Production Board

User Manual

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1.   Introduction

1.1.   Scope

The scope of this document covers the LED Production Display Board.

1.2.   Purpose

The purpose of the document is to provide the relevant information to enable the user to set-up, operate and maintain the Display Board correctly.

1.3.   System

The system consists of a Production Display Board connected to a control PC on an existing local Ethernet network via an RJ45 connection.

The Board is made up of two sections, a Dataline section and a Databoard section. The top line of twenty characters is the Dataline section of the Display. This section is used for scrolling general text messages.

The Databoard section has six fields and shows the Production Information and current date.

All characters on the Display are 2" (50mm) high and use high-bright red LED technology.

The Board is operated using the network version of *ProdnSDS*, a windows based software package. An internal network card is installed in the Display enabling the Display to connect to the customers Local Area Network (LAN). The Display becomes part of the network similar to the PCs and printers and must be given an IP address.

Warning
Only trained and authorised personnel should do tests and maintenance on this Display Board System.

2.   Installation

2.1.   Unpacking

Carefully remove the items from their package and store the packaging safely. After unpacking, inspect the contents for any damage that may have occurred during shipment. In the event of damage, refer to the *Return of Equipment* procedure section of this manual.

2.2.   Hardware

The Display Board should be located in a position where there is unrestricted viewing of the front face of the Board. Also avoid locations where the Board is subject to bright lights or direct sunlight.

Mount the Board securely and connect the cables as shown in the Figure below.
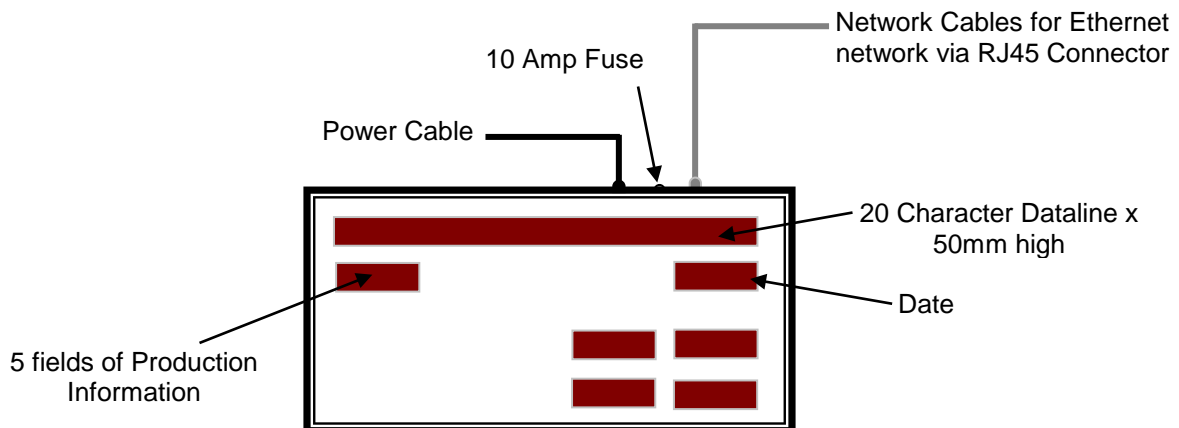
Figure 1 – System Configuration.

2.3.   Software

The ProdnSDS software package is supplied in floppy disk format. Using MS Dos, type 'A:\install' at the prompt command. To install the ProdnSDS software from the floppy disk using Windows 95, do the following:

1.   Insert the disk in the floppy drive

2.   Click the *Start* button, Select *Settings* and click on *Control Panel*

3.   Double-click the *Add/Remove Programs* icon and follow the instructions displayed the on screen.

Add *ProdnSDS* to the Start menu by creating a short-cut as described in your Windows 95 User Manual. For further details on the *ProdnSDS* software, refer to the SDS User Manual.

