



Instruction Sheet

AMG2800 GUARDIAN - ADDING DATA BOARDS & CPU SOFTWARE UPGRADE PROCEDURE

1 Introduction

To fit additional data boards into the AMG2800 Guardian Units and/or upgrading the embedded software, contained in a removable Chip on the **CPU card**, it is necessary to carry out the following procedure.

Caution: The AMG2800 contains static-sensitive components. Handle the unit with proper Electrostatic Discharge (ESD) procedures.

2 Tools Required

- No1 Pozidrive/Supadrive Screwdriver (Farnell part number 266-796)
- 5mm Nut Driver (Farnell part number 281-633)
- PLCC chip extraction tool (Farnell part number 517-082)

3 Removing the Top Cover

Ensure that the AMG2800 unit is powered down and the mains lead is disconnected from the rear inlet socket. If necessary move the unit to allow easy access to the top panel.

Undo the 3 screws along the rear edge, and the 2 screws on each side of the top cover, using a Pozidrive/supadrive screwdriver.

Lift up the rear edge of the top cover approximately 20mm, and then slide it backwards to disengage the front edge from the slot behind the top of the front panel. The underside of the top cover rests on 6 'tin plated emc strips'. Make sure that these strips do not come off from the edges of the chassis.

4 Removing the Rear Panel Data/RS232 Chassis Plate

Use figure 1 to locate the position of the existing data board in the chassis (the right-hand side of the chassis when viewing from rear).

Remove all of the 4-40 UNC connector screw locks on the 9 & 25 way D-type connectors.

Remove the 4-crosshead screws around the **Data / RS232 Chassis Plate**, and then remove the plate.

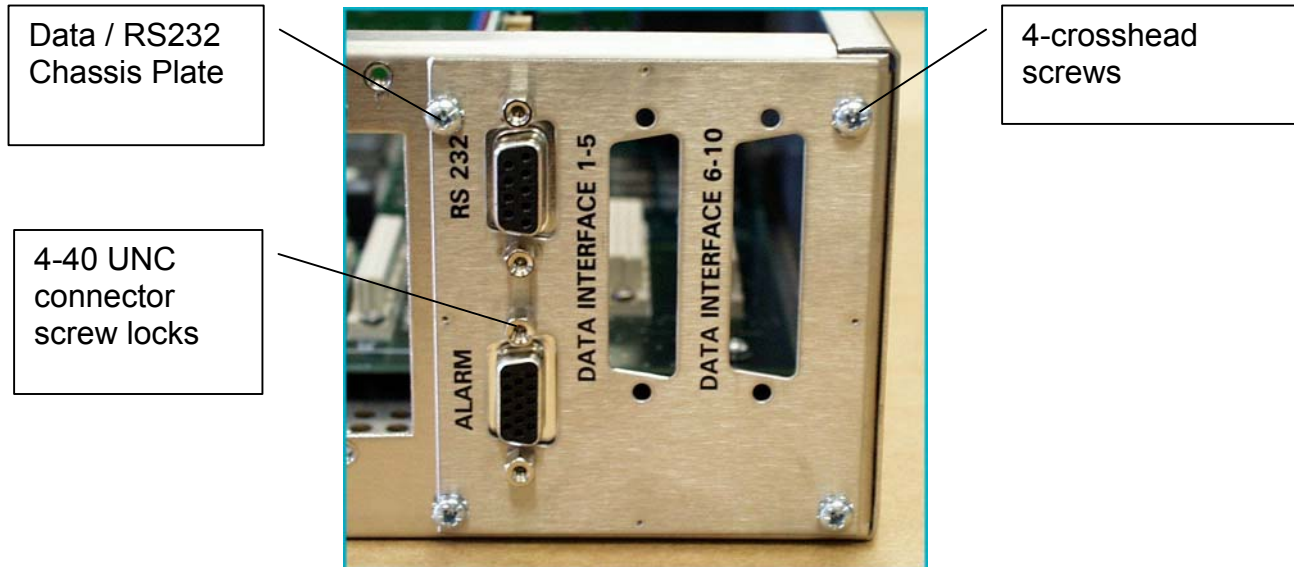


Figure 1: Rear Panel for the CPU and Data Cards

The 'Data Interface 1-5' position is fitted with a **Master Data Mother Board** as standard. The 'Data Interface 6-10' slot is fitted with a blanking plate when no data board is present. A **Slave Data Mother Board** is used to fill this location.

