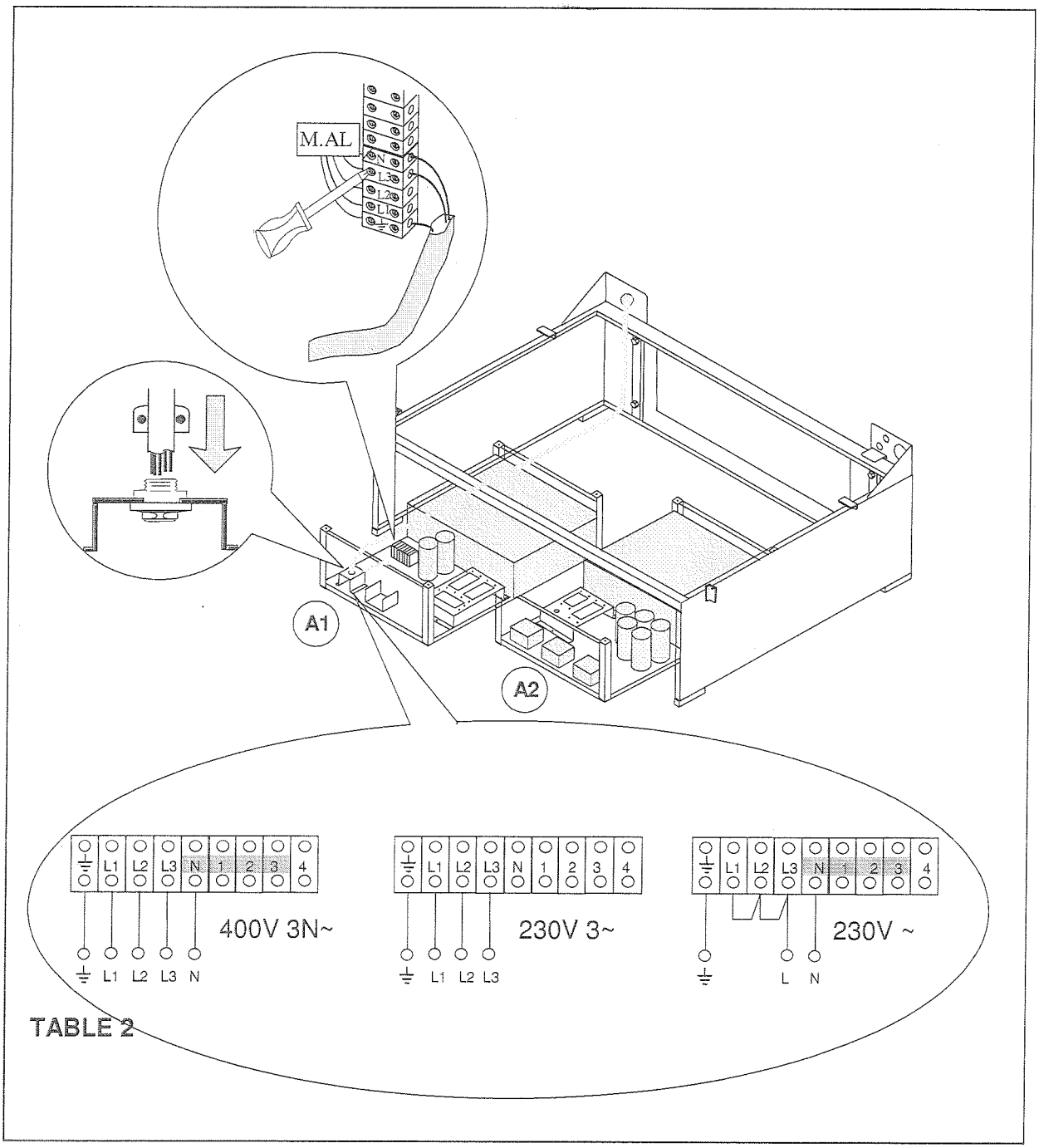


TABLE 2

IMPORTANT !

ALWAYS DISCONNECT THE MACHINE FROM THE POWER SUPPLY BY PRESSING THE SWITCH BREAKER BEFORE CARRYING OUT MAINTENANCE

3.4 VOLTAGE CHANGE

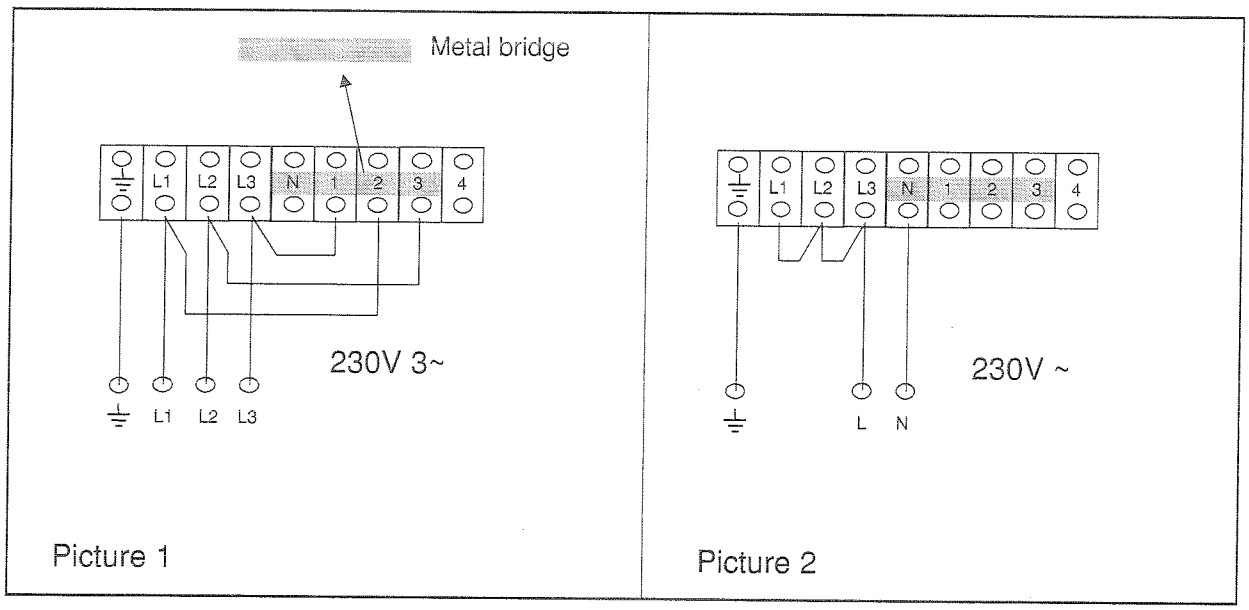
To enter the terminal board for power supply, placed inside the control cassette, make reference to table 2.

- TO MAKE VOLTAGE FROM **230V ~** TO **230V 3~**

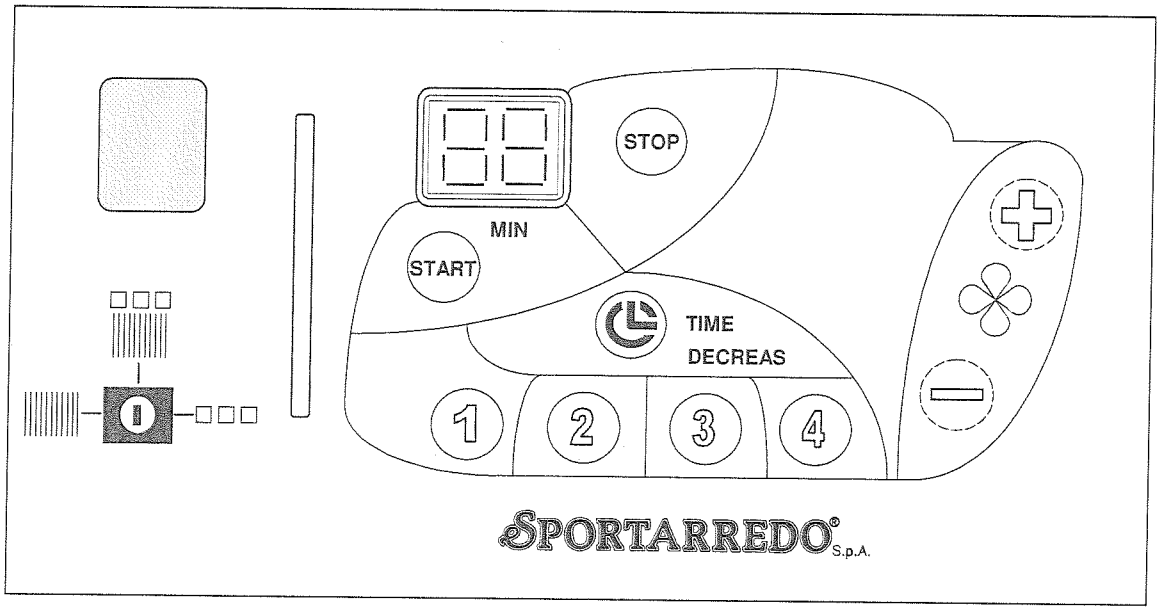
1) Remove the metal bridge upon terminals (neutral connections) picture 1.
2) Change the feeding cable with a cable of adequate section Ø 4 mm².
3) Change the **breaker** switch placed in the feeding board of the esthetical centre system with one having the following characteristics: **3x25A-30mA.**
4) Make the connections with wire Ø 4 mm² as shown in picture 1.

- TO MAKE VOLTAGE FROM **230V 3~** TO **400V 3N~**

1) Change the feeding cable with a cable of adequate section Ø 2.5 mm².
2) Change the **breaker** switch placed in the feeding board of the esthetical centre system with one having the following characteristics: **4x16A-30mA.**
3) Make the connections with wire Ø 2.5 mm².



4.1 CONTROL BOARD



START — Pushing this button you start the tanning treatment.

STOP — When the STOP button is pressed, the tanning lamps are switched off and the upper section (ceiling) moves upwards. The tanning session is concluded.

The time button is used to decrease the duration of the treatment after the unit has been turned on. At each pressure of the button there's a decrease of 1 minute. **May be used by authorised personnel only .**

When this button is pressed, the upper section descends to the normal operating position. Downward movement of the head is controlled by impulses; if the button is released, the downward movement is interrupted.

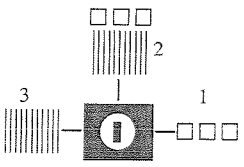
The buttons marked "+" may be used to increase the power of the fan.

The buttons marked "-" may be used to decrease the power of the fan.

1 2 3 4 — Through the buttons 1-2-3-4 the duration of the treatment is set out according to the customer skin type.

PL This display lights when the appliance has been operated for 100 hours to indicate that routine maintenance must be performed.

SL This display lights when the appliance has been operated for 400 hours to indicate that it is necessary to call a qualified technician for special maintenance.



SELECTOR

1 - Switches on the high-pressure facial lamps.

2 - Switches on all the lamps (high-pressure and low-pressure).

3 - Switches on the low-pressure ceiling and bed lamps.

Selection of the lamps must be made by the qualified personnel of the tanning centre and must be set before the session.

The machine is equipped with a radio/cassette-player, so that the client can listen to music during the tanning session. The use of headphones is recommended.

4.2 CONTROLLER BOARD PROGRAMMING

Function	Code	Value
Coin time	PU	1-40
Sitting time for skin type 4	P4	1-40
Sitting time for skin type 3	P3	1-P4
Sitting time for skin type 2	P2	1-P3
Sitting time for skin type 1	P1	1-P2
Board total operating hours reading	OF	XX-XX
Number of sittings performed reading	nS	XX-XX
Board manufacture date reading	dC	WW-YY

To be able to read or modify the TRS/2 board base parameters, the board must be programmed using the following procedure:
1) Turn on power to the device, then press the **Time** key, followed by the **2** key, and keep them pressed for approximately 4 seconds.
"PU" will appear on the display, indicating that the first parameter regarding the coin sitting time can now be accessed and changed as follows:

- Press the start key and the machine will display the currently-loaded value;
- Use the + or – key to increase or decrease the value;
- Press the stop key to confirm the change and exit from the program;
- Return the machine to normal operating mode by cutting off power for a few seconds.

Use the + or – keys to select the program to be modified or displayed.

PU - COIN TIME
When "PU" is displayed, the coin sitting time program may be accessed. Press the start key to display the currently-entered value, and then the + or – key to make the desired changes. Press stop to confirm the change and exit from the program. Once exited, the display will read "P4".
P4 - SITTING TIME FOR SKIN TYPE 4 (Dark olive complexions)
Follow the procedure outlined above for the PU program. Once exited, the display will read "P3".
P3 - SITTING TIME FOR SKIN TYPE 3 (Medium complexions)
Follow the procedure outlined above for the P4 program.
Once exited, the display will read "P2".
P2 - SITTING TIME FOR SKIN TYPE 2 (Light complexions)
Follow the procedure outlined above for the P4 program.
Once exited, the display will read "P1".
P1 - SITTING TIME FOR SKIN TYPE 1 (Very light complexions)
Follow the procedure outlined above for the P4 program.
Once exited, the display will read "OF".
OF - BOARD TOTAL OPERATING HOURS READING
When "OF" appears on the display, press the start key to display the total number of board operating hours. For example, 1234 hours will be divided into two parts (12 and 34); use the time key to move between the two groups of numbers. The maximum value that can be entered is 8999. Press the stop key to exit the OF program. Once exited, the display will read "nS".
nS - NUMBER OF SITTINGS PERFORMED READING
When "nS" appears on the display, press the start key to display the number of sittings. To read this number, repeat the procedure given above for the OF program. Push the stop key to exit the nS program. Once exited, the display will read "dC".
dC - BOARD MANUFACTURE DATE READING
When "dC" appears on the display, press the start key to display the week number and, after having pressed the time key, the last two numbers of the year in which the board was manufactured. Push the stop key to exit the dC program. Once exited, the display will read "PU".
At this point, programming has been completed. To return the machine to normal operational status, turn the electrical power off and then back on.