3. Setting Up the Display

To set up the Display, the following is required:

- Four vacant nodes on the network
- Four static IP Addresses from the Network Administrator
- The Network card setup program, PADConfig.exe, found on the software disk
- NetSDS.ini file, used to manually enter the IP addresses

All files should be located in the *C:\ProdnSDS* folder/directory

The UDP/IP configuration utility (PADConfig.exe) is a Windows-based application that allows the entire EtherPAD configuration to be set up and viewed via a graphic user interface (GUI).

3.1. Configuring the Network Card

Note: To use the Display on your local network, the Display must first be assigned two *STATIC* IP Addresses, one for each network card. These Addresses should be assigned by your IT network administrator. Consult your Network Administrator before doing the following steps.

Step 1

Locate the PADConfig.exe program in the ProdnSDS directory.

Step 2

Double-click on PADConfig.exe to run the program. The *PADCfg1 Setup Box* opens.
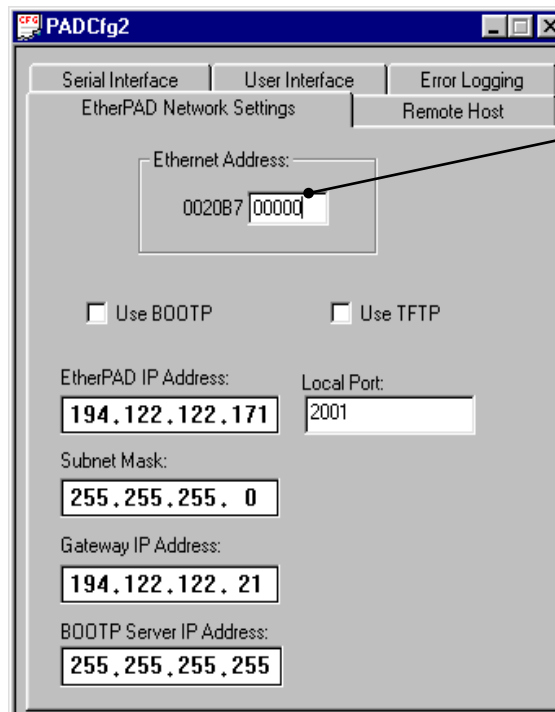

Last 6 characters of EtherPAD Ethernet Address appears when network is scanned.

Figure 3.1 – EtherPad Setup Box.

Step 3

Click on the [icon] button to scan the local network for the EtherPAD Ethernet devices and addresses. Make sure the Display is connected to a node on the network.

Step 4

The *Scan Network for EtherPAD* dialog box opens and shows all EtherPAD devices that are connected to the network. As you have not yet assigned an IP Address to the Display, only the Ethernet Address will be shown. Click on the Ethernet Address and click on the *'Retrieve'* button.
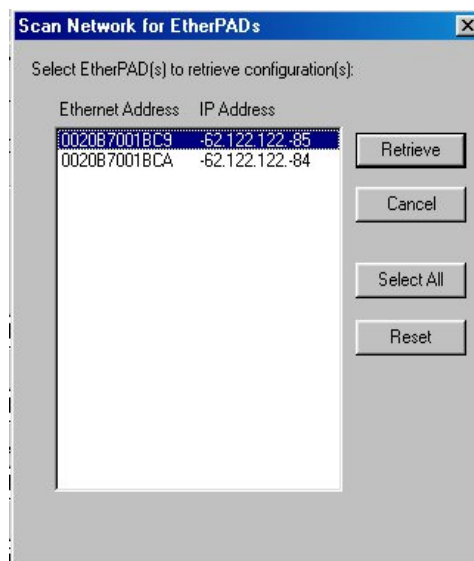

Figure 3.2 – EtherPad Devices on Network.

Step 5

In the new *PADCfg* window, enter the EtherPad IP Address, Subnet Mask and Gateway IP Address, refer to *Fig 3.1*.

Step 6

Enter *2001* in the *Local Port* text box.

Step 7

Click on the *Serial Interface* tab and set the *Serial Device Baud Rate* to *9600*.

Step 8

Click on the ➡ button to send the settings to the device. Enter the password **XXX** in the *Password* Dialog Box and click on the *OK* button.

Repeat steps 3-8 for each EtherPAD device.

