Production Board

(BAXTER)

User Manual

Title Page

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1. Introduction

1.1. *Scope*

The scope of this document covers the operation and maintenance of the Production Board Display System for the Baxter.

1.2. *Purpose*

The purpose of the document is to provide the relevant information to enable the user to install, operate and maintain the Production Board correctly.

1.3. *System*

The system consists of a two Production Boards connected to a control PC. All characters on the Display are 50mm high and use standard-bright red LED technology.

The primary function of the Board is to show real time production information obtained from the production line using volt-free pulses.

The Display Board consists of two sections:

DATABOARD – this is the TARGET ACTUAL section of the Display that monitors the production output . Values are shown in each of the relevant 6 character fields for the following:

- *Batch No,* 10 characters
- *Mixed Time,* 10 characters
- *Expiry Time,* 20 characters
- *Production Code,* 10 characters

DATALINE – this is the 10 character scrolling *Time / Emergency* section at the bottom of the Display and is used to show general information such as company notices, safety messages etc.

The Board is operated using the network version of *ProdnSDS*, a windows based software package.

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.

2.2. Hardware

The Display Board(s) should be located in a position where there is unrestricted viewing of the front face of the Board. Also locations where the Board is subject to bright lights or direct sunlight should be avoided. Mount the Board securely and connect the cables as shown in the figure below.
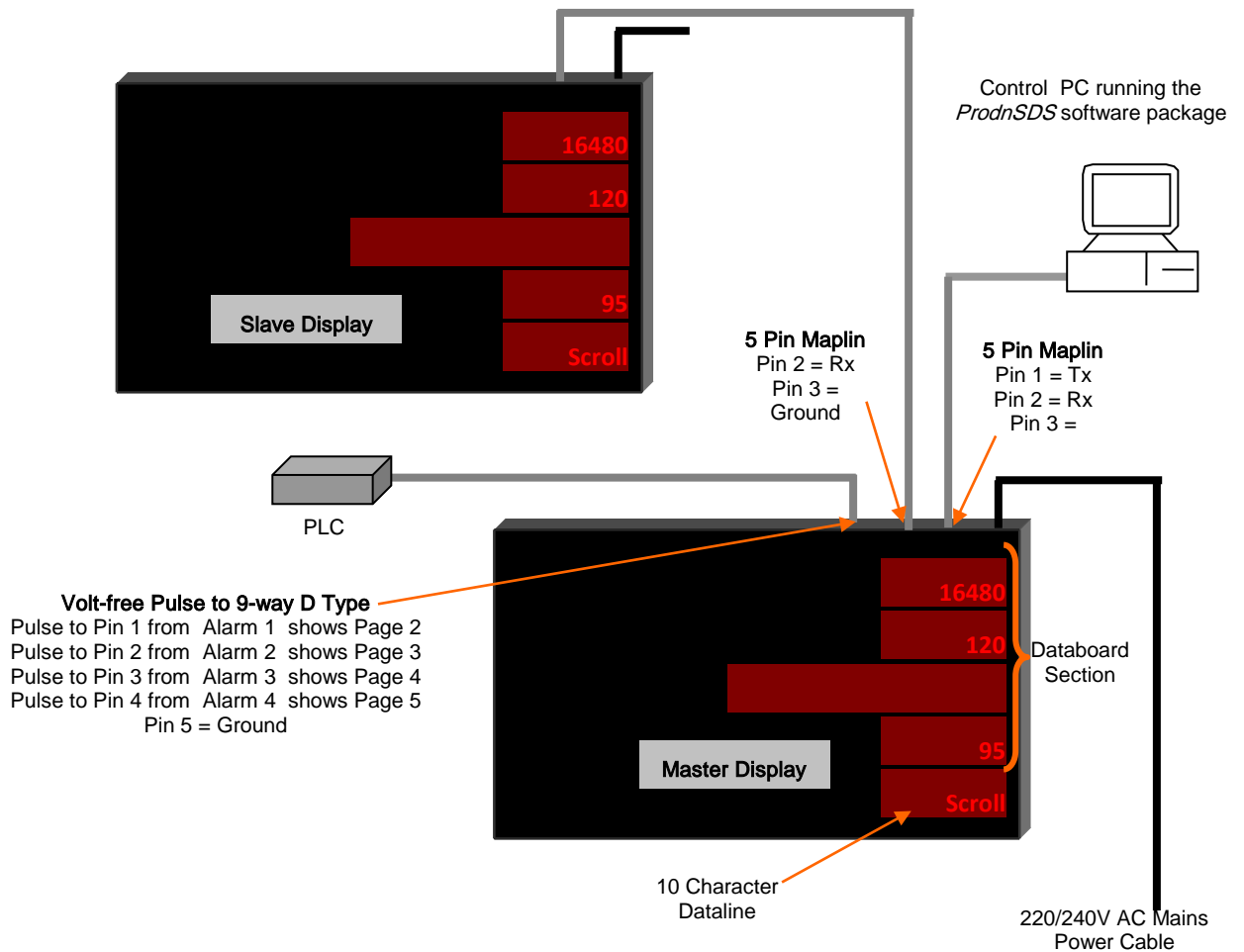