PARAMETER PROGRAMMING

Function	Code	Value
Final ventilation time	A0	1-5
Function reserved	A1	00
Sitting start delay	A2	0-40
Minimum body ventilation speed	A3	0-9
Coin accumulation function activated/deactivated	A4	Ab-dS
START stand-by function activated/deactivated	A5	Ab-dS
START button on keyboard activated/deactivated	A6	Ab-dS
Final ventilation through body ventilation (max. speed)	A7	Ab-dS
Display time	A8	Ab-dS
Time remaining storage	A9	Ab-dS
Center code number setting [StartEst+StopEst+(+)/(*)]	E0	00-99
Points/minute quantity set	E1	0-99
Set code number of the sub center	E2	0-3
Serial number set for RS485	E6	00-99
Parameter copy from a second RS485 board (copy with Time key)	CP	-
Test function: 14' cycle, 4' cooling, 2' pause x three times (start/stop)	FC	-
Number of point/minute face only	C1	00-99
Number of point/minute face only	C2	00-99

To enter the second programming phase, proceed as follows:
Once the first programming phase has been completed, "PU" will appear on the display. Press, in this order, the **Time** key, the **4** key and the **1** key and hold them down for approx. 4 seconds. "AD" will appear on the display indicating that the second level of functions can now been accessed.

- Press the start key and the machine will display the currently-loaded value;
- Use the + or – key to increase or decrease the value;
- Press the stop key to confirm the change and exit from the program.

A0 - FINAL VENTILATION TIME
When A0 appears on the display, it is possible to enter the program for modifying final ventilation time. Press the start key to display the currently-loaded value and use the + or – key to make changes. Press stop to confirm the change and exit the program. Once exited, "A1" will appear on the display.

A1 - FUNCTION RESERVED
When A1 appears on the display, it is possible to enter the program reserved for future applications. The entered value is irrelevant. Press stop to confirm the change and exit the program. Once exited, "A2" will appear on the display.

A2 - SITTING START DELAY
When A2 appears on the display, it is possible to enter the program for modifying the delay time at the beginning of a sitting, with an external start control. Repeat the procedure given above under program A1. Once the program has been exited, "A3" will appear on the display.

A3 - BODY VENTILATION MINIMUM SPEED
When A3 appears on the display, it is possible to enter the program for modifying the minimum body ventilation speed. Repeat the procedure given above under program A1. Once the program has been exited, "A4" will appear on the display.

A4 - COIN ACCUMULATION FUNCTION
Enter program A4 by pressing the start button. "Ab" (accumulation activated) or "dS" (accumulation deactivated) will appear on the display. Change the setting using the + or – key. Press stop to confirm the change and exit the program. Once exited, "A5" will appear on the display.

A5 - START STAND-BY FUNCTION (with coin accumulation activated)
Enter program A5 by pressing the start button. "Ab" (stand-by activated) or "dS" (stand-by deactivated) will appear on the display. Change Ab or dS status using the + or – key. Press stop to confirm the change and exit the program. Once exited, "A6" will appear on the display.

A6 - START BUTTON ON KEYBOARD
Enter program A6 by pressing the start button. "Ab" (key activated) or "dS" (key deactivated) will appear on the display. Change Ab or dS status using the + or – key. Press stop to confirm the change and exit the program. Once exited, "A7" will appear on the display.

A7 - FINAL VENTILATION THROUGH BODY VENTILATION (max. speed)
Enter program A7 by pressing the start button. "Ab" (ventilation activated) or "dS" (ventilation deactivated) will appear on the display. Change Ab or dS status using the + or – key. Press stop to confirm the change and exit the program. Once exited, "A8" will appear on the display.

A8 - DISPLAY TIME
Enter program A8 by pressing the start button. "Ab" (display activated) or "dS" (display deactivated) will appear on the display. Change Ab or dS status using the + or – key. Press stop to confirm the change and exit the program. Once exited, "A9" will appear on the display.

A9 - TIME REMAINING STORAGE
Enter program A9 by pressing the start button. "Ab" (storage activated) or "dS" (storage deactivated) will appear on the display. Change Ab or dS status using the + or – key. Press stop to confirm the change and exit the program. Once exited, "E0" will appear on the display.

E0 - CENTER CODE NUMBER SETTING
When E0 appears on the display, it is possible to enter the program to set the code number of the tanning center for that board. Press the external start stop keys and, using the + and – keys, enter the number of the center. Press stop to confirm the change and exit the program. Once exited, "E1" will appear on the display.

E1-SET CODE NUMBER OF THE SUB-CENTRE.
For MPT/3-TRS/2 versions precedent to the 6.00 version: E1 indicates the cost in points that the card debits when it is set in card mode, from a minimum of one point to a maximum of 99. With the 6.00 and later version, the E1 parameter has changed meaning and has become the number of the franchising agency. The card reads the number of the franchising agency from the card and memorises the value in the E1 parameter. At this point, with the SUN MANAGER software, that value can be read and the cost debited to the agency that issued the chip card.
In the versions successive to 6.00, the E1 parameter (cost in points) has been substituted by the parameters C1-C2.

E2 - CARD FUNCTIONING MODE
When E2 appears on the display, it is possible to enter the program to select the operation mode of the card reader installed on the machine. Press the start key to confirm the already-loaded value, or use the + and – keys to make changes. Press stop to confirm the change and exit the program. Once exited, "E3" will appear on the display.
"Zero" mode indicates that the reader has not been activated.

E6 - SERIAL NUMBER SET FOR RS485
When E6 appears on the display, it is possible to enter the program to set the board i.d. serial number for connection to a computer. Press start to enter the program and use the + and – keys to make changes. Press stop to confirm the change and exit the program. Once exited, "CP" will appear on the display.

CP - PARAMETER COPY FROM A SECOND RS485 BOARD
With the display showing CP you access the programme that allows the copying of set parameters from one card to another. The cards must be connected through the serial connection (terminals 10 and 11). Press Start and gain access to the programme: Press the **Time** key for 4 seconds in order to carry out the copying of the parameters. Press Stop to exit from the programme. On exiting the display shows FC.

FC - TEST FUNCTION
When FC appears on the display, it is possible to enter the program that allows the board to perform three complete self-test routines. Push start to enter the program and the board automatically carries out a cycle of three self-test routines made up of three 14-minute operating cycles, each with its respective 4-minute cool-down period and 2-minute pause.

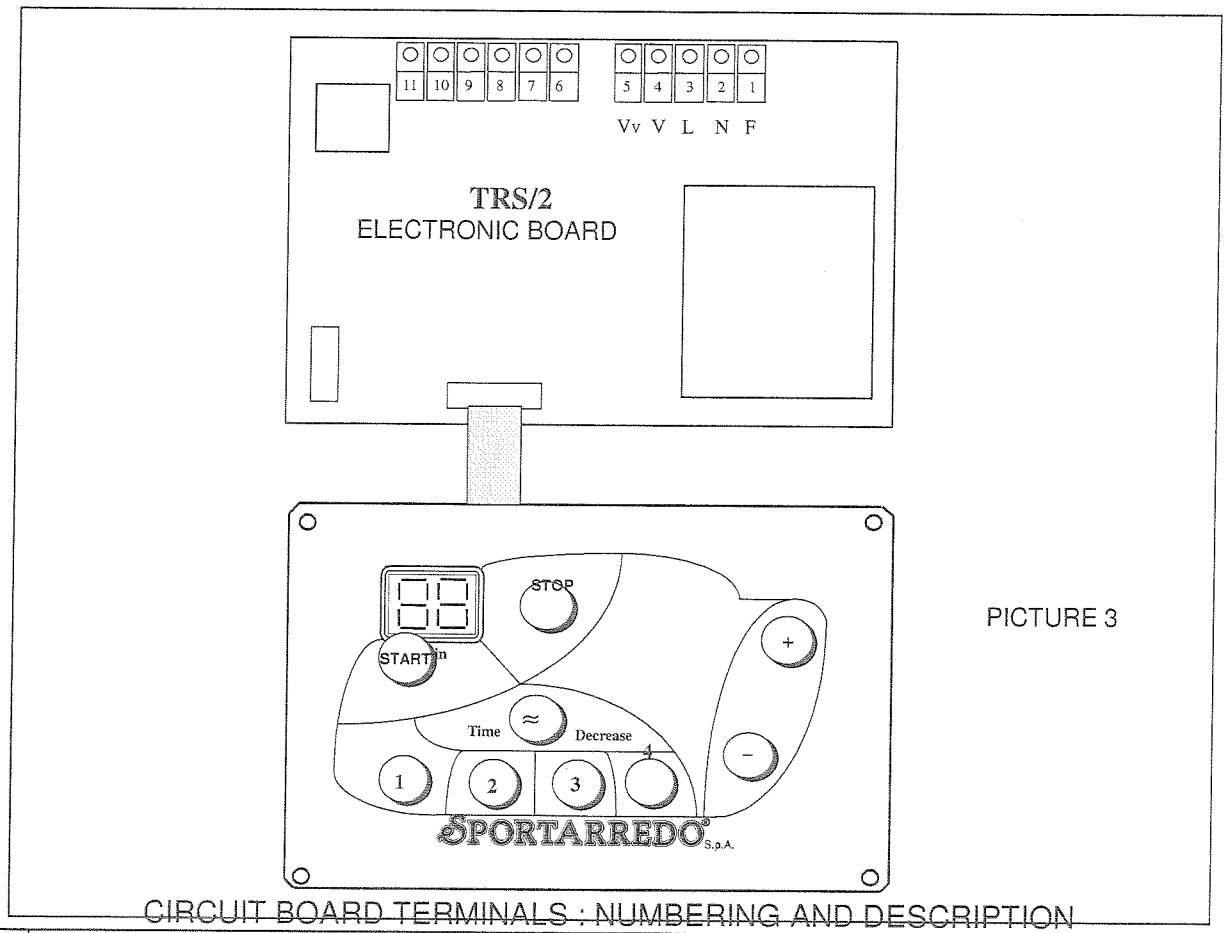
C1-NUMBER OF POINTS / MINUTE FACE ONLY.
With the display showing C1 you access the programme that allows the insertion of the number of points that are deducted at every face session, or for every token in those cases in which the card is programmed on card 2 mode, whenever the card is used with a matched chip card reader. Example: if we wish to enter 4000 points for the face session we must set up the card with C1=40, C2=00. Press the Start key to accept the parameters already memorized, or else the keys + or - to carry out the variation. Press the Stop key to confirm the variation and exit from the programme. On exiting the display will show C2.

C2-NUMBER OF POINTS / MINUTE FACE ONLY.
With the display showing C2 you access the programme that allows the insertion of the number of points that are deducted at every face session, or for every token in those cases in which the card is programmed on card 2 mode, whenever the card is used with a matched chip card reader. Example: if we wish to enter 4000 points for the face session we must set up the card with C1=40, C2=00. Press the Start key to accept the parameters already memorized, or else the keys + or - to carry out the variation. Press the Stop key to confirm the variation and exit from the programme. On exiting the display will show A0.

At this point, programming has been completed. To return the machine to normal operational status, turn the electrical power off and then back on.

TRS/2 BOARD TERMINAL STRIP NUMBERING AND DESCRIPTION
1 - INPUT PHASE
2 - INPUT NEUTRAL
3 - LAMP CONTROL PHASE
4 - LAMP COOLING FANS CONTROL PHASE
5 - BODY COOLING VENTILATION ADJUSTMENT CONTROL PHASE
6 - COMMON CONTACT
7 - START CONSENT
8 - EXTERNAL START
9 - EXTERNAL STOP
10 - RS485 SERIAL LINE A
11 - RS485 SERIAL LINE B

4.3 ELECTRONIC CONTROL BOARD CONNECTIONS



PICTURE 3

CIRCUIT BOARD TERMINALS : NUMBERING AND DESCRIPTION

1	Power supply phase.	6	Common contact
2	Power supply neutral	7	Enable Start
3	Control phase for lamps switch-on	8	Remote Start
4	Alimentation phase	9	Remote Stop
5	Control phase for body-cooling ventilation	10	Serial address
		11	Serial address

IMPORTANT !

ALWAYS DISCONNECT THE MACHINE FROM THE POWER SUPPLY BY PRESSING THE SWITCH BREAKER BEFORE CARRYING OUT MAINTENANCE

SEE ENCLOSED TABLES

Any tampering with the appliance or the use of non-original material or parts may lead to injury. In such cases, the manufacturer declines all civil and penal liability, and the warranty shall automatically be considered null and void.