Step 9

Click on the *X* button to close down the program. Click on the *No* button on the *PADConfig* dialog box. It is not necessary to save the changes once the IP Address details are sent to the Display.

To retrieve configuration data from your EtherPAD, type in the EtherPAD MAC (Hardware Address) in the Ethernet Address box and click on the ⬅ button.

3.2.   *NetSDS.INI Set-up*

The Display now has static IP addresses assigned to its EtherPAD devices. The IP addresses must be listed in the NetSDS.ini file under the section titled [NetPrinter], with each entry connection titled *'Net IP Address 1='* followed by the assigned IP address. For example:

> [NetPrinter]
>
> NetIPAdds 1 = 194.122.122.140 (IP address for the Board No. 1)
>
> NetIPAdds 2 = 194.122.122.141 (IP address for the Board No. 2) etc

Close the NetSDS.ini file and save the settings.

4. Operating Instructions

4.1. Getting Started

Use the *ProdnSDS* software to create and send information to the Display Board. Double-click on the *ProdnSDS* icon to run the program, ProdnSDS.exe. The software is password protected. When the Password dialog box appears, do the following:

1. For the *Username*, click on *DEFAULT*

2. For the *Password*, enter **J.R.** and press the *Enter* key.

Figure 4.1 - Password Dialog Box.

4.2. Users and Authorisation

The next step is to set up a list of Users and give the required level of access to each user.

To setup a list of NetSDS usernames and passwords click on the

'System|Setup|Authorisation' menu option and setup a list of up to 10 usernames and passwords. Use the PREV/NEXT buttons to scroll through the list of authorised users.

For 'Privileged/Unprivileged' users, you can define what Displays or Groups they have access to by highlighting these symbols in the 'Access to:' list provided. However this list must be edited again or at least double-checked if you add or delete a Display or Group.
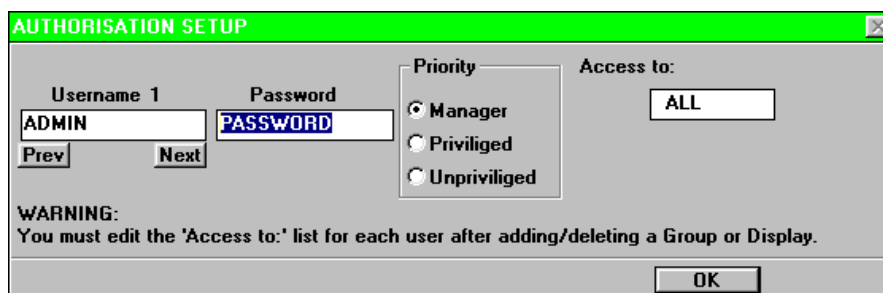

Figure 4.2 - Authorisation Setup Dialog Box.

Note: - If you set the first Username to "AUTO", NetSDS will run without the Authorisation Check dialog.

                - You can append the Username and Password to the command line

Eg. NetSDS Username,Password

- Make sure there is only one Username and Password setup, otherwise the 'Polling all users dialog!' will appear.

PRIORITIES:

Manager = Level 3 access,

Privileged = Level 2 access, change messages

Unprivileged = Level 1 access, view messages.

STATUS: This facility allows you to check who is currently using(ONLINE) or not using(OFFLINE) the software. To check the status of NetSDS users, click on the 'System|Setup|Users' menu option.
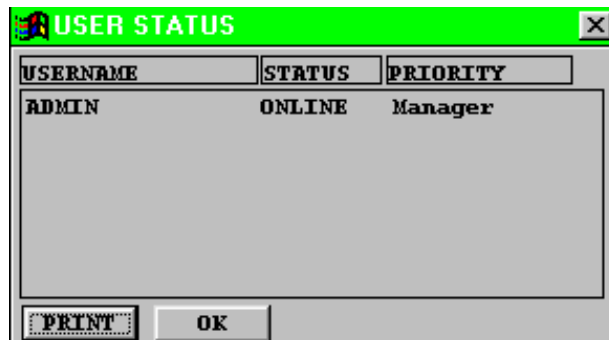
Figure 4.3 - User Status Dialog Box.