Figure 2.1 – System Configuration.

2.3.   Software

The networked version of the *ProdnSDS* software package is supplied on CD-ROM. To install the software, do the following steps:

1. Insert the disk into your floppy disk drive.

2. Click on *My Computer|3 ½ Floppy|Setup.exe* .

3. Click on the *Next >* button to begin the installation and follow the on-screen instructions.

4. When the process is complete, all files are stored in the **C|ProdnSDS** folder unless the destination folder has been changed.

You may also click the **Start** button, then select **Settings|Control Panel**. Double-click the **Add/Remove Programs** icon and follow the instructions shown on the screen.
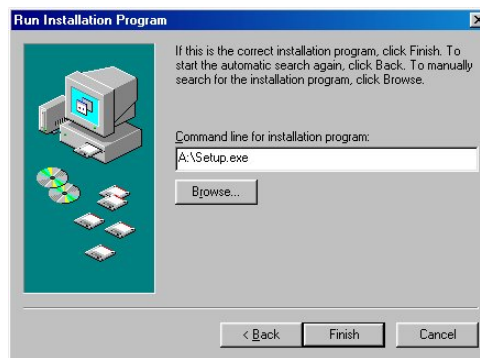

Figure 2.2 – Installation Screen.

Add *ProdnSDS* to the Start menu or your Desktop by creating a short-cut as described in your Windows User Manual. The executable file to run the software package is as follows:

ProdnSDS = C:\ProdnSDS\ ProdnSDS.exe

ProdnSDS.exe and all relevant files should now be installed in the **C:\ProdnSDS** directory.

3. ProdnSDS Software

The networked version *ProdnSDS* software is a user interactive software package designed to send and receive real time production information to the Display Board. It contains features such as:

- Shows current production information

- Incorporates a 10 character Message Editor for Dataline

The default message on the Dataline will always be Message 1. When a Volt-free pulse is received via the Parallel Interface installed in the Display, the Dataline will show the *Emergency Message* that corresponds to the PLC Input, i.e. Pulse from PLC Output 1 shows Message 2.

3.1. Getting Started

Use the *ProdnSDS* software to send the 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 *MANAGER*

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

Figure 3.1 - Password Dialog Box.

A polling message is displayed and the version of software before opening the User Interface.

