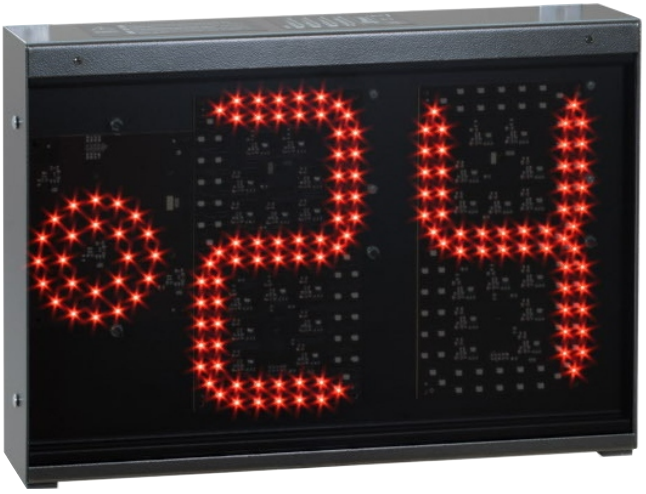
ENGLISH

FS-24s-H20 (art.257)

Panel showing 24 seconds shot clock



Installation and service manual

GENERAL INDEX

1. ELECTRICAL POWER SUPPLY SYSTEM

1.1 Safety warning

The installation of this product and of the electrical system should be carried out by a qualified technician and conform with the current regulations established by the country in which the device will be installed. The system must be equipped with ground connection and protective devices.

1.2 Power switch and socket

The panel comes with a power cord and plug. We suggest that a power supply socket be positioned near the panel; the socket can then be controlled by a general switch for the various scoreboards: this will facilitate switching off the system when not in use and help save energy and prevent unnecessary wear and tear.

1.3 Power supply: 100-240V ; 0,7-0,3A ; 47-63Hz

2. INSTALLATION

Before installing the the panel we suggest first running a preliminary check test (chapter 3.3) by temporarily connecting the panel to the Command Console and to the mains power supply.

2.1 Selecting the correct position

FIBA regulations require that 24-seconds shot clocks, whether one-sided or multi-sided, are either installed above the backboard support structure or suspended from the ceiling (the exact positions and distances for shot clocks are defined by regulation). According to need, the shot clocks can also be installed on walls or placed on the floor behind the out-of-bounds line. Be reminded that the FS series scoreboards are resistant to damage from balls (complies with DIN 18032-3) and therefore require no additional front protection cover .

2.2 Installing the panel

Each panel contains four M6 threaded inserts used for attaching it to a support structure (Fig.1).

The four brackets provided with the panel may be used for attaching to walls or support frames; the brackets must be attached to the panel by using the proper M6 screws (Fig. 2).