4.3.   Displaying Text on the Board

The *SCHEDULE* information shown on the Databoard and general messages for the Dataline are entered manually. At any time, each field (shown in green below) may be edited individually and the values sent to the Board.

To send values to the Databoard section, do the following steps:

1. Enter the values in the *SCHEDULE* fields

2. Select the Board No. and click on the *Send to* button

Figure 4.4 - ProdnSDS Software User Interface.

4.4.   Editing the Driver File

Fields 1, 2 and 4 as above are edited manually using the *SDSDRVRF.txt* driver file. However SCHEDULE fields may also be changed by edi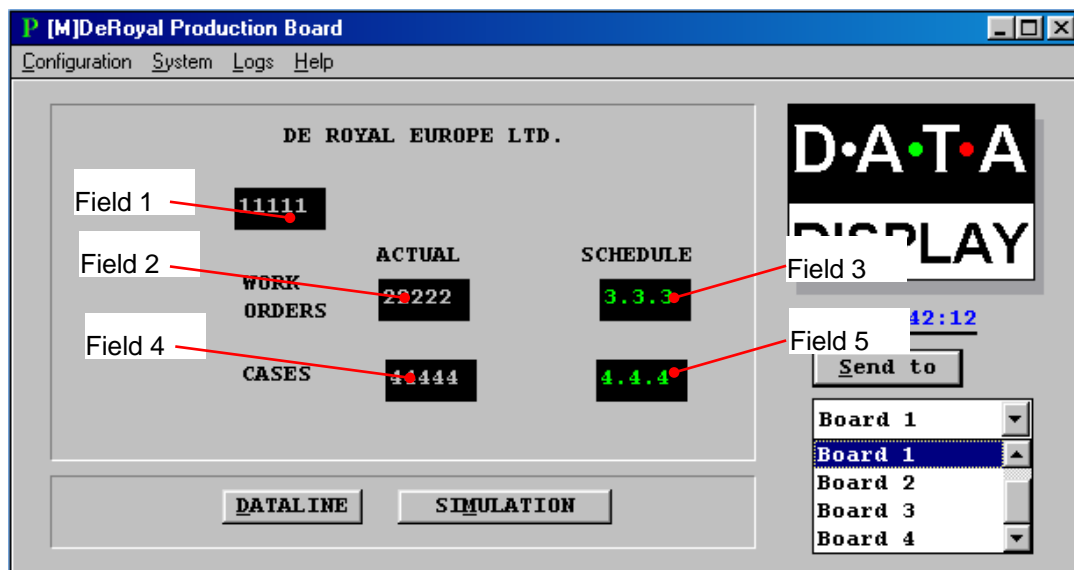ting the 0003 and 0005 lines in the [TEXTS] section of this file. As the text file is in ASCII format, Notepad.exe or a similar program must be installed to edit the file.

To edit the Driver file, do the following steps:

1.   Click on the *System* menu and click on *Setup*

2.   In the *System Setup* box, click on *Driver File*

3.   Enter T-SET in the *Setup Password* dialog box and press the *Enter* key
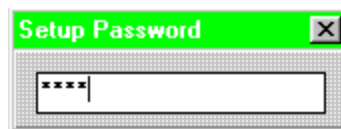
Figure 4.5 - Password Dialog Box.

4.   Click on the *View File* button on the *Driver File Setup* screen
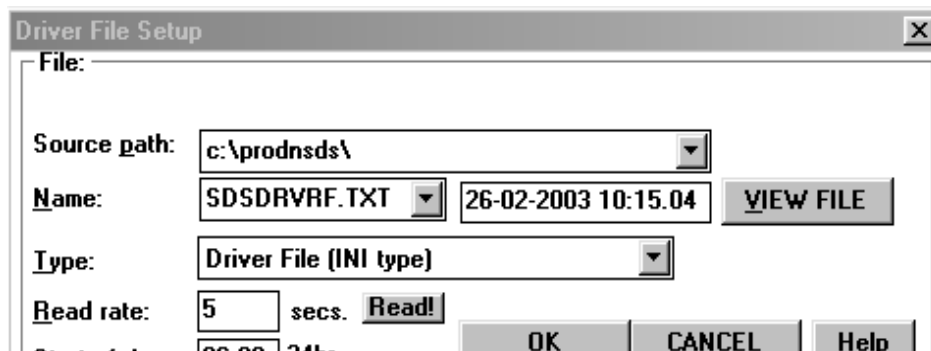
Figure 4.6 - Driver File Setup Box.