3.2.   The User Interface

Double-click on the *ProdnSDS* icon to run the program, *ProdnSDS.exe*. The User Interface consists of the Menu Bar, a layout of the Production Board together with the various buttons and data fields that control the Displays.
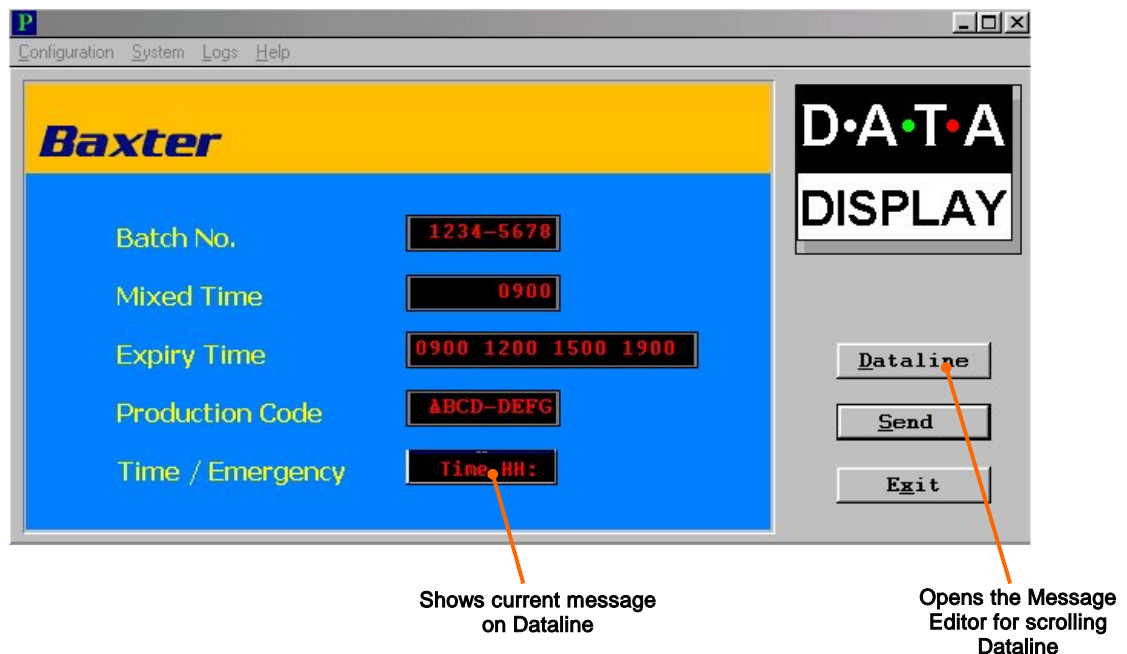

Shows current message on Dataline

Opens the Message Editor for scrolling Dataline

Figure 3.2 - ProdnSDS User Interface.

To operate the Display manually, enter the values in the top four fields and click on the *Send* button. Refer to 3.4 for bottom field.

It is important to note that because the software is polling the Display every 30 seconds, the user may have to click the *Send* button again to update the Display.

3.3.   Set the Time and Date

To set the current Time and Date, do the following steps:

1. Click on *Start > Programs > ProdnSDS*

2. Click on *Configuration > Set Time*

3. On the dialog box, click on the *Yes* button.

NOTE: Make sure your PC is set to the correct Date and Time as this is the Date and Time that will be stored in the Displays memory.

3.4. Message Editor for Dataline

To send text to the 10 character Dataline section of the Display, click on the *DATALINE* button to open the Message Editor Interface. Enter your text message in the text box and click on the *'SELECT'* button. The message is now added to the message list at the bottom.
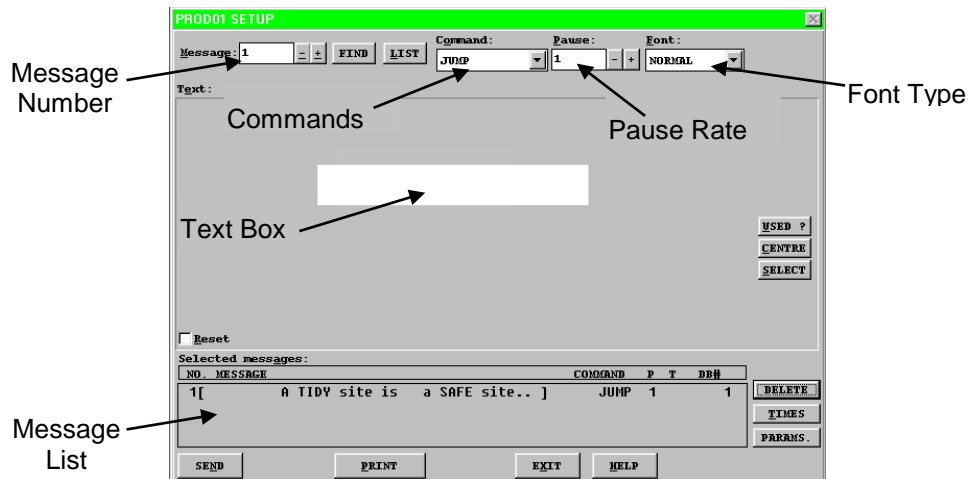

Figure 3.3 – Message Editor

NOTE: Message 1 will always be shown until a pulse is received from one of the Alarm PLCs.