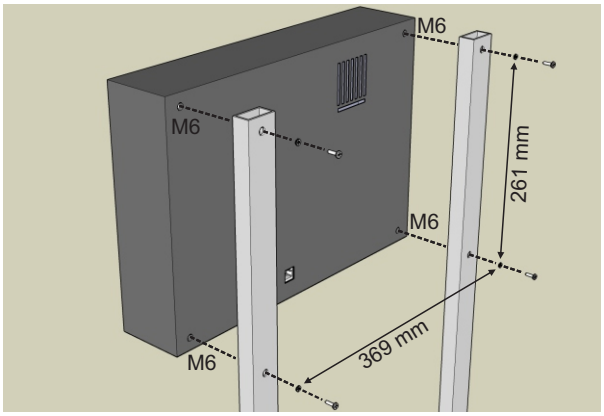


Fig.1 Example of an installed support frame

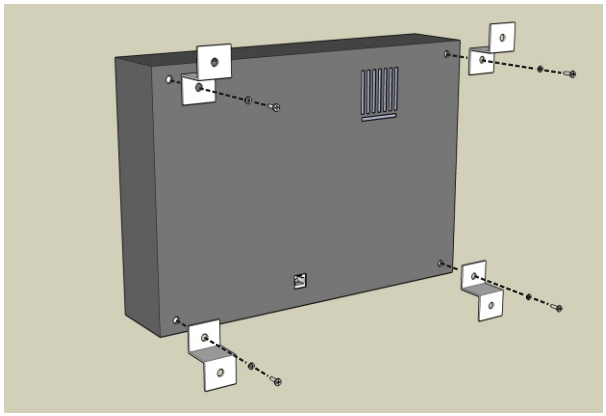


Fig.2

3. FINAL CONNECTION AND TEST

3.1 Connecting to the electrical power supply

To connect to the electrical power supply use the proper power supply socket, as described in paragraph 1.2.

3.2 Connecting the serial data cable

A maximum of 8 scoreboards/panels can be directly connected to the same serial data port of the Command Console; if more than 8 scoreboards need to be connected, the serial data output ports located on the central scoreboard can be used. However, creating a bifurcation of the serial cable is easy to do by using a 3-way coupler.
Connecting the serial data cable among the Command Console and the various scoreboards can be done in several ways: select the method that is most suited to the needs of the facility and to the available cable conductors. Here are some examples.

1. Centralized connection (see Fig. 3). In an easily accessible location, a signal distribution box is placed, from which diverges a cable for each scoreboard. The advantage of this method is that it has a single point of connection; therefore, if one of the cables is interrupted, only one display scoreboard is compromised.

2. Distributed connection (see Fig. 4, Fig. 6). Connections are carried out in cascade, from one scoreboard to the next. Please note that the interruption of a cable will cause some scoreboards to switch off.

3. Mixed connection of methods 1 and 2 above. An example is shown in Fig. 5, where the serial data output ports of the scoreboards are used for connecting to the 24-seconds shot clocks.

If you use a radio connection system, please refer to the Radio Receiver Manual.