4.4 MAINTENANCE

PL PILOT LAMP FOR ROUTINE MAINTENANCE

Every 100 hours of operation the letters PL appear on the appliance display alternating with the session time. This means that routine maintenance, consisting of cleaning of internal and external filters of the appliance, should be carried out.
The luminous signal is turned off by the following procedure:
- press key 1,
- holding down key 1, press key 2,
- holding down keys 1 and 2, press key 3,
- hold down keys 1, 2 and 3.

Now the resetting procedure begins and is shown by the fast flashing of the letters PL. When the flashing stops the session time appears and the resetting procedure has finished.
This procedure should be carried out with the appliance in pause mode.

SL PILOT LAMP FOR SPECIAL MAINTENANCE

Every 400 hours of operation the letters SL appear on the appliance display alternating with the session time. This means that the following extraordinary maintenance operations should be carried out:

- cleaning of internal and external filters.
- replacement of the lamps.
- Check that the timer system is working correctly.
- Check that the SAFETY AND ACCIDENT PREVENTION instructions are legible and in satisfactory condition.
- Every 800 working hours replace the reflectors, the UV filters and the starters for the low-pressure lamps. Clean the fans and the inside of the machine.
- Every 1000 working hours replace the acrylics.

The luminous signal is turned off by following the procedure below:
- press key 1,
- holding down key 1, press key 2,
- holding down keys 1 and 2, press key +,
- holding down keys 1, 2, and +, press key –,
- hold down keys 1, 2, +, and – .

Now the resetting procedure begins and is shown by the fast flashing of the letters SL. When the flashing stops the session time appears and the resetting procedure has finished.
This procedure should be carried out with the appliance in pause mode.

4.5 PERIODIC CONTROL PROCEDURES

Check that the electrical safety devices, and the acoustic/illuminated signal devices and alarms are undamaged and that they function correctly. Check that the equipment and devices in the electrical control box are in satisfactory condition.
The standby batteries should be replaced after 1000 hours (or three years) of operation.

These checks must be performed by qualified personnel

4.6 DEMOLITION OF THE MACHINE

Each country applies specific legislation concerning the disposal of machinery. Disposal of this machine must be carried out in compliance with the regulations laid down by local legislation and bye-laws. Dismantle the machine and group the various parts according to their chemical characteristics.

Dismantling of the machine must be performed by qualified personnel

4.7 WASTE MATERIALS

The lamps are considered as disposable waste materials and all the materials regarding the packing. Due to their characteristics, these lamps are classified as non-toxic and non-harmful **special waste materials**. Disposal of the lamps must therefore be effected as required by the appropriate legislation.

Batteries must be discharged as differentiated waste following the specific rules in force in each country.

DEFINITION OF SPECIAL WASTE MATERIAL: Residual material deriving from industrial processes or agricultural, artisan, commercial or service activities which, in view of their quantity of characteristics, are not classified as normal household refuse.

CLEANING OF THE HANDLE FOR THE LOWERING AND RAISING OF THE SKY

The handle must be cleaned only and exclusively with solvent-free detergents.

REMOVING AND CLEANING THE ACRYLICS PANELS

To make the clearing of the acrylics of the base and sky it's necessary to make the disassembling as follows:

Disassembly the lateral plastic and then unscrew the acrylic-block bars with a cross head screwdriver. See picture enclosed: table 5, table 6.

IMPORTANT!
USE ONLY THE DISINFECTANT CLEANSING MULTYSAN TO CLEAN THE ACRYLICS

CLEANING THE HIGH PRESSURE LAMPS FILTERS

Clean the filters internally and externally using a 50% solution of water and denatured alcohol.

CLEANING THE AIR FILTERS

See enclosed table 3.

IMPORTANT!
THE CLEANING OF THE AIR FILTERS SHOULD BE CARRIED OUT EVERY WORKING WEEK USING A JET OF COMPRESSED AIR OR USING A VACUUM CLEANER