Click on the *'SEND'* button twice to send the new text message to the Display

To edit a text message, click the message number (+/-) to show the message in the text box. Make the changes to the text message and click on the *'SEND'* button. The changes to the message are shown in the message list. Click on the *'SEND'* button again to send the new changes to the Display.

Various Commands, Pause Rates and Font Types can be selected from the drop down lists to give your message more effect.

When messages are sent to the Display, click on the *'SIMULATION'* button to view the text message currently being shown on the Display.

4.   System Wiring

4.1. Power Supply

The Display operates from an incoming mains supply of 220/240 Volts AC. The Live (Brown) and Neutral (Blue) wires are terminated at the PSU via a 10 Amp Fuse and Filter. The Earth (Yellow/Green) is terminated using an M5 ring crimp and is securely fixed to the main Earth point on the chassis of the Display.
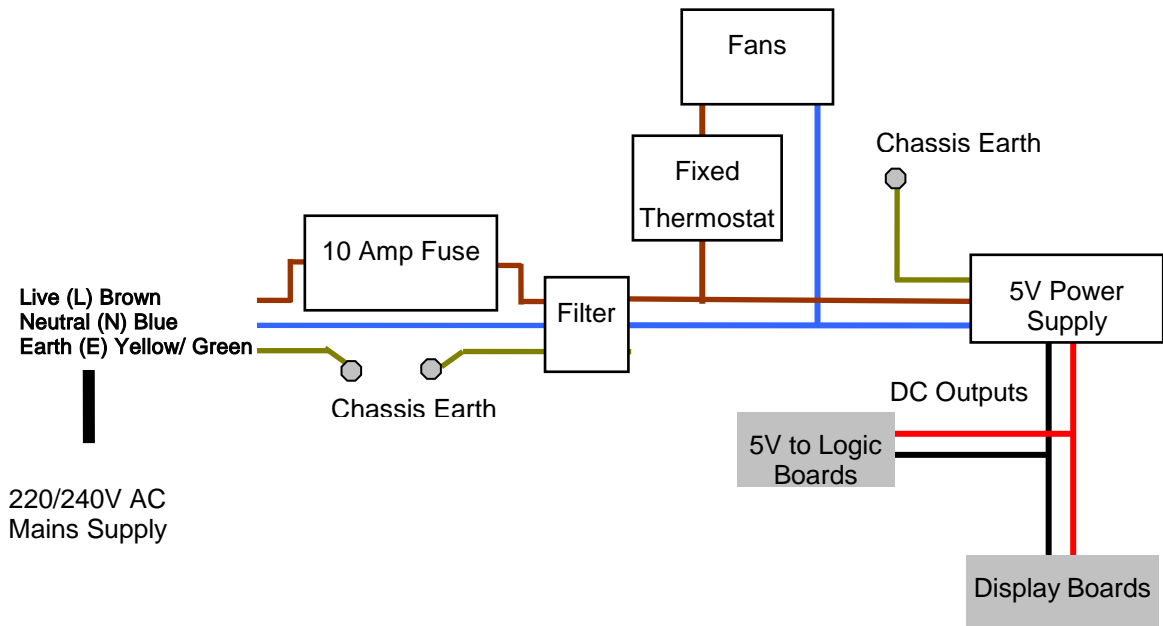
4.1 - Mains Power Supply Distribution.

4.2. Power Supply Units

Power Supply Units provide the DC power for the various electronic components in the Display Board. The 5V PSU provides DC power to the Display Boards and 5V power for the Logic Board.
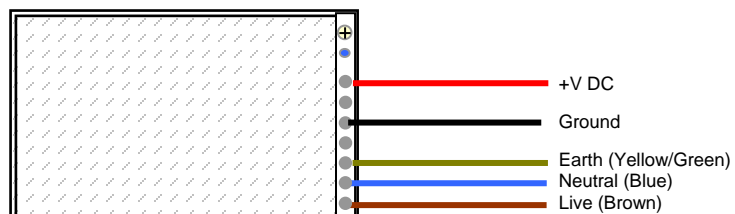

Figure 4.2 – Typical Wiring of a Power Supply Unit.