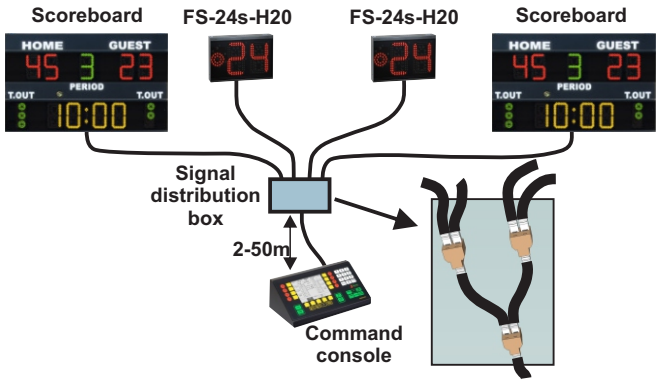


Fig. 3: Centralized serial data connection

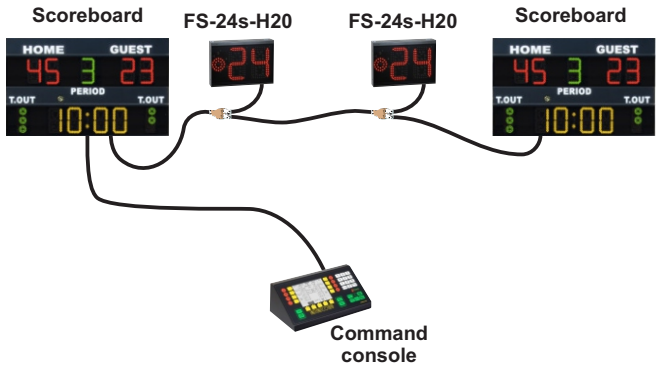


Fig. 4: Serial data connection in cascade

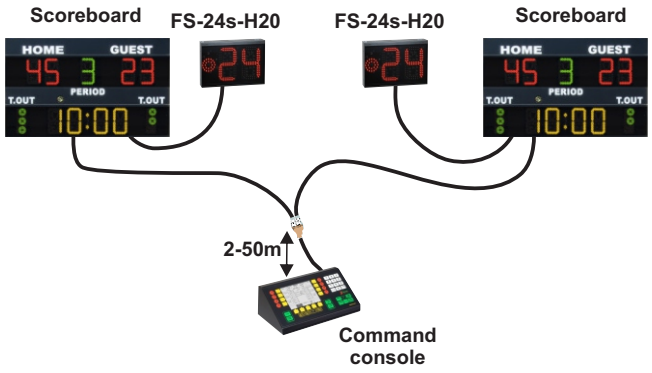


Fig. 5: Mixed serial data connection

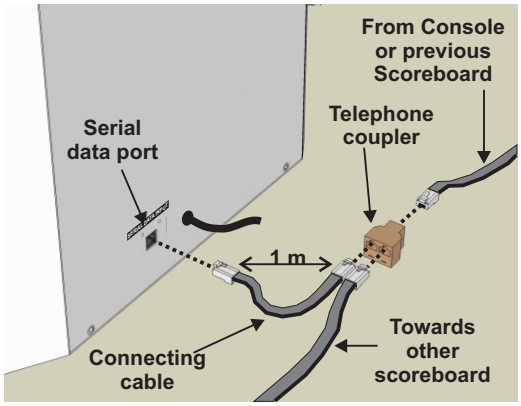


Fig. 6: Connection with telephone coupler

3.3 Testing the panel

Once the panels have been installed you can make an overall test to see if all information is displayed correctly.

1. The first test should be made when you first switch on the panels (chapter 1.2): all display panels should remain illuminated for circa 1 second, even if the Command Console is turned off or disconnected. If a panel does not remain illuminated for circa 1 second, see paragraph 4.1.1.

2. The next step is to connect the serial data cable to the Command Console; after switching on the Console, the screens should light up to display the proper information. If the screens do not light up, see paragraph 4.1.2.

3. Once you have checked that the data connection works properly, you can make a complete start-up test of all display scoreboards; from the Command Console press the buttons [Setup Menu] ➔ [SYSTEM], then with the buttons [⇧] e [⇩] select the parameter “Scoreboard Test”. Lastly, with the buttons [+] and [-], modify the parameter in order to activate and deactivate the complete start-up of the scoreboards. If you encounter problems, consult the Command Console manual.

For incomplete display of panels, see chapter 4.1.

4. MAINTENANCE

This chapter contains information on how to quickly resolve the principal problems that may occur with the FS-24s-H20 over time. For problems with other models of the FS series, consult the relative manuals. If you have further problems that cannot be solved herein, please contact us.

4.1 Malfunctions

For all malfunctions, the following is a list of operations, ranked according to priority, that should be carried out to re-establish the panel’s proper functioning.

>> 4.1.1 The panel does not light up when switched on.

When the panel is supplied with electricity, all the LEDs must light up for circa 1 second, even if the Command Console is turned off or disconnected; if this does not occur, proceed as follows:

1. Check that there is power supply at the panel’s power socket.
2. Make sure that the panel’s power cable plug is properly inserted in the socket.
3. Have a qualified technician conduct the following operations:
   a) Open the panel, as described in chapter 4.2, points 1-3;
   b) Check that there is a continuous +24Vdc voltage output from the power supply (the red LED on the connector board should be illuminated); if the +24Vdc voltage is not present then replace the power supply (chapter 4.5), otherwise replace the electronic connector board (chapter 4.4).

>> 4.1.2 The panel lights up for 1 second but then switches off completely.

1. Check that the 24-second shot clock is displayed on the Command Console.

2. Check that the serial data cable is properly connected to the panel and Command Console and that it shows no signs of abrasions, cuts or damage. Also check the other connectors located along the cable.
3. Try using the other data output port of the Command Console.
4. Temporarily connect the panel directly to the Console with a normal 8-way telephone cable with RJ-45 modular connectors, or with a standard straight-through network cable (EIA/TIA-568A/B); if the panel functions correctly, replace the permanent system's serial data cable.
5. Have a qualified technician conduct the following operations:
   a) Open the panel, as described in chapter 4.2, points 1-3;
   b) Connect the Console directly to the serial data connector of the connector board (Fig. 11) by means of a properly functioning serial cable. Supply power to the scoreboard;
   c) If the panel still does not light up, disconnect the power supply and replace the connector board (chapter 4.4), otherwise replace the interior, short, serial data cable that was previously connected to the board.