5 Adding the Second Slave Data Motherboard

The second **Data Mother Board** is fitted to the 'Data Interface 6-10' slot and adds 5 extra data channels. It is identified as a **Slave** board since defers to the primary **Master Data Mother Board** in the 'Data Interface 1-5' slot.

A Slave Data Mother Board is marked with an 'S' to distinguish it from a normal (unmarked) board.

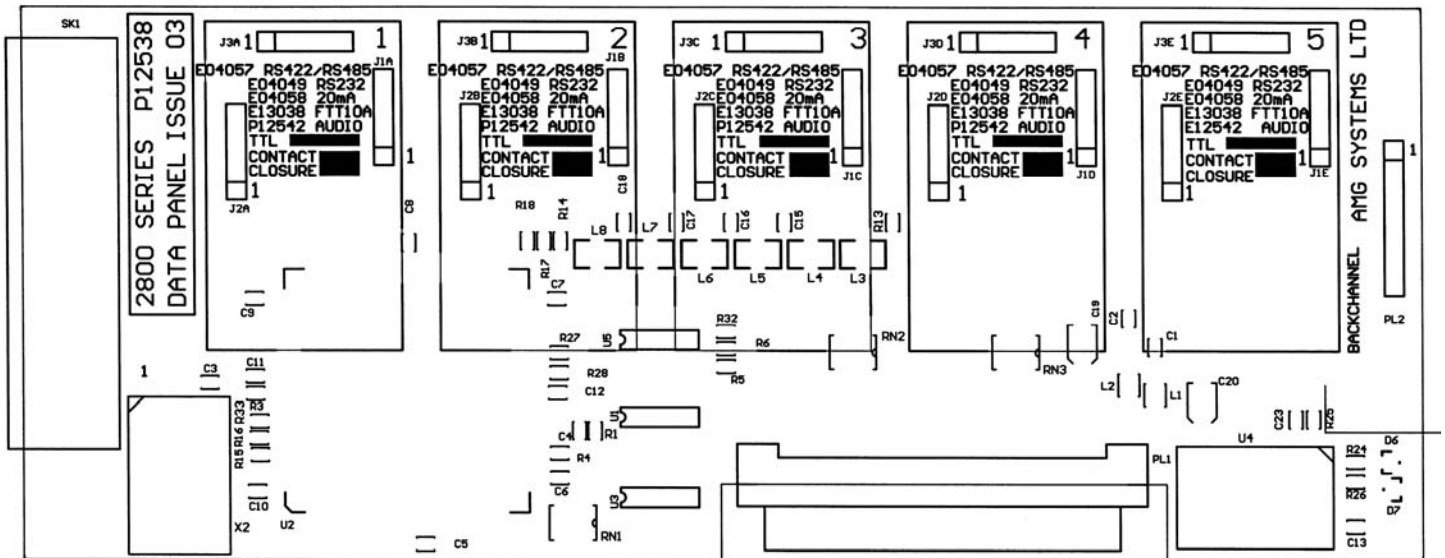


Figure 2: Data Mother Board Layout

Remove the **Data / RS232 Chassis Plate** as described above.

Remove the 4-40 UNC connector screw locks from the 25 way D-type connector on the new **Slave Data Motherboard**.

Fit the new **Data Interface Daughter Boards** by aligning their connectors with the pin headers on the data board and pressing down firmly. See figure 2.

NOTE: The positions of the **Data Interface Daughter Boards** are dependent on the system configuration and the position of the complementary data interface daughter boards in the other units around the fibre loop.

Fit the new **Slave Data Board** into the 'Data Interface 6-10' slot (also marked as '**DATA B 1- 5/6 – 10**' on the main Motherboard) which is alongside the **existing Master Data Board** (in the 'Data Interface 1-5' slot).

6 Changing the Software 'Chip' on the CPU Card

If necessary first remove the top cover and the Rear Panel/Data RS232 Chassis Plate as described above.

Remove the **CPU Card** from the unit by carefully lifting it up at the rear.

Refer to figure 3 to identify the position of the **Software Chip**.

Use the **PLCC Extractor Tool** to carefully remove the Software Chip from the carrier socket.

i.e. Insert the hooks of the extractor into the socket corners; gently squeeze the handles until the chip is lifted out of the socket.

If the tool is not used then the socket may be damaged.