REMOVING AND CLEANING THE AIR FILTERS

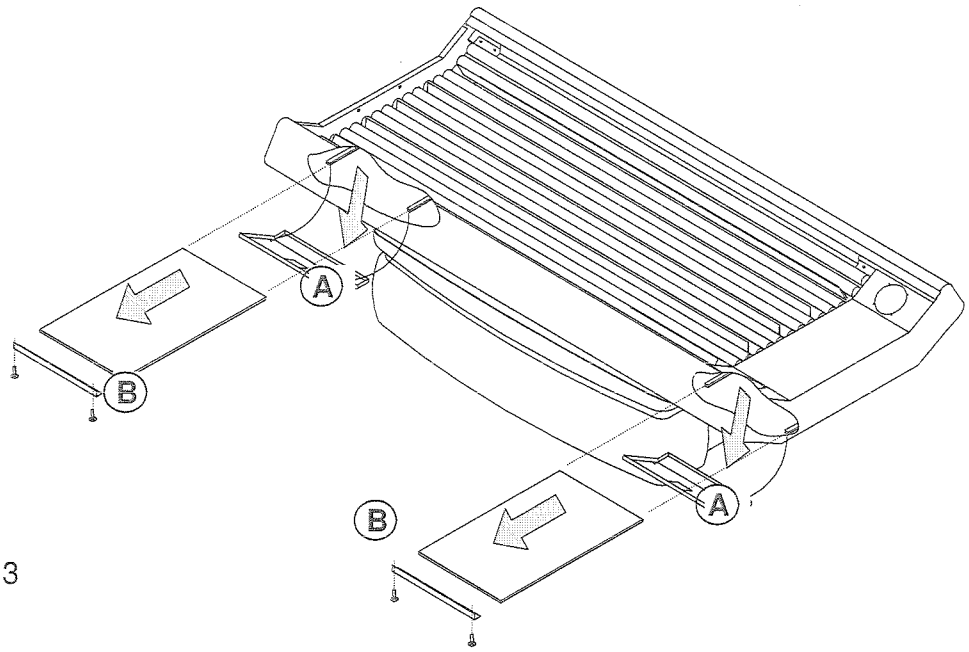


TABLE 3

MAINTENANCE OF THE COMPONENTS IN THE BOXES

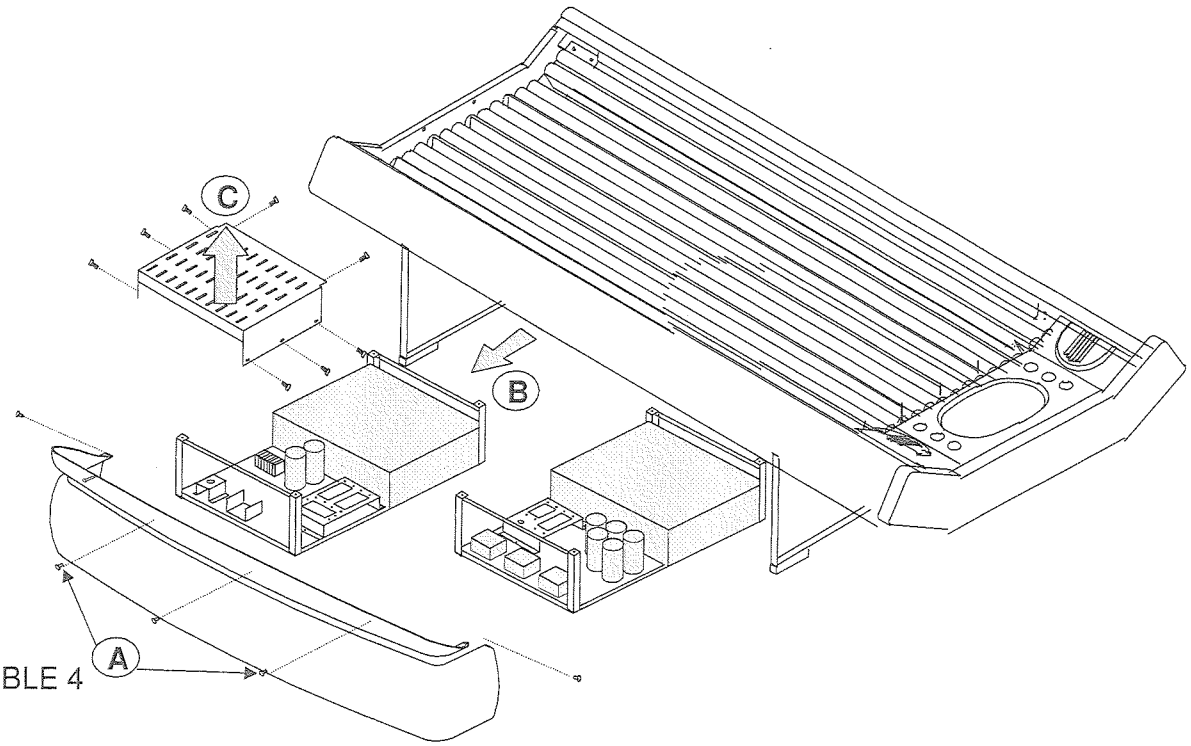


TABLE 4

REPLACING THE FILTERS, REFLECTOR, HIGH AND LOW PRESSURE LAMPS

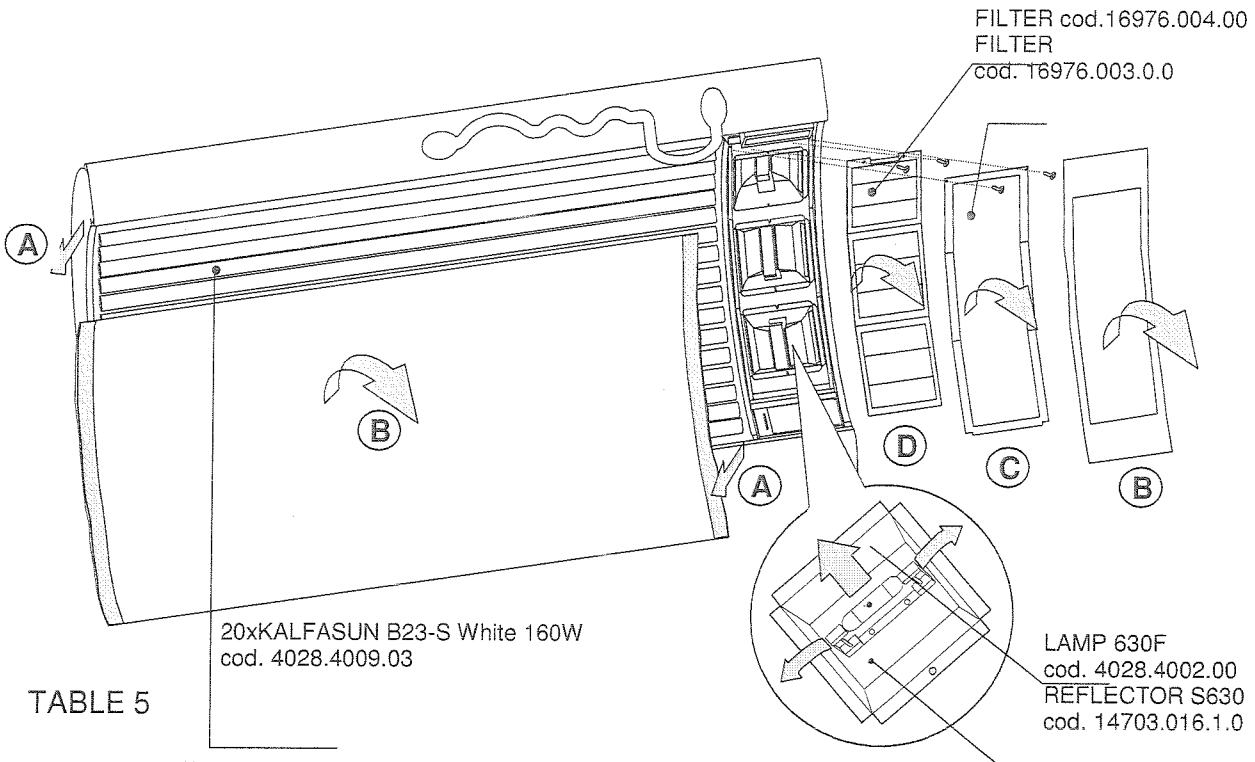


TABLE 5

PERFORM THIS PROCEDURE IN STRICT ALPHABETICAL SEQUENCE

REPLACING THE BED LAMPS

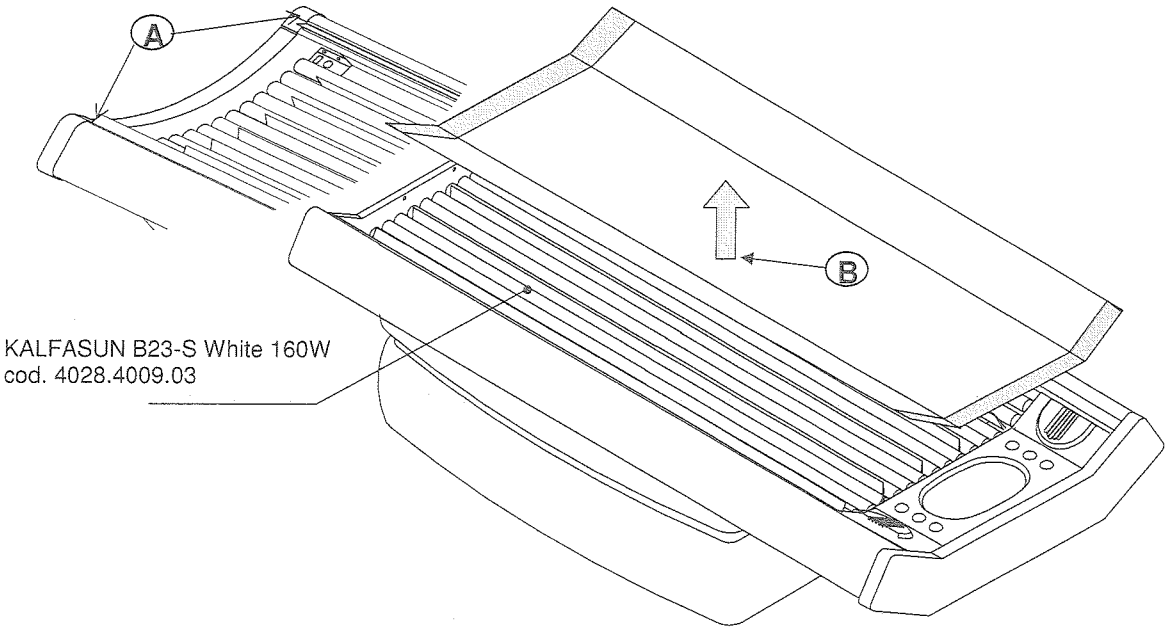


TABLE 6

T.MAX CONTROL BOARD

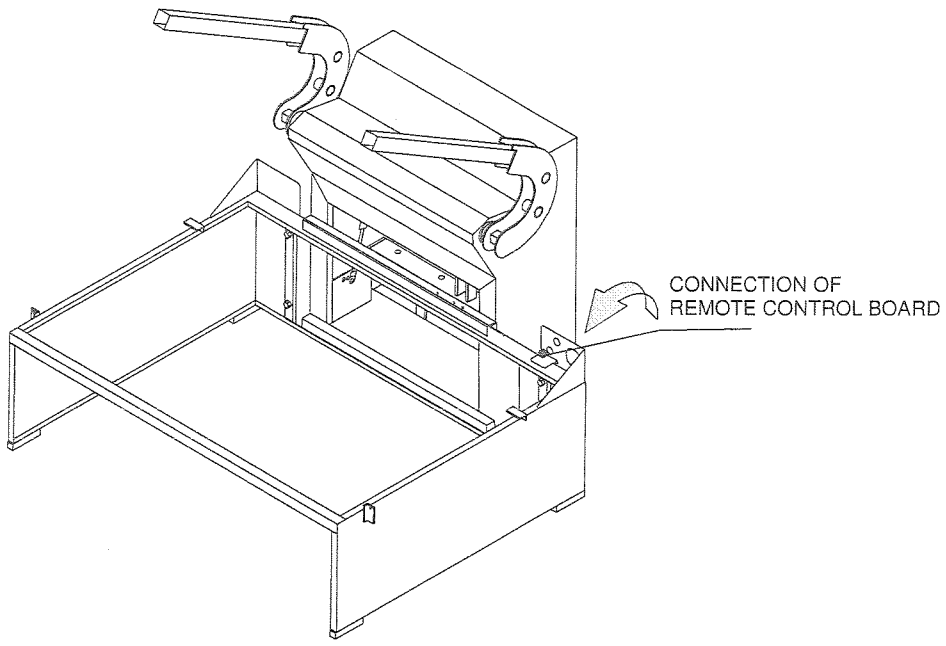


TABLE 7

PERFORM THIS PROCEDURE IN STRICT ALPHABETICAL SEQUENCE

REGULATION OF THE HYDRAULIC PISTON HAS TO BE MADE AT THE EXERCISING TEMPERATURE OF THE MANUAL UNIT

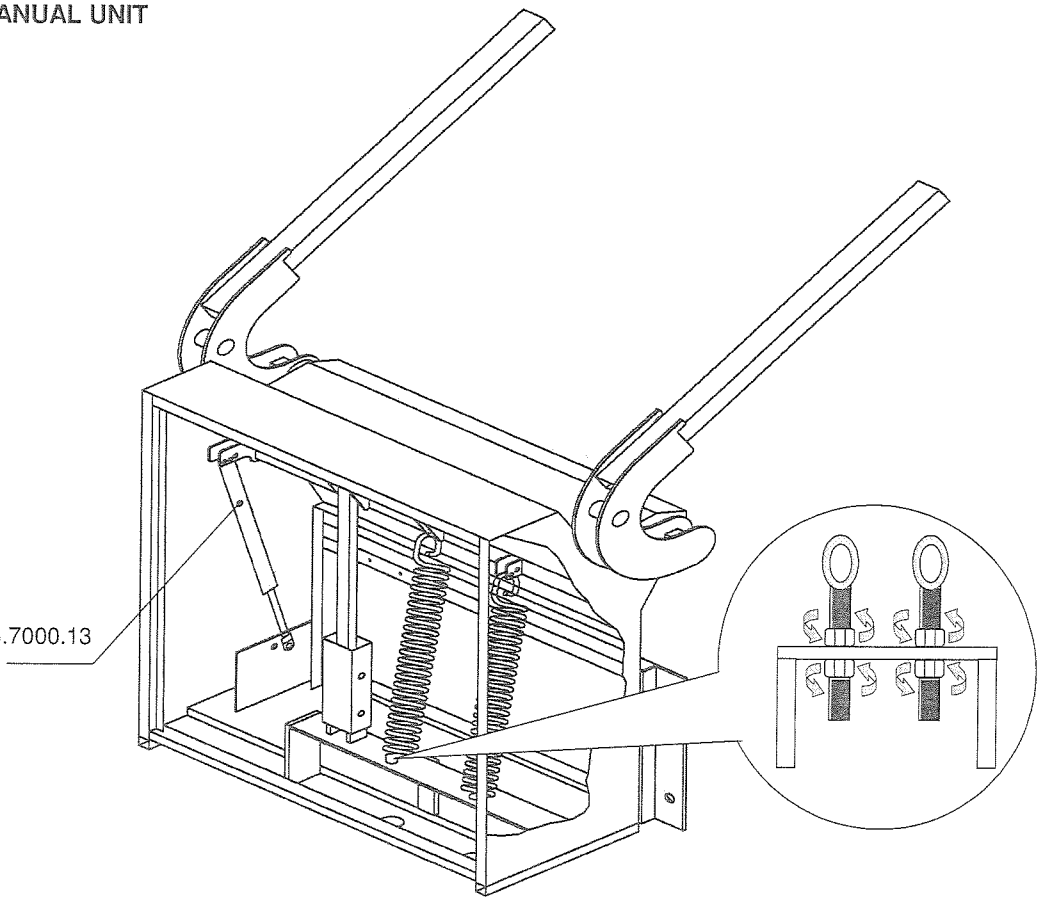


TABLE 8

PERFORM THIS PROCEDURE IN STRICT ALPHABETICAL SEQUENCE

A Check that the self-blocking nuts are not tight. In case the nuts must be loosened and laid on the leg only.

B Keep the sky lifted manually and loosen the nuts.

ACTUATOR AND HYDRAULIC PISTON SUBSTITUTION FOR LOWERING THE CEILING

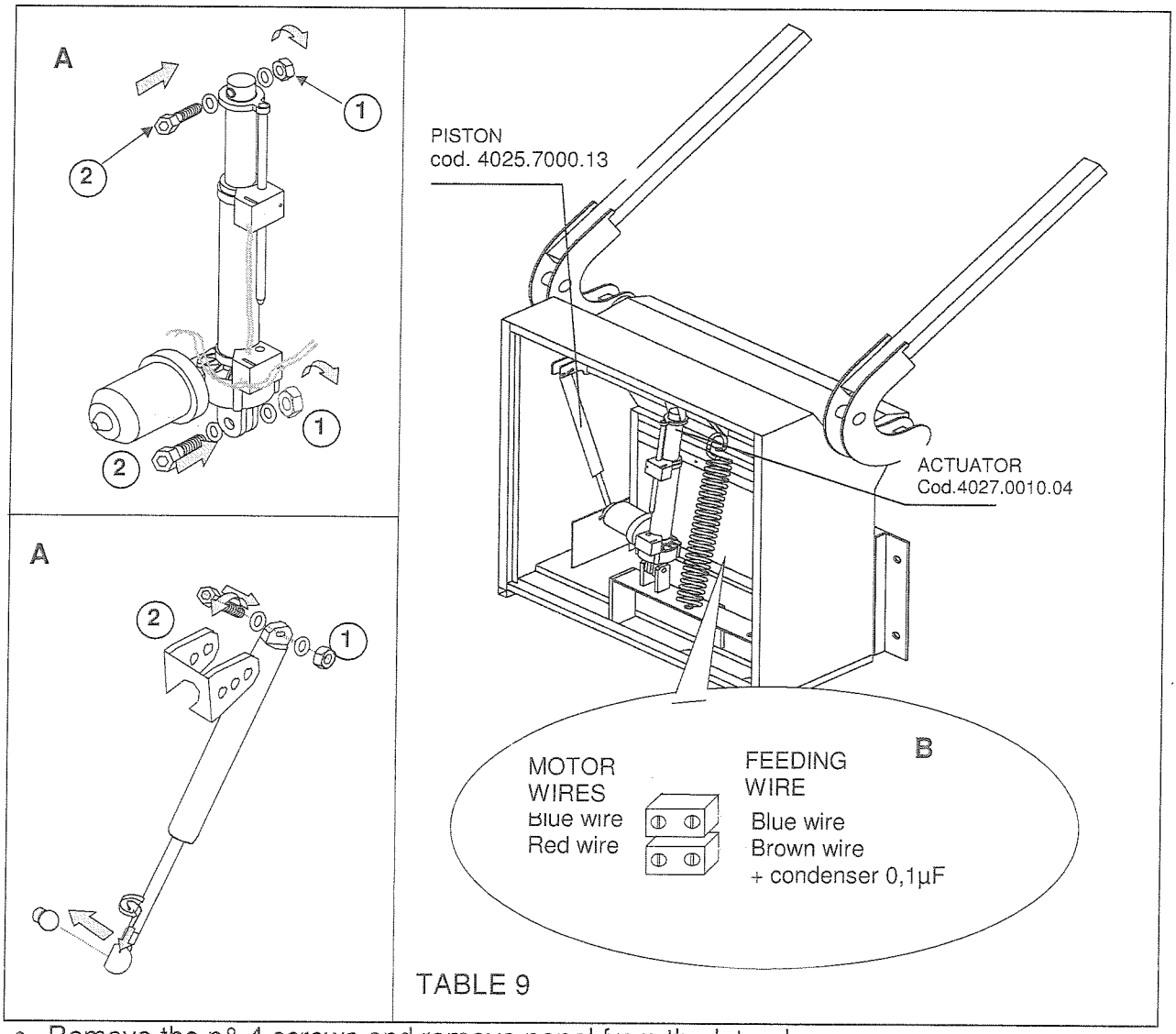


TABLE 9

- Remove the n° 4 screws and remove panel from the lateral.
- Disconnect from the terminal board the feeding wires of the actuator.
- Support the ceiling.
- Unscrew the block 1 and act on block 2 to release the screw nut. (detail **A**).
- Replace the actuator or the hydraulic pistons with an approved original spare part.
- To assemble the part act the opposite procedure, by paying attention to connect the feeding wires of the motor to the terminal board, as shown in detail **B** (red wire, blue wire).