4.3.   Logic Boards 2000 and 2001

The Logic Board is the principal circuit board in the Display. The Board contains the CPU, memory and interface circuitry for the Display system. There are two Logic Boards used in this application, Logic 2001 PCB controls the Databoard section and the Logic 2000 PCB controls the 10 character scrolling Dataline section.
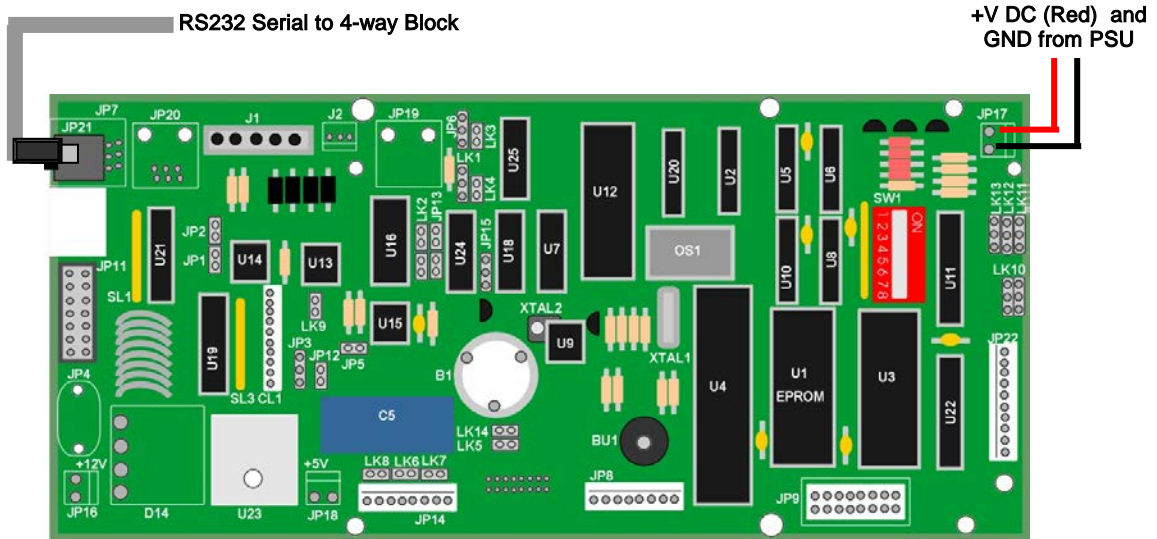

Figure 4.3 – Typical Wiring for Logic 2000.

Connected to the each Board is the 5V DC Power, the 14-way Display Cable and the RS232 serial connection. The outputs from the Parallel Interface are connected to the Logic 2001 Board.
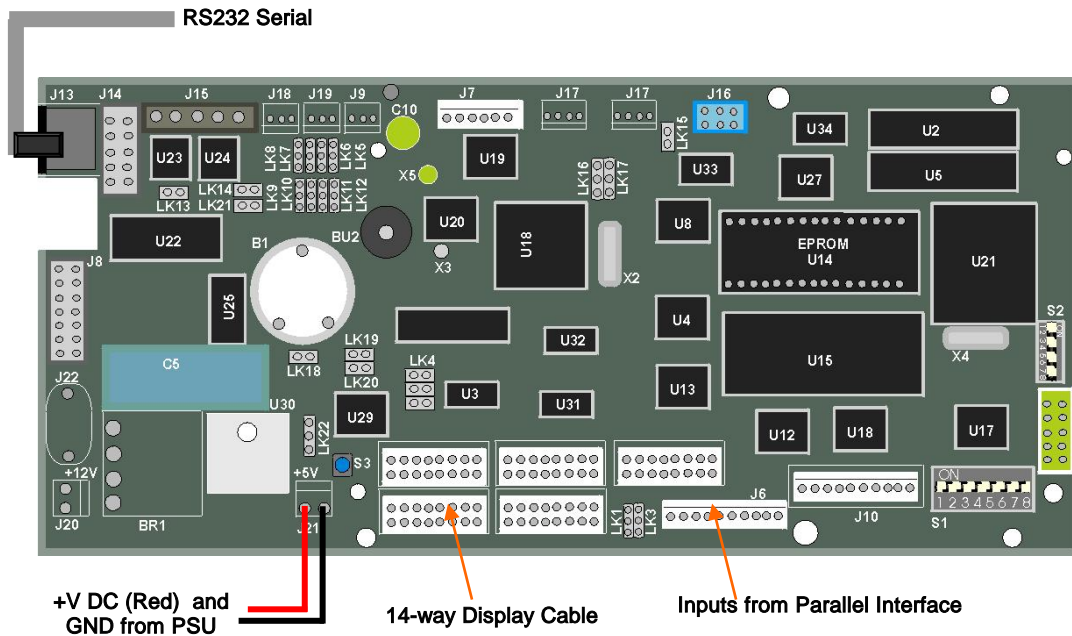