The file SDSDRVRF.txt should now open as shown in the figure below. It consists of four sections:

[SDSDRVRF] - This is the filename section and lists the version number

[PAGES] - Each Page represents a Board and determines which text is shown on that Board. Page 0001 = Board No. 1, Page 0002 = Board No. 2, Page 0003 = Board No. 3, Page 0004 = Board No. 4,

[TEXTS] - Each Line contains a value for a field on the Board.

[COLOUR] – Not applicable for this application.

Figure 4.7 - Driver File for Displays.

In the example file above, The [PAGES] section of the file shows the five [TEXT] lines that will correspond to the five fields on Board 1. See *Fig 4.4* for example.

> 11111 will be shown on Field 1.
>
> 22222 will be shown on Field 2.
>
> Field 3 will be updated from User Interface (~~~~~).
>
> 44444 will be shown on Field 4.
>
> Field 5 will be updated from User Interface (~~~~~).

Board 2 will show the values on [TEXTS] lines 0006 to 0010.

After editing, *Close* and *Save* the text file and click on the OK button on the Driver File Setup box. Within 15 seconds the changes to the driver file will be displayed on the Board.

4.5. Creating Messages

To create and edit messages, click on the *DATALINE* button to open the Message Editor. To create a simple message, do the following:

1. Create a message in the *Text Box*

2. Click on the *SELECT* button, the message is now added to the *Message List*

3. Click on the message in the *Message List*

4. Double-click on the *SEND* button to send the message to the Display.

Various ON/OFF Commands, Font Types and Pause Rates may be added to give your message more visual effect. Please refer to the SDS User Manual for a complete description of the features available.

To view the message currently shown on the Display, click on the *Display Symbol*.
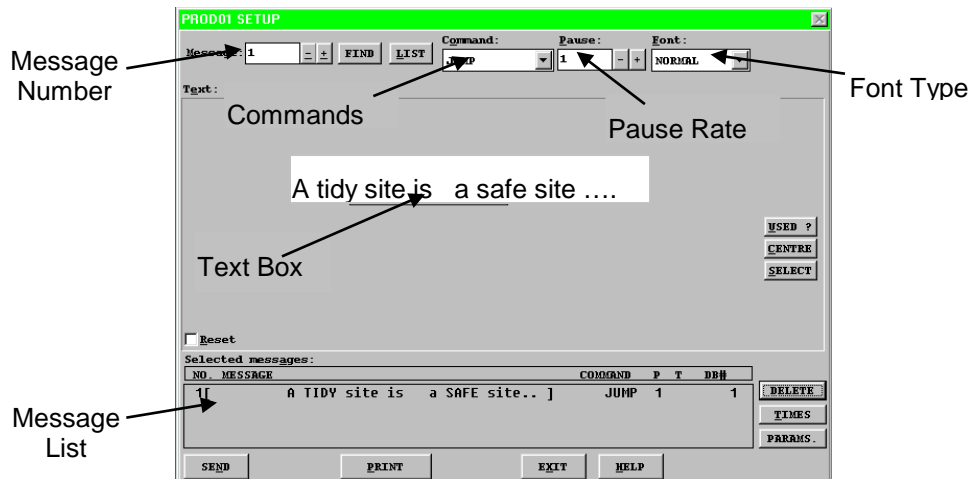

Figure 4.1 -Message Editor Interface.

Note: Only one user may access the Message Editor at any given time. To view the message currently shown on the Dataline, click on the *DL SIMULATION* button on the User Interface.