REPLACING THE BED COOLING FAN

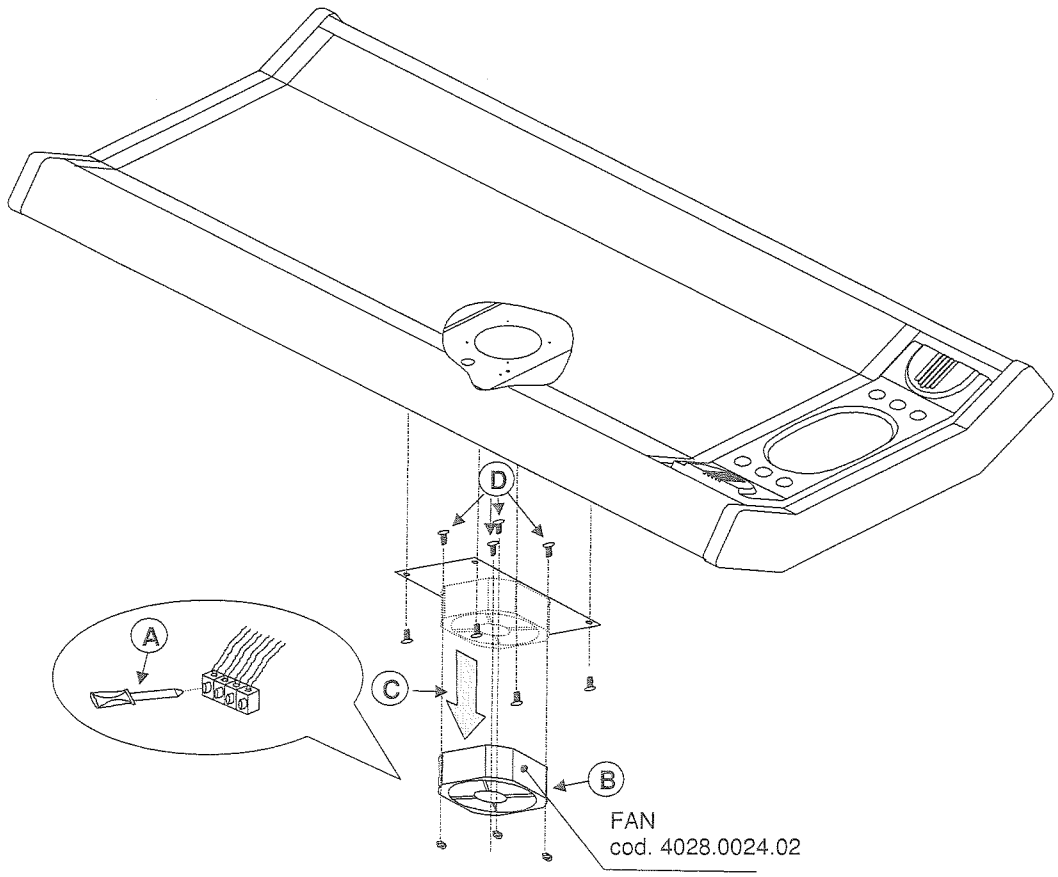


TABLE 10

PERFORM THIS PROCEDURE IN STRICT ALPHABETICAL SEQUENCE

REPLACING THE CEILING COOLING FAN, COOLING FANS FOR HIGH PRESSURE LAMPS

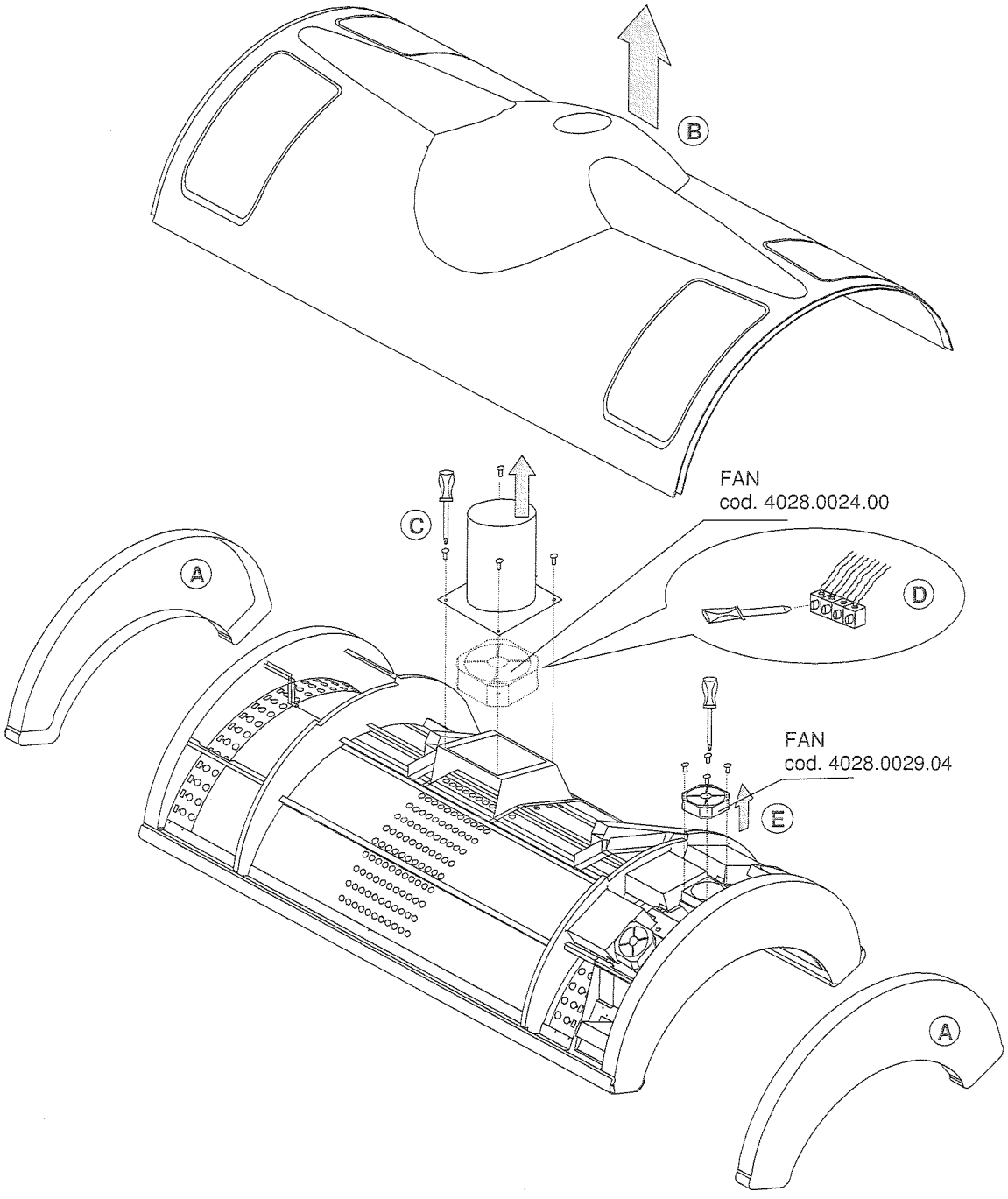


TABLE 11

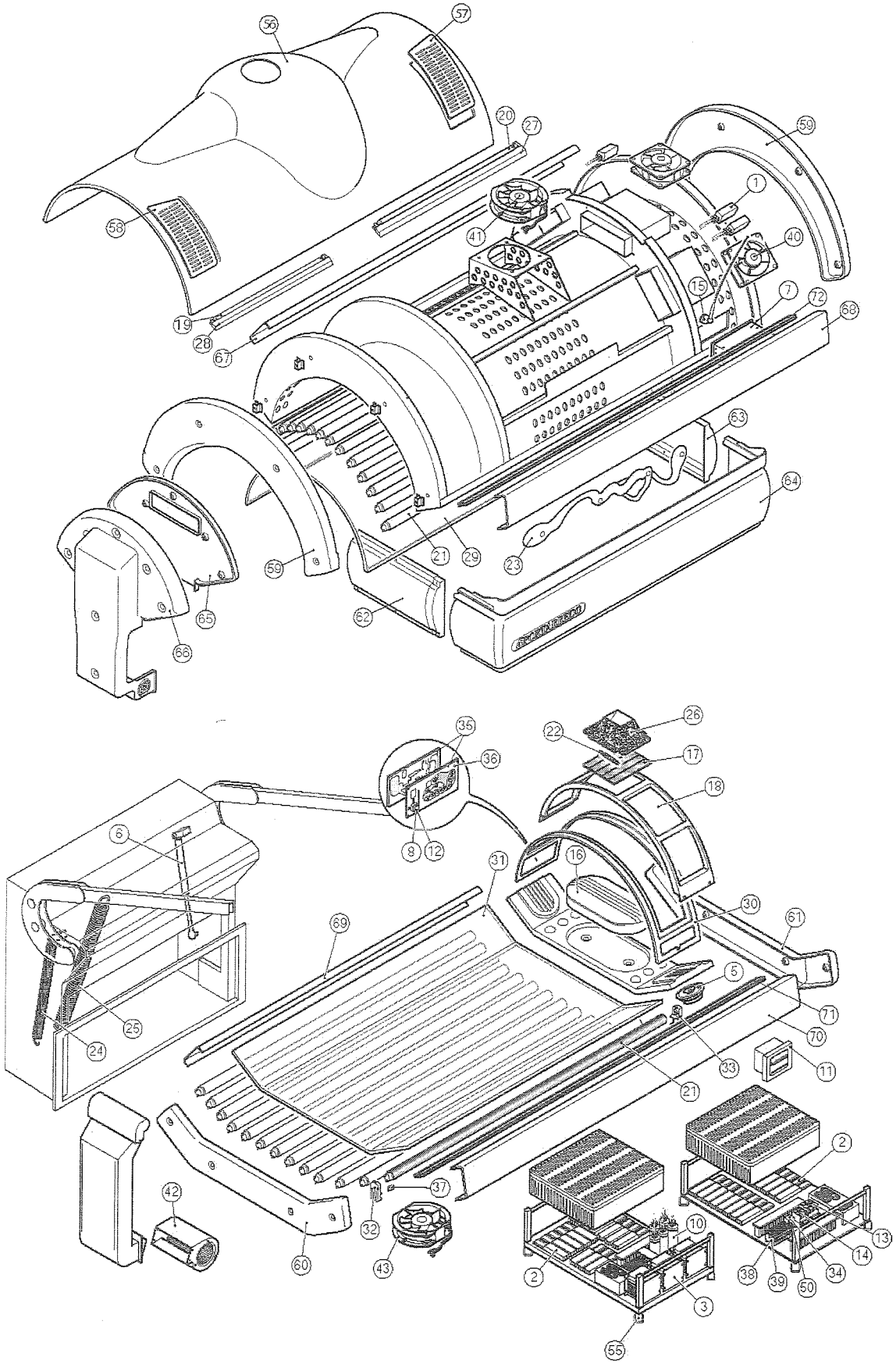
PERFORM THIS PROCEDURE IN STRICT ALPHABETICAL SEQUENCE

4.8 GOLDEN SUN SPARE PARTS LIST

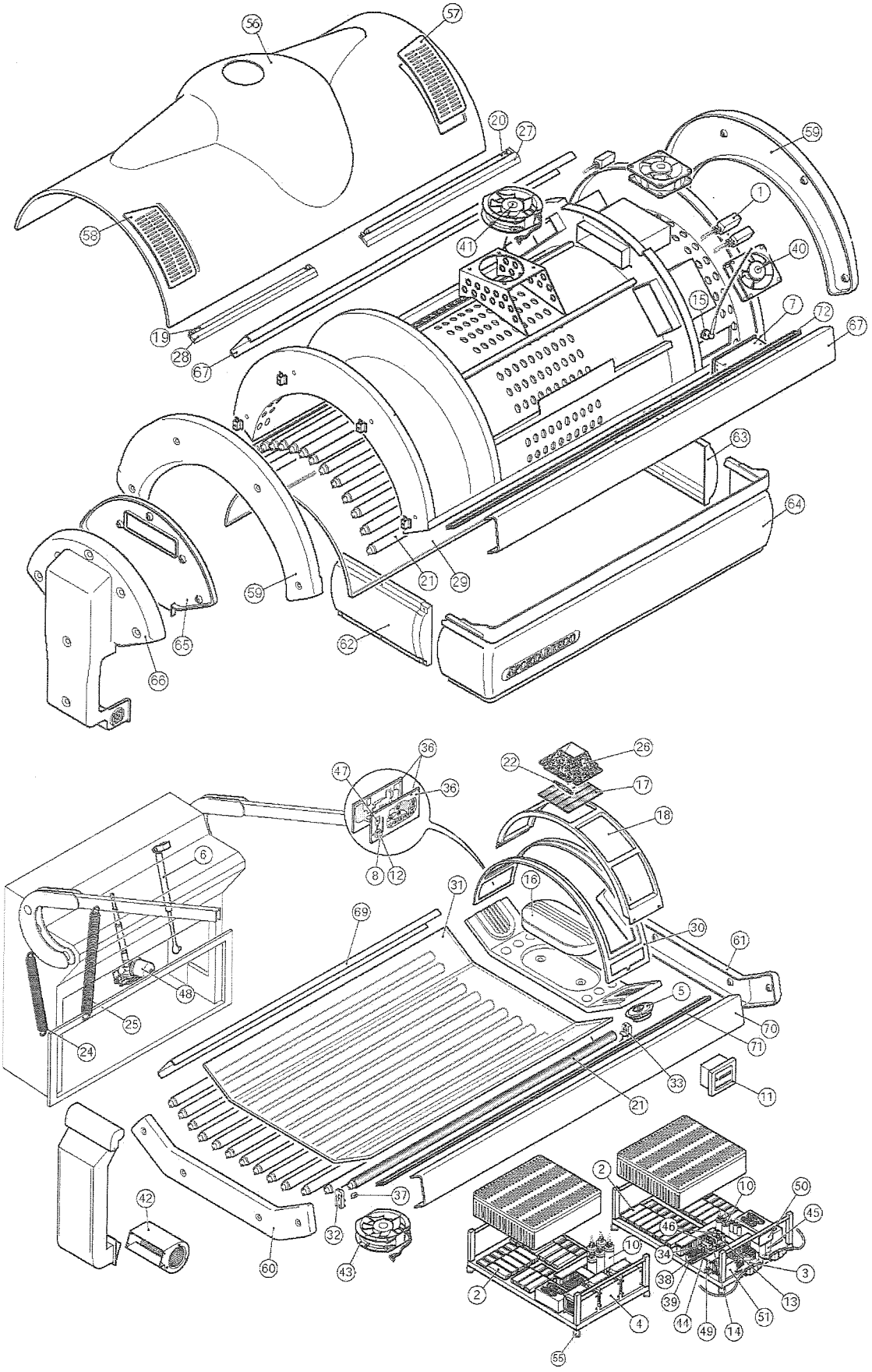
REF.	N°	CODE NUM.	DESCRIPTION
1	3	4028.4400.04	TRIDONIC ZRM 6 ES B IGNITOR
2	36	4028.1001.08	160W 230V 60HZ BALLAST
3	1	14703.018.0.0	220/12V U TRANSFORMER
4	3	4028.1000.02	MYSUN 630 220/230/240V BALLAST
5	2	4027.3030.03	LOUDSPEAKERS
6	2	4025.7000.13	HYDRAULIC PISTON A4B1Z-3-200-343 600N
7	1	4027.3025.05	RADIO
8	1	4028.2187.03	SELECTOR
9	1	4028.4306.01	CONDENSER 3,5 µF 450 V
10	5	4028.4300.00	CONDENSER 65 µF 450 V
11	1	4028.6000.01	HOUR COUNTER REVALCO
12	2	4028.2101.10	CONTACT FOR SELECTOR
13	1	4028.2100.06	LAMPS CONTACTOR FANTINI & COSMI HR2510
14	1	4028.2100.00	LAMPS CONTACTOR FANTINI & COSMI HR0910
15	1	4027.3028.01	ANTENNA
16	1	16946.017.00	CUSHION
17	9	16976.004.00	COBALT FILTER (DIMENSIONS 230 X 75)
18	3	16976.003.0.0	SUPERLUX TR-T 24 X 21 FILTER
19	1	4028.4013.00	BLUE LAMP PHILIPS TL 18W
20	1	4028.4013.03	BLUE LAMP PHILIPS TL 36W
21	36	4028.4009.03	LAMP KALFASUN B23 S WHITE 160W
22	3	4028.4002.00	KALFASUN 630F 230V UV-A LAMP
23	1	14213.034.0.0	HANDLE (UNIT MANUAL)
24	1	16960.007.0.0	TRACTION SPRING D35
25	1	16960.006.0.0	TRACTION SPRING D59
26	3	14073.016.1.0	REFLECTOR S630
27	1	4028.3340.01	LAMP HOLDER FOR BLUE LAMP TL 36W
28	1	4028.3340.00	LAMP HOLDER FOR BLUE LAMP TL 18W
29	1	16946.014.0.0	CEILING ACRYLIC
30	1	15946.005.0.0	FACE ACRYLIC
31	1	16946.016.0.0	BED ACRYLIC
32	36	4028.3310.01	NEON HOLDER WITH STARTER
33	36	4028.3310.00	NEON HOLDER WITHOUT STARTER
34	1	4028.4500.01	CONTROL RELAY FOR COOLING FAN UNIT FINDER 60.13
35	1	14203.136.0.0	"TRS/2" CONTROL BOARD COMPLETE
36	1	16906.029.0.0	KEYBOARD
37	36	4028.4020.03	STARTER PHILIPS S12
38	8	4028.3120.04	TERMINAL LEGRAND 37064
39	1	4028.3121.02	TERMINAL LEGRAND 37374
40	3	4028.0029.04	EBM 4650N HIGH PRESSURE LAMPS COOLING FAN
41	1	4028.0024.00	EBM W2E200 HH3801 LOW PRESSURE LAMPS COOLING FAN
42	1	4028.0048.00	ECOFIT 2GDS25.133/190 FAN
43	1	4028.0024.02	EBM W2E 250-HL06 FAN
44	1	4028.4550.01	UNDECAL RELAY SOCKET FINDER 90.27
45	2	4027.3020.16	STORAGE BATTERIES 12V 1.2A
46	2	4028.2101.03	AUXILIARY CONTACT IR22
47	1	4028.2184.00	MARQUARDT SWITCH
48	1	4027.0010.04	ACTUATOR MOTOR ALI 3 (UNIT MANUAL)
49	1	4027.5010.00	DIODE BRIDGE
50	1	4026.0010.00	"RCT" ELECTRONIC CONTROL BOARD
51	1	4028.1010.11	60VA TRANSFORMER
52	1	4028.4555.00	UNDECAL RELAY SOCKET FINDER 94.72
53	1	4028.4502.03	CONTROL RELAY FOR T.MAX 55.32
54	1	4028.2120.23	BREAKER E 82 D 40
55	8	4023.4000.06	WHEELS FOR FEEDER CASSETTE

REF.	N°	CODE NUM.	DESCRIPTION
56	1	15946.003.1.0	YELLOW+BLUE ABS COVER CANOPY
57	1	16946.171.0.0	CANOPY GRID RIGHT
58	1	16946.172.0.0	CANOPY GRID LEFT
59	2	16936.016.0.0	CANOPY CAP
60	1	16936.022.0.0	BASEMENT CAP RIGHT
61	1	16936.017.0.0	BASEMENT CAP LEFT
62	1	16946.091.0.0	YELLOW COVERING SX BED
63	1	16946.090.0.0	YELLOW COVERING DX BED
64	1	15946.004.0.0	FRONTAL BASEMENT ENSEMBLE
65	1	16946.197.0.0	FAN COVER FRONTAL
66	1	16946.196.0.0	FAN COVER REAR
67	2	16946.193.0.0	REAR AND FRONTAL PANEL CANOPY
68	1	16946.192.0.0	FRONTAL PANEL CANOPY
69	1	16946.194.1.0	REAR PANEL BED
70	1	16946.198.1.0	FRONTAL PANEL BED
71	2	16936.023.1.0	BED ACRYLIC STOP PART PANEL
72	2	16936.020.1.0	CANOPY ACRYLIC STOP PART PANEL

GOLDEN SUN MANUAL



GOLDEN SUN ELECTRICAL



4.9 TROUBLESHOOTING AND RAPID DIAGNOSTICS

- **The solarium does not switch on and the pushbutton display panel does not light.**

1 - Check that the power supply terminal board "MAL" is connected to the power supply.
See enclosed circuit diagram GOLDEN SUN n° 2/5.
2 - Check the fuses on the timer board "TRS/2".
3 - Check the voltage (230V ~) across terminals 1 and 2 on board "TRS/2".
See enclosed circuit diagram GOLDEN SUN n° 4/5.

- **The display panel lights up but the solarium does not switch on when START is pressed.**