Figure 4.4 – Typical Wiring for Logic 2001.

4.4.   Master Display Wiring

The Master Display has 2 off 5 Pin Maplin connectors and a 9-way D Type connector located on top of the Display.

The first 5 Pin Maplin from the right is connected to the host PC that runs the ProdnSDS software package.

The second Maplin is used to connect the Master Display to the Slave Display and thus shows the same information. The Parallel Interface in the Display receives the volt-free signals from the PLC via the 9-way D Type.
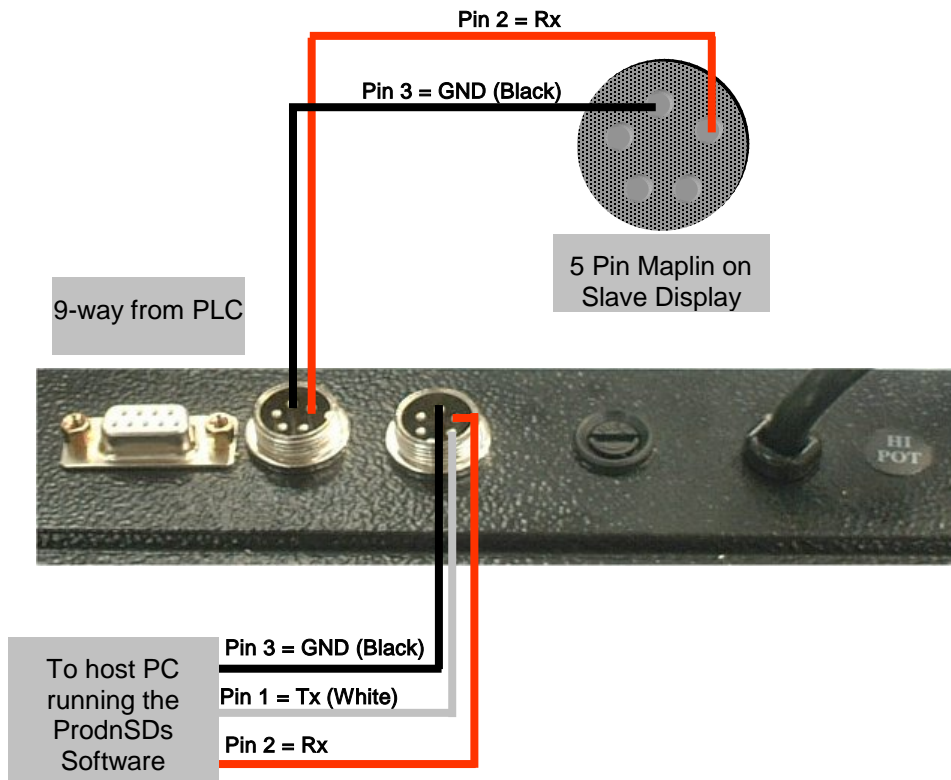

Figure 4.5 – Master Display Wiring.

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.   Maintenance Instructions

5.1.1. Preventative Maintenance

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

- Damaged or dirty Lens
- Loose Cables
- Defective LEDs

5.1.2. 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.

5.1.3. Corrective Maintenance

To do maintenance tasks, unscrew the screws at the side of the Display and remove the Side Profile. Remove the Lens carefully and put in a safe place.