>> 4.1.3 Part or all of a LED display board does not light up.

1. Replace the relative LED board (chapter 4.3).
2. Change the connection cable between the LED display board and the control board (Fig. 11).
3. Replace the control board (chapter 4.2).

>> 4.1.4 The LEDs are not bright enough.

On the Command Console press the buttons [Setup Menu] ➔[SYSTEM] and check the level of brightness (0 to 9) found under the item "Scoreboard brightness".

>> 4.1.5 An entire group of LED boards does not light up.

Have a qualified technician conduct the following operations:

1. Open the panel, as described in chapter 4.2, points 1-3;
2. Identify the control board that is connected to the group of non-functioning LED boards via the flat 10-way cables (Fig. 11). When supplying power to the panel, if the LED on that control board (Fig. 11) is illuminated or flashing, then replace the control board (chapter 4.2); otherwise, if the LED is not illuminated, proceed as follows:
3. Locate the connector board inside the panel (Fig. 11) and identify the fuse near the connector where the 16-way flat cable from the previous control board has been inserted; replace the fuse if it has ruptured, otherwise replace the connector board (chapter 4.4).

>> 4.1.6 The acoustic signal does not work.

1. On the Command Console press the buttons [Setup Menu] ➔[SYSTEM], then select level 4 from the line "Sound volume".
2. On the Command Console press the buttons [Setup Menu] ➔[SPORT], then select a number other than 0 from the line "Duration of end game sound".
3. Check the sound and volume by pressing the button [Shot clock sound] found in the menu [Times Menu] ➔[SHOT CLOCK].
4. Have a qualified technician conduct the following operations:
   a) Open the panel, as described in chapter 4.2, points 1-3;
   b) Identify the acoustic transducer (horn) and disconnect the cables; try supplying power directly with a continuous voltage of +24 Vdc, paying attention that the polarity is correct (red cable: +);
   c) If still no sound is emitted, replace the horn (chapter 4.6), otherwise replace the electronic connector board (chapter 4.4).

4.2 Replacing the control board

1. Disconnect the panel's power supply.

2. Unscrew the 2 screws showed on Fig.7 and remove the transparent front panel (Fig.8).

3. Unscrew the 4 lateral screws showed on Fig.9, lift the metal support of the LED display boards (Fig.10) and place it on a desk as in Fig.11.

4. Identify the control board housed inside the metal support structure (Fig. 11). Keeping in mind their original positions, remove all connectors from the control board.

5. With a 5.5 mm wrench, unscrew the 4 end nuts from the control board and remove it

6. Set the DIP-switches of the new control board to the same settings of those of the replaced control board

(chapter 5) and screw the new board into the casing.

7. Reinsert the control board's connectors into their original positions; reposition the metal support structure of the LED display boards and fasten it with the screws. Reposition the front transparent panel.