1 - Switch the solarium off using the overload cut-out switch, wait 5 seconds and then switch on again.
2 - Check that the timer board "TRS/2" is programmed correctly.
See enclosed circuit diagram GOLDEN SUN n° 4/5.

- **The display panel lights up but when START is pressed the ventilation system only is switched on.**

1 - Check that remote control switches "HLA" "HLB" operate correctly. See enclosed circuit diagram GOLDEN SUN n° 2/5.
2 - Check the voltage 230V ~ across terminals 2 and 3 of the board "TRS/2".
See enclosed circuit diagram GOLDEN SUN n° 4/5.

- **The display panel lights up but when START is pressed only the lamps switch on (no ventilation).**

1 - Check that remote control switch "RV" operates correctly. See enclosed circuit diagram GOLDEN SUN n° 2/5.
2 - Check the voltage 230V ~ across terminals 2 and 4 of the timer board "TRS/2".
See enclosed circuit diagram GOLDEN SUN n° 4/5.

- **Body cooling system inoperative or cannot be regulated.**

1 - Check the voltage (variable up to a maximum of 230V ~) across terminals of board "TRS/2".
See enclosed circuit diagram GOLDEN SUN n° 4/5.

- **One of the high-pressure or low-pressure does not switch on.**

1 - Check for voltage on the wiring to the lamp. Check the ignition reactor or the starter for the lamp.

- **The radio does not work.**

1 - Check the fuses on the Electronics board "AL12"
2 - Check that the output of the power supply module "AL12" carries 12Vcc.
3 - The plugging in of jack plug of the earphones, excludes the loudspeaker functioning.
See "GOLDEN SUN n°2/5" circuit diagram.

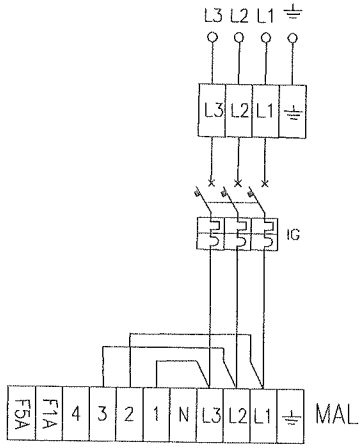
WARNING: The central terminals of the igniters for the high-pressure lamps carry extremely high voltage.

5.1 CIRCUIT DIAGRAMS LEGEND

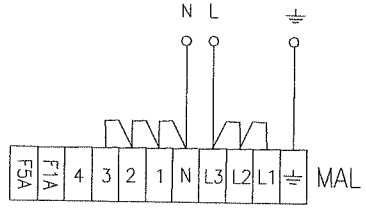
SIMBOLS	*DESCRIPTION*	*CODE*
⏚ G	Earth terminal	
AB16 A÷U	Ballast for Kalfasun B23 S White 160W lamps	4028.1001.08
AA6 A÷C	Ballast for Kalfasun 630F lamps	4028.1000.02
AC6 A - C	Igniter for Kalfasun 630F lamps	4028.4400.04
AL12	Power supply circuit board for 12V dc radio	14703.018.0.0
AT	Actuator motor	4027.0010.04
B	Storage batteries (12V 1.2A)	4027.3020.16
C3,5µF	3,5 µF condenser	4028.4306.01
C65µF	65 µF condenser	4028.4300.00
CN10LE	Connector bed feeder cassette (10 pins)	
CN10T	Connector head feeders cassette (10 pins).	
CN24LE	Connector bed feeder cassette (24 pins)	
CN32T	Connector head feeders cassette (32 pins).	
CNW3 A÷D	Wieland connector (3 pins)	
CO	Hour-counter	4028.6000.01
F1A	1A fuse	
F5A	5A fuse	
HLA	Remote control switch for lamps	4028.2100.06
HLB	Remote control switch for lamps	4028.2100.00
IR22	Auxiliary contact	4028.2101.03
J	Headphones circuit board	15906.026.0.0
L	Kalfasun Lamps B23 S White 160W	4028.4009.03
L1-L2-L3	Phases terminal of power supply	
LA6 A÷C	Kalfasun Lamps 630F	4028.4002.00
LSP-RSP	Loudspeakers	4027.3030.03
MAL	Power supply terminal board	
MI	Facial lamps terminal board for	
MLA	Lateral terminal board	
MLE	Bed terminal board	
MT	Terminal board for head	
MV	Terminal board for VC fan power supply	
N	Neutral terminal of power supply	
PD	Diode bridge	4027.5010.00
R	Control relay for N.O. contact of a coin box	4028.4502.03
RA	Radio	4027.3025.05
RCT	Circuit board for battery-charger and automatic control of ascent 30Vcc	4026.0010.00
RV	Control relay for cooling fan unit	4028.4500.01
S	Starter	4028.4020.03
SA	Selector	4028.2187.03
T12	Transformer 60VA	4028.1010.11
TRS/2	Control board complete TRS/2	14203.136.0.0
UP/DOWN	Up/down switch to rising of the head	4028.2184.00
VC	Body fan	4028.0048.00
VI 1 - 3	Cooling fan for high-pressure lamps	4028.0029.04
VLE	Cooling fan for bed low-pressure lamps	4028.0024.02
VT	Hot air exhaust fan	4028.0024.00

DESCRIPTION CIRCUIT DIAGRAM
1/5 Voltage-change diagram.
2a/5 Practical diagram of the bed feeders cassette (control unit). MANUAL
2b/5 Practical diagram of the bed feeders cassette (control unit). ELECTRICAL
3/5 Practical diagram of the head feeders cassette.
4/5 Practical diagram of head.
5/5 Practical diagram of base.