Replacing a defective Display Board:

1. Unscrew the attaching screws and disconnect all relevant wiring
2. Replace the Display Board and connect all wiring.

Replacing a defective Logic Board:

1. Unscrew the attaching nuts and disconnect all relevant wiring
2. Replace the Logic Board and connect all wiring.

Carefully slide the Lens back on the Display and attach the Side Profile. Clean the Display with a damp cloth and make sure the unit is watertight after all maintenance.

Replacing a defective Fuse:

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

5.1.4. 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.

5.2. Handling Equipment
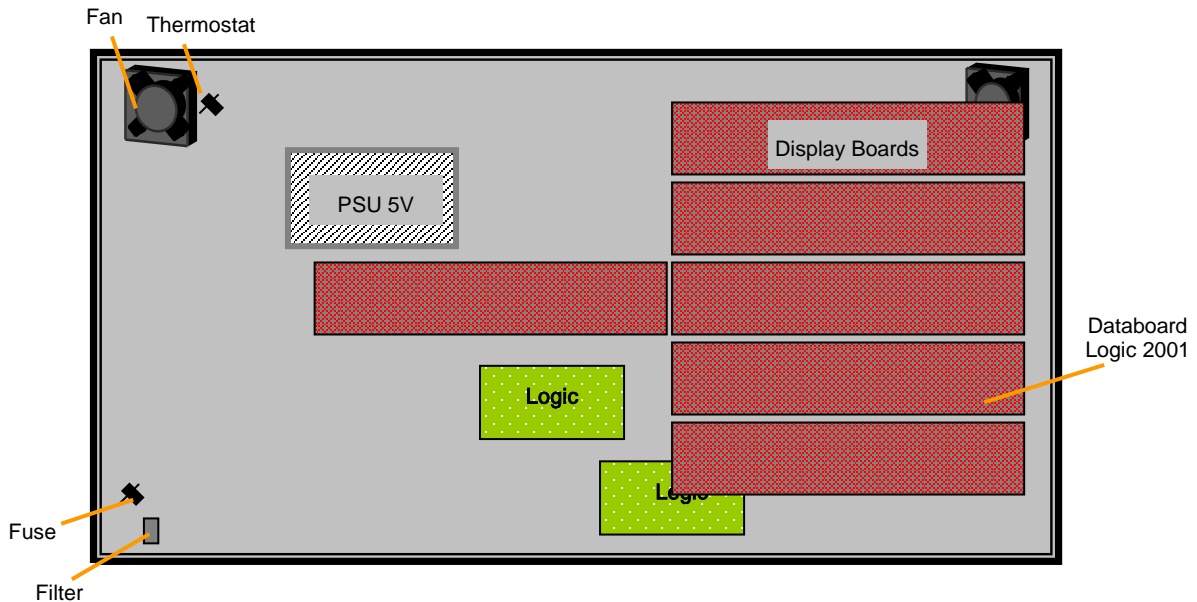
- One working platform
- Standard tool kit

5.3. Special Tools

There are no special tools required.

5.4. 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.

Part Number	Description
DL210-SBR	LED Display Board
AUTOLOGIC2000	Logic Board, 2000
AUTOLOGIC2001	Logic Board, 2001
AUTOP/I	Parallel Interface
D00-2216	PSU, 5 Volt, 100W
D00-453202	Fan,
D00-1670	Filter
D00-3324	Fuse, 10 Amp

Table 5.1 - Replaceable Parts for Display Board.

6.   Product Specifications

CHARACTERISTIC	VALUE
Display Features	
Display Type	Production Display Board
Data Display No.	J07334001
No. of Lines per Board	5
No. of Characters per Line	10 and 20
Character Height	50mm (2 inch)
LED Colour	Standard-bright Red
Communication	
EPROM	BAXT_RLY
Protocol	D4.0 Modified
Baud Rate	9600
Data Format	8 bit, 1 stop bit, no parity
Electrical	
Power	220/240V AC
Fuse Value	10 Amp
Housing	
Dimensions (LxHxD)	1200mm x 535mm x 75mm
Housing	Welded Aluminium, Black
Front Screen	3mm Red, Polycarbonate
Environmental Conditions	
Temperature Range	-5°C to 65°C
Humidity Range	5% to 80% without condensation

Table 6.1 - Product Specifications.