5.   Maintenance

Warning: Disconnect the power supply before you remove any display panels. Make sure work area is clean and clear of tools and miscellaneous items of equipment after maintenance.

5.1.   Fault Detection

Fault	Probable Cause	Action
Message is not displayed	The Display is not switched on	Check that Power Cable is connected
Message is not displayed	Fuse is defective	Replace defective Fuse
Message is not displayed	Logic Board is defective	Replace defective Logic Board
Part of Message is not displayed	LEDs are defective	Replace defective LEDs

Table 1 – Fault Detection.

5.2.   Maintenance Instructions

5.2.1. Cleaning the Display

Routine cleaning of the Display Board is at the discretion of the operator and subject to local conditions. Use damp non-abrasive materials such as a sponge, or lint-free cloth and a soft detergent (washing-up liquid) to clean the Display. Remove difficult stains or marks with a suitable solvent. **DO NOT USE** sharp or metal objects.

5.2.2. Preventative Maintenance

Inspect the Display for defects before each operation. Do a visual check for the following:

- Damaged or dirty Lens
- Defective LEDs

5.2.3. Corrective Maintenance

Replacing a defective LED Board:

1. Remove the side bracket and Lens of the Display Board
2. Loosen the attaching screws on the LED Board
3. Disconnect wiring and remove the LED Board
4. Connect the wiring and attach the new LED Board
5. Slide in the Lens and attach the side bracket.

Replacing a defective Logic Board:

1. Remove the side bracket and lens of the Display Board
2. Disconnect wiring on the Logic Board
3. Remove the Logic Board by unscrewing the attaching nuts
4. Replace the Logic Board and connect all wiring
5. Slide in the Lens and attach the side bracket.

Replacing a defective Fuse:

1. Use a flat-head screwdriver to open the Fuse holder at the rear of the Display
2. Replace the Fuse
3. Close the Fuse Holder.

Clean the Display with a damp cloth and make sure the unit is watertight after all maintenance.

5.2.4. Special Measures following a Stoppage

If the Display is out of service for a long period of time, carefully remove the Display and store it in a cool dry place.

5.3. Handling Equipment

-   One working platform
-   Standard tool kit

5.4. Special Tools

There are no special tools required.

5.5. Spare Parts

For spare parts, contact your nearest Data Display Customer Service Department. Make sure to quote the Data Display No. in the Product Specifications section of this Manual and the Serial No. of the Display.

5.6.   Return of Equipment

Follow the procedures listed below when returning a Display:

1. Disconnect all cables and carefully remove the Display from the mounting

2. Pack the Display in the original packing.

3. If the original container is not available, pack the Display in a wooden carton. Use cardboard and polystyrene wedges to protect and cushion the Display.

4. Mark carton(s) "THIS SIDE UP", "THIS SIDE DOWN" and "FRAGILE", where appropriate.

5. Make sure to include with the Display the following information:

NAME

ADDRESS

TELEPHONE NUMBER

SERIAL NUMBER OF DISPLAY

DESCRIPTION OF THE PROBLEM

(A short description is sufficient)

Contact your nearest Data Display Customer Service Department and a suitable collection date and time will be arranged.

6. Product Specifications

CHARACTERISTIC	VALUE
Display Features	
Display Type	Production Board
Data Display Ref. No.	DDUB2506
Display Panel Type	DL205HBR, DL210HBR
LED Diameter	5mm
LED Colour	High-Bright Red
Communication	
EPROM	TBA
Protocol	DB Win
Baud Rate	9600
Addressing	Dip Switch
Data Format	8 bit, 1 stop bit, no parity
Character Set	Extended ASCII set
Electrical	
Fuse Value	10 Amp
Main Power Supply	240 Volts AC
Housing	
Dimensions (LxHxD)	1064mm x 535mm x 75mm
Housing Material	Aluminium
Housing Colour	Black
Lens Colour	Red
Environmental Conditions	
Temperature Range	-5°C to 65°C
Humidity Range	5% to 80% without condensation

Table 2 - Product Specifications.