ATTENZIONE:	WARNING:	ATTENTION:	CUIDADO:	ACHTUNG:
PER EFFETTUARE IL CAMBIO TENSIONE DA 400V–3N~ A 230V–3~ ELIMINARE IL PONTE METALLICO PRESENTE SOPRA I MORSETTI (COLLEGAMENTO DEI NEUTRI)	TO MAKE VOLTAGE FROM 400V–3N ~ TO 230V–3 ~ REMOVE THE METAL BRIDGE UPON TERMINALS (NEUTRAL CONNECTIONS)	POUR EFFECTUER LE CHANGEMENT DE TENSION DE 400V–3N ~ A' 230V–3 ~ ELIMINER LE PONT METALLIQUE QUI SE TROUVE SUR LES BORNES (CONNECTION DES NEUTRES)	PARA EFECTUAR EL CAMBIO DE TENSION DE 400V–3N ~ A 230V–3 ~ QUITAR EL PUENTE METALICO SOBRE LOS BORNES (ENLACE DE LOS POLOS NEUTROS)	FUR DER SPANNUNGSWECHSLER ZU MACHEN VOM 400V–3N ~ ZU 230V–3 ~, DIE METALLISCHE BRUCKE ELIMINIEREN DASS UNTER DIE KLEMMEN (VERBINDUNG VOM NEUTRALE) FINDET SICH

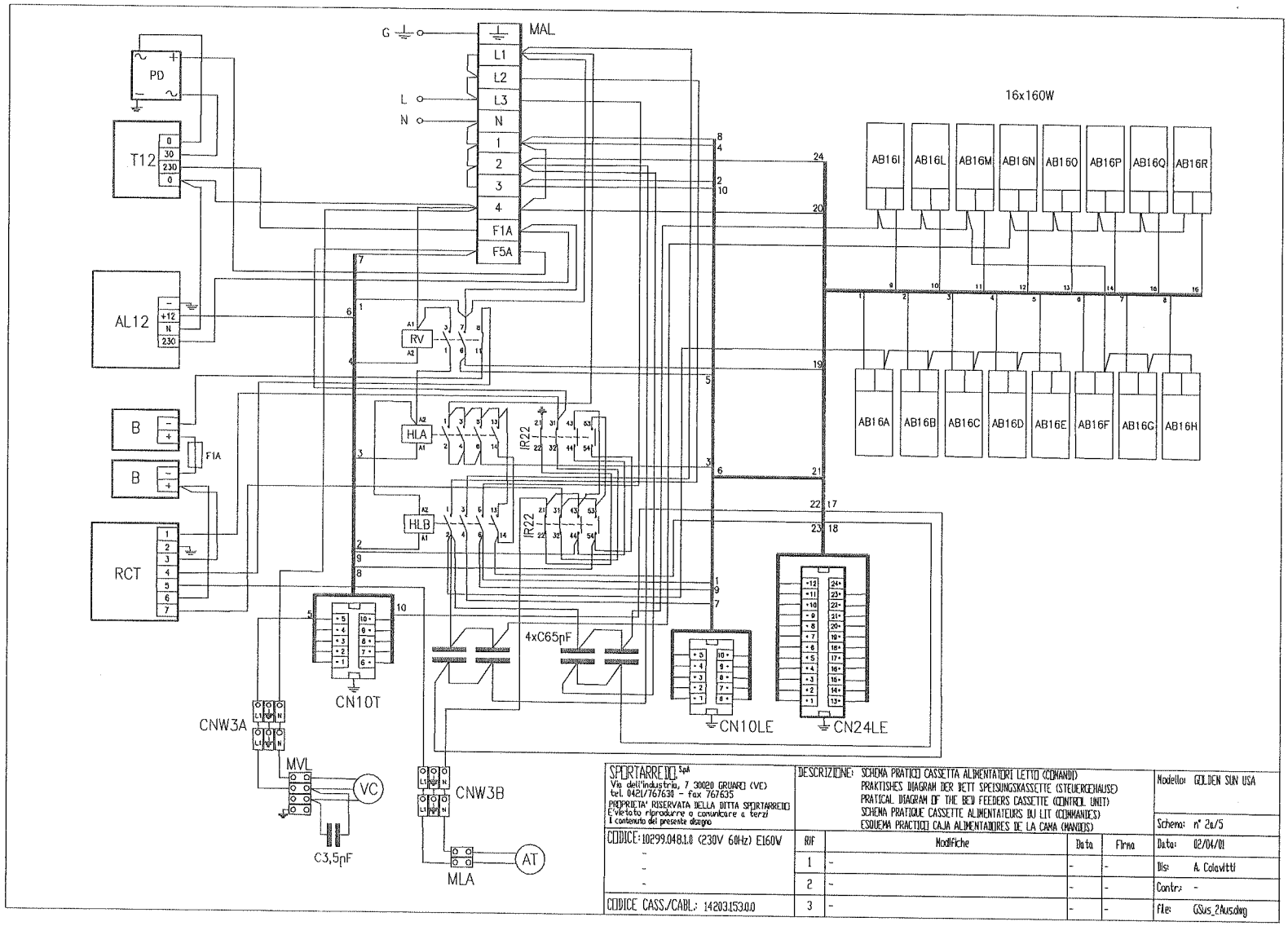


230V 3 ~



230V ~

SPORTARREDO S.p.A. Via dell'Industria, 7 30020 GRUARO (VE) tel. 0421/767630 - Fax 767635 PROPRIETA' RISERVATA DELLA DITTA SPORTARREDO E' vietato riprodurre o comunicare a terzi il contenuto del presente disegno	DESCRIZIONE: SCHEMA CAMBIO TENSIONE DIAGRAMM FUR SPANNUNGSANDERUNG VOLTAGE-CHANGE DIAGRAM SCHEMA CHANGE TENSION ESQUEMA CAMBIO TENSION				Modello: GOLDEN SUN USA
CODICE: 10299.046.1.0 (230V 60Hz) M160W 10299.048.1.0 (230V 60Hz) E160W - - -	Rif	Modifiche	Data	Firma	Schema: n° 1/5
	1	-	-	-	Data: 02/04/01
	2	-	-	-	Dis: A. Colavitti
CODICE CASS./CABL.: -	3	-	-	-	Contr: -
					file: GSun_1us.dwg



SPORTARREDO SpA
Via dell'Industria, 7 30020 GRUARO (VE)
tel. 0421/767630 - fax 767635

DESCRIZIONE: SCHEMA PRATICO CASSETTA ALIMENTATORI LETTO (COMANDI)
PRAKTISHES DIAGRAM DER BETT SPEISUNGSKASSETTE (STEUERGERÄUSE)
PRATICAL DIAGRAM OF THE BED FEEDERS CASSETTE (CONTROL UNIT)
SCHEMA PRATIQUE CASSETTE ALIMENTATEURS DU LIT (COMMANDES)
ESQUEMA PRACTICO CAJA ALIMENTADORES DE LA CAMA (MANDOS)

CODICE: 10299.048.1.0 (230V 60Hz) E160W

CODICE CASS./CABL.: 14203.153.0.0

RIF	Modifiche	Data	Firma
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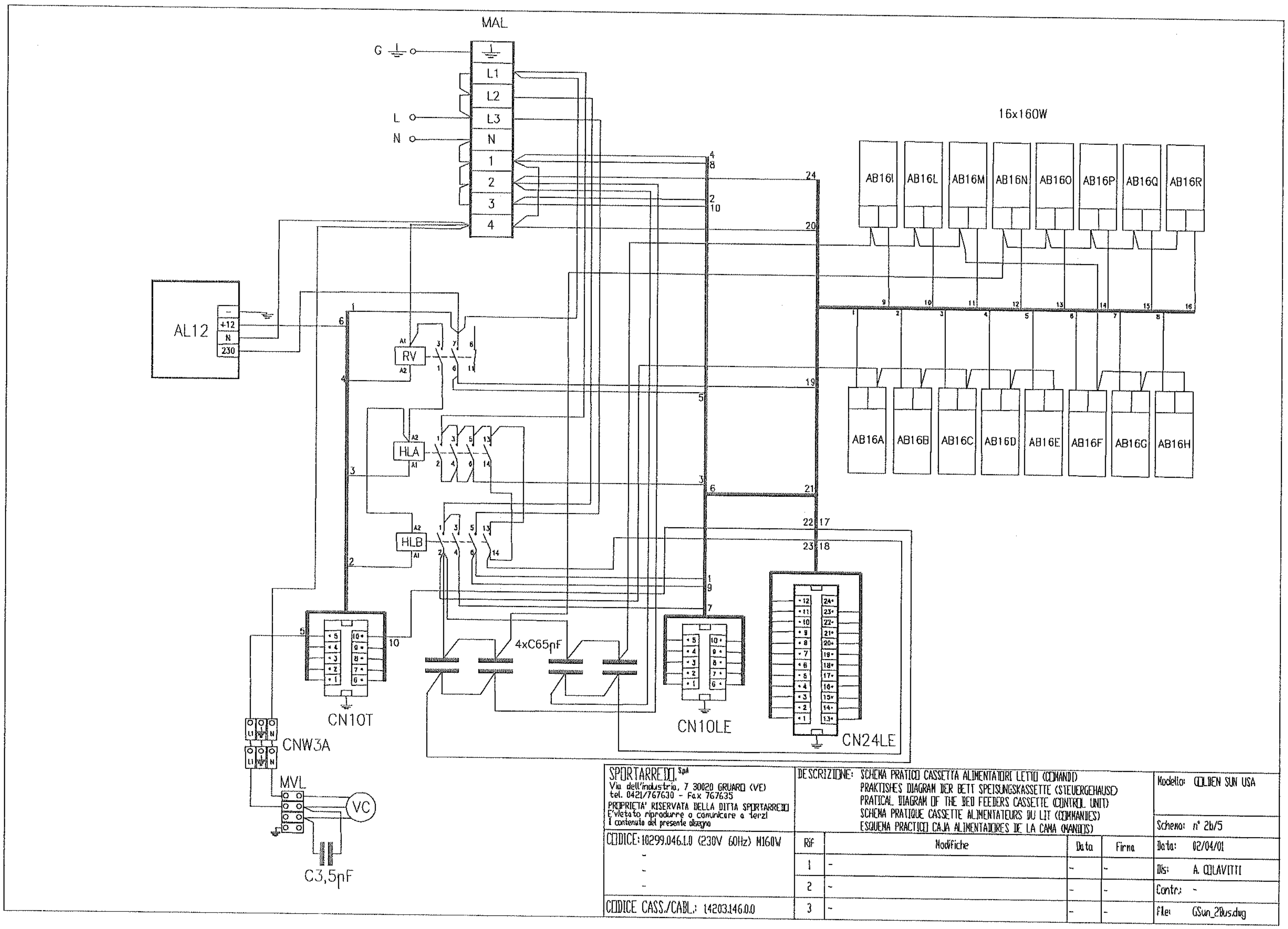
2	-	-	-
3	-	-	-

Modello: GOLDEN SUN USA
Schema: n° 2a/5
Data: 02/04/01
Dis: A. Colavitti
Contr.: -
file: GSus_2Ausdeg