8. Supply power to the display panel again to check if the new control board works properly.


Fig.7


Fig.8

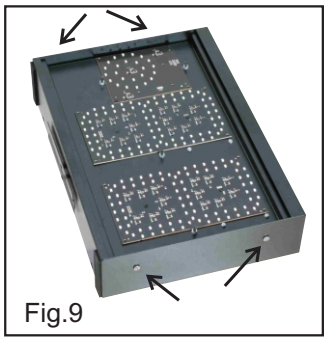


Fig.9


Fig.10

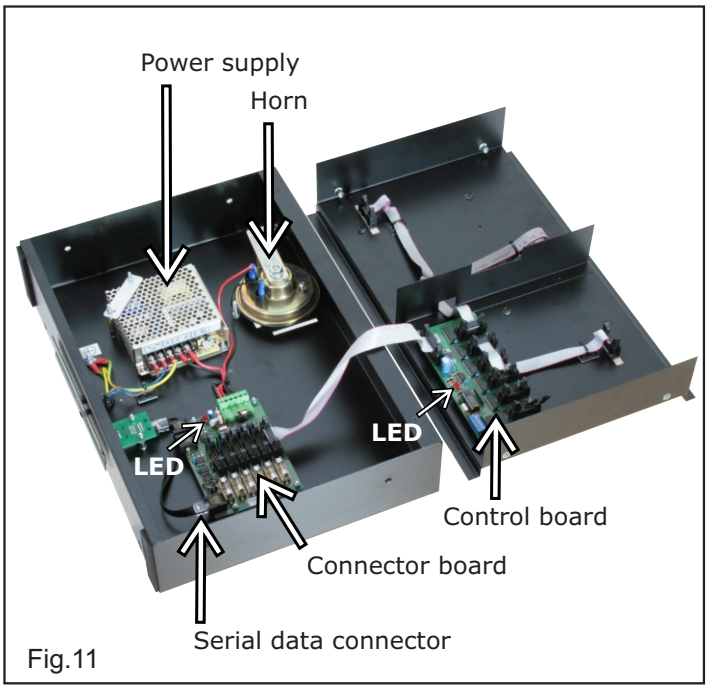


Fig.11

4.3 Replacing a LED display board

This procedure can be carried out by operating on the front of the device.

1. Disconnect the panel's power supply.

2. Unscrew the 2 screws showed on Fig.7 and remove the transparent front panel (Fig.8).

3. With a screwdriver, remove the screws from the LED display board in need of replacement; slightly distance the board from its position in order to remove the flat cable connector.

4. Insert the flat cable connector in the new LED board and then tighten the screws.

5. Supply power to the panel again to check if it works properly.

4.4 Replacing the connector board

1. Remove the transparent front panel and open the support structure of the LED display boards, as described in chapter 4.2, paragraphs 1-3.

2. Identify the connector board (Fig. 11); keeping in mind their original positions, remove all the connectors from the connector board.

3. With a 5.5 mm wrench unscrew the 4 end nuts from the connector board and remove it from its casing. Insert the new connector board.

4. Reinsert the connectors in their original positions and then fasten the metal support of the LED display boards with the screws.

5. Supply power to the panel again to check if the new connector board works properly.

4.5 Replacing the internal power supply

1. Remove the transparent front panel and open the support structure of the LED display boards, as described in chapter 4.2, paragraphs 1-3.
2. Identify the power supply in need of replacement (Fig. 11); while keeping in mind their original positions, disconnect the cables from the terminal block by using a Phillips screwdriver.
3. With a 5.5 mm wrench unscrew the 3 end nuts from the power supply and remove it from its casing.
4. Place the new power supply into position and fasten it. Then reconnect the cables to the terminal block while keeping in mind their correct positions (Fig.12).
5. Close the metal support of the LED display boards by fastening in the screws.
6. Supply power to the panel again to check if it works properly.

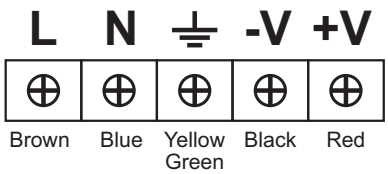


Fig.12 Terminal block of power supply

4.6 Replacing the horn

1. Remove the transparent front panel and open the support structure of the LED display boards, as described in chapter 4.2, paragraphs 1-3.
2. Identify the horn in need of replacement (Fig. 11); disconnect the cables (red: +, black: -) from the connectors.
3. Remove the nut and then remove the horn.
4. Place the new horn in the proper position and fasten it with the nut. Connect the horn to the cables.

5. CONFIGURATION OF MODULE DIP-SWITCHES

A DIP-switches is located inside each 24-seconds shot clock panel, on the control board (Fig. 11); the DIP-switches must have the following configuration.

FS-24s-H20