MAL
G
L
N
L1
L2
L3
N
1
2
3
4
16x160W
AB16I
AB16L
AB16M
AB16N
AB16O
AB16P
AB16Q
AB16R
AB16A
AB16B
AB16C
AB16D
AB16E
AB16F
AB16G
AB16H
AL12
+12
N
230
RV
HLA
HLB
4xC65μF
CN10T
CN10LE
CN24LE
CNW3A
MVL
VC
C3,5μF
SPORTARREDO SpA
Via dell'industria, 7 30020 GRUARO (VE)
tel. 0421/767630 - Fax 767635
PROPRIETA' RISERVATA DELLA DITTA SPORTARREDO
E'vietato riprodurre o comunicare a terzi
Il contenuto del presente disegno
CODICE: 10299.046.1.0 (230V 60Hz) M160W
CODICE CASS./CABL.: 14203.146.0.0
DESCRIZIONE: SCHEMA PRATICO CASSETTA ALIMENTATORI LETTO (COMANDI)
PRAKTISHES DIAGRAM DER BETT SPEISUNGSKASSETTE (STEUERGEHAUSE)
PRATICAL DIAGRAM OF THE BED FEEDERS CASSETTE (CONTROL UNIT)
SCHEMA PRATIQUE CASSETTE ALIMENTATEURS DU LIT (COMMANDES)
ESQUEMA PRACTICO CAJA ALIMENTADORES DE LA CAMA (MANDOS)
Rif
Modifiche
Data
Firma
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Schema: n° 2b/5
Data: 02/04/01
Dis: A. COLAVITTI
Contr.: -
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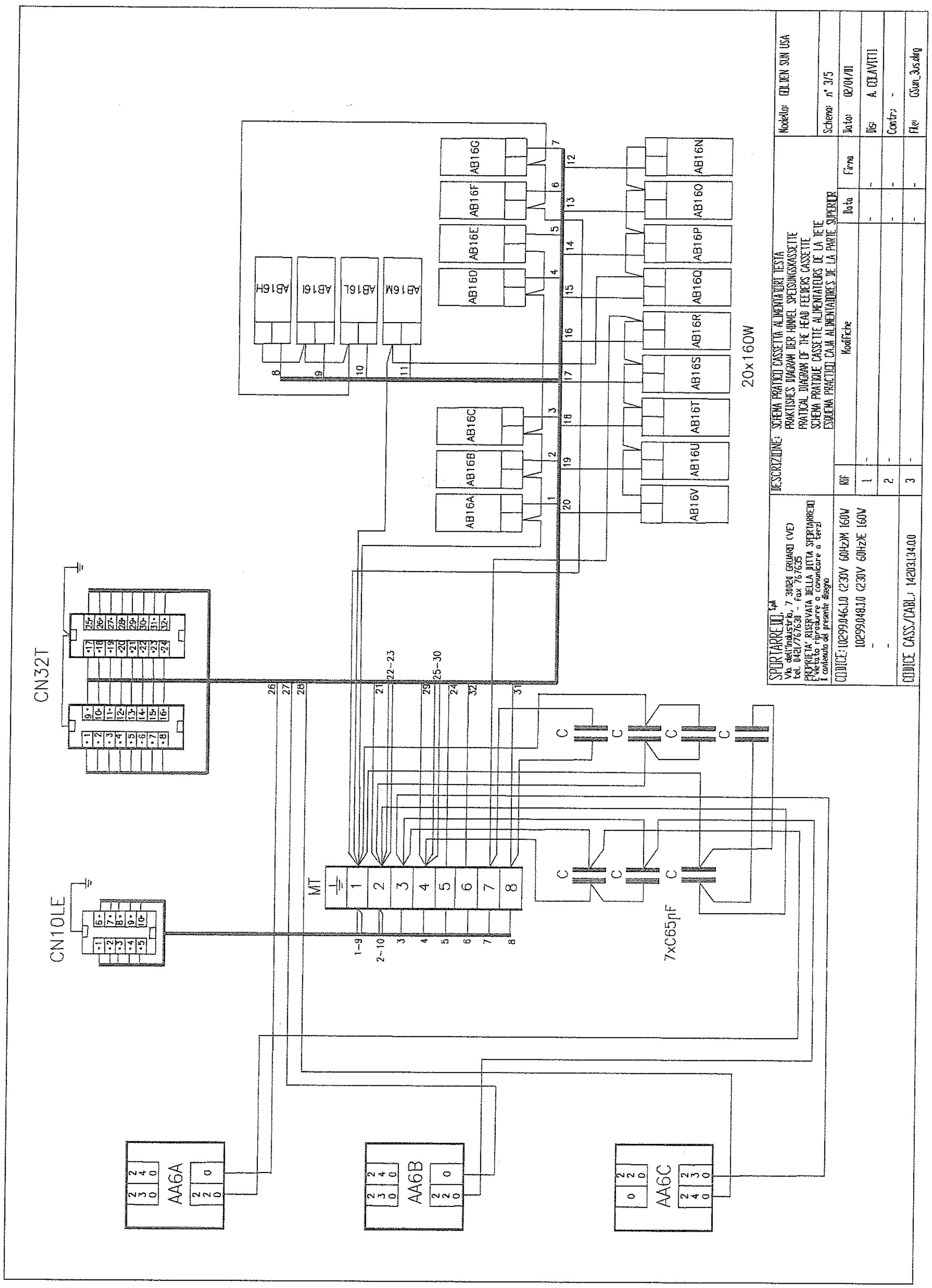
CN10LE
CN32T
AA6A
AA6B
AA6C
MT
1–9
2–10
22–23
25–30
7xC65μF
C
AB16A
AB16B
AB16C
AB16D
AB16E
AB16F
AB16G
AB16H
AB16I
AB16L
AB16M
AB16N
AB16O
AB16P
AB16Q
AB16R
AB16S
AB16T
AB16U
AB16V
20x160W
SPORTARREDO SpA
Via dell'Industria, 7 30020 GRUARO (VE)
tel. 0421/767630 - fax 767635
PROPRIETA' RISERVATA DELLA DITTA SPORTARREDO
E'vietato riprodurre o comunicare a terzi
il contenuto del presente disegno
CODICE: 10299.046.1.0 (230V 60Hz)M 160W
10299.048.1.0 (230V 60Hz)E 160W
CODICE CASS./CABL.: 14203.134.0.0
DESCRIZIONE: SCHEMA PRATICO CASSETTA ALIMENTATORI TESTA
PRAKTISHES DIAGRAM DER HIMMEL SPEISUNGSKASSETTE
PRATICAL DIAGRAM OF THE HEAD FEEDERS CASSETTE
SCHEMA PRATIQUE CASSETTE ALIMENTATEURS DE LA TETE
ESQUEMA PRACTICO CAJA ALIMENTADORES DE LA PARTE SUPERIOR
Rif
Modifiche
Data
Firma
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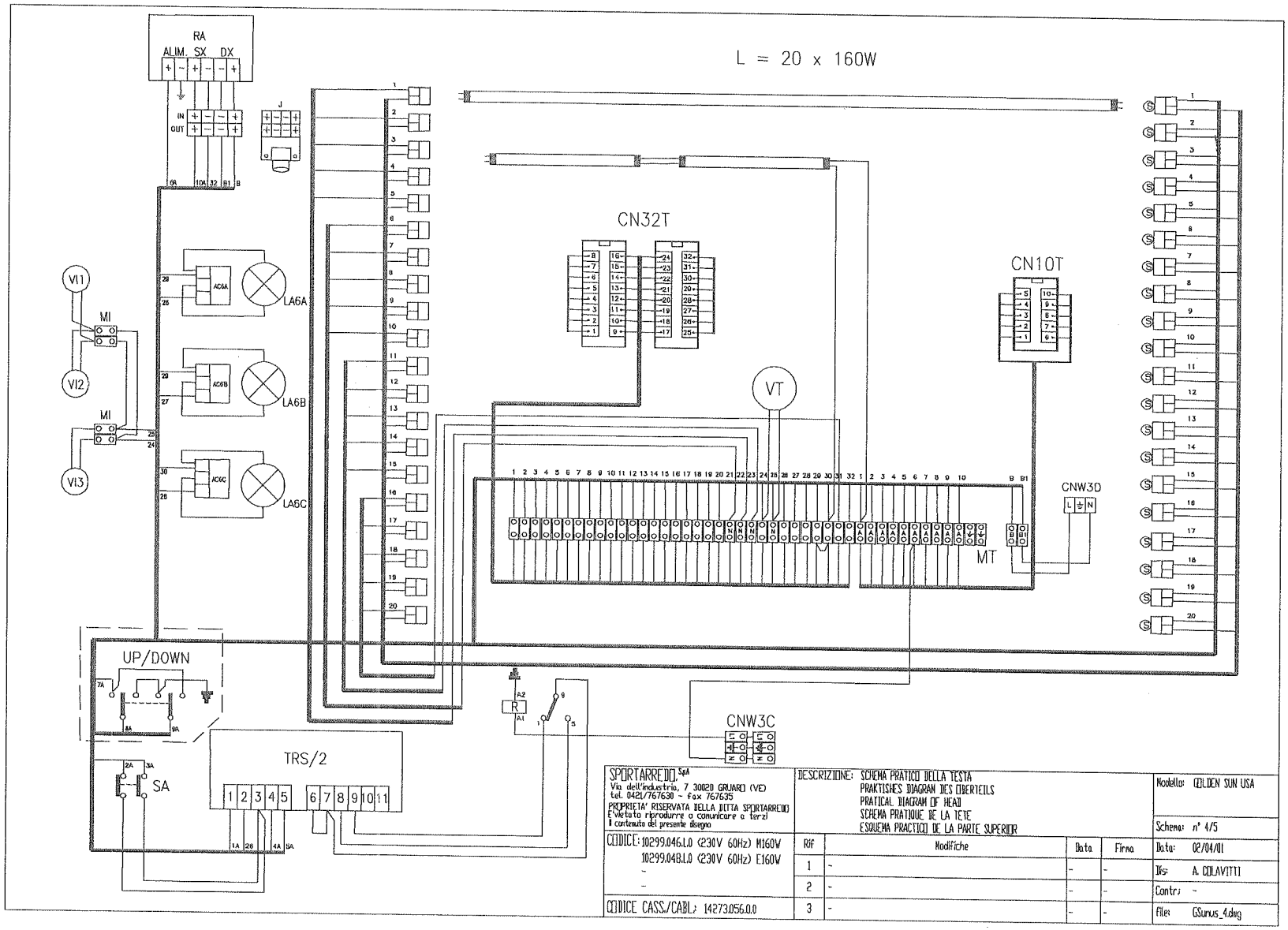
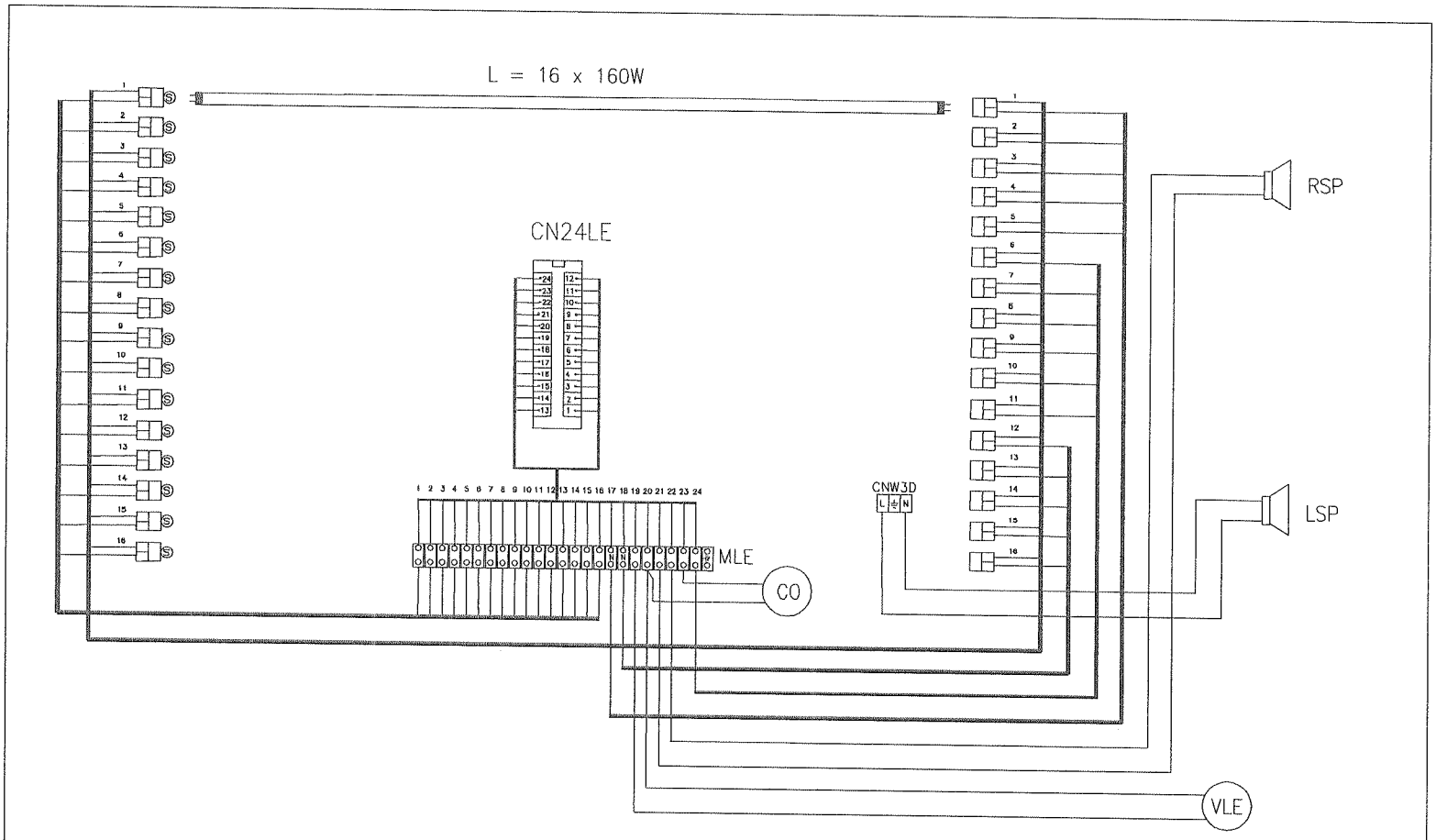
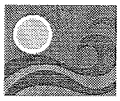
Schema: n° 3/5
Data: 02/04/01
Dis: A. COLAVITTI
Contr.: -
File: GSun_3us.dwg


L = 20 x 160W
RA
ALIM. SX DX
IN
OUT
J
CN32T
CN10T
VT
MT
CNW3D
CNW3C
VI1
VI2
VI3
MI
MI
LA6A
LA6B
LA6C
UP/DOWN
TRS/2
SA
R
SPORTARREDO S.p.A.
Via dell'Industria, 7 30020 GRUARO (VE)
tel. 0421/767630 - fax 767635
PROPRIETA' RISERVATA DELLA DITTA SPORTARREDO
E' vietato riprodurre o comunicare a terzi
il contenuto del presente disegno
DESCRIZIONE: SCHEMA PRATICO DELLA TESTA
PRAKTISCHES DIAGRAM DES OBERTEILS
PRATICAL DIAGRAM OF HEAD
SCHEMA PRATIQUE DE LA TETE
ESQUEMA PRACTICO DE LA PARTE SUPERIOR
Modello: GOLDEN SUN USA
CODICE: 10299.046.L.0 (230V 60Hz) M160V
10299.048.L.0 (230V 60Hz) E160V
CODICE CASS./CABL.: 14273.056.0.0
Rif | Modifiche | Data | Firma
1 | - | - | -
2 | - | - | -
3 | - | - | -
Schema: n° 4/5
Data: 02/04/01
Dis: A. COLAVITTI
Contr.: -
File: GSunus_4.dwg



SPORTARREDO SpA Via dell'Industria, 7 30020 GRUARO (VE) tel. 0421/767630 - Fax 767635 PROPRIETA' RISERVATA DELLA DITTA SPORTARREDO E' vietato riprodurre o comunicare a terzi il contenuto del presente disegno	DESCRIZIONE: SCHEMA PRATICO DELLA BASE CON CD PRAKTISCHES DIAGRAMM DER LIEGE FUR CD PRACTICAL DIAGRAM OF BASE WITH CD SCHEMA PRATIQUE DE LA BASE POUR CD ESQUEMA PRACTICO DE LA BASE POR CD				Modello: GOLDEN SUN USA Schema: n° 5/5
CODICE: 10299.046.L0 (230V 60Hz) M160w 10299.048.L0 (230V 60Hz) E160w - -	Rif	Modifiche	Data	Firma	Data: 02/04/01 Dis: A. GOLAVITTI Contr.: - file: GSun_5Aus.dwg
	1	-	-	-	
	2	-	-	-	
CODICE CASS./CABL.: 14273.061.L0	3	-	-	-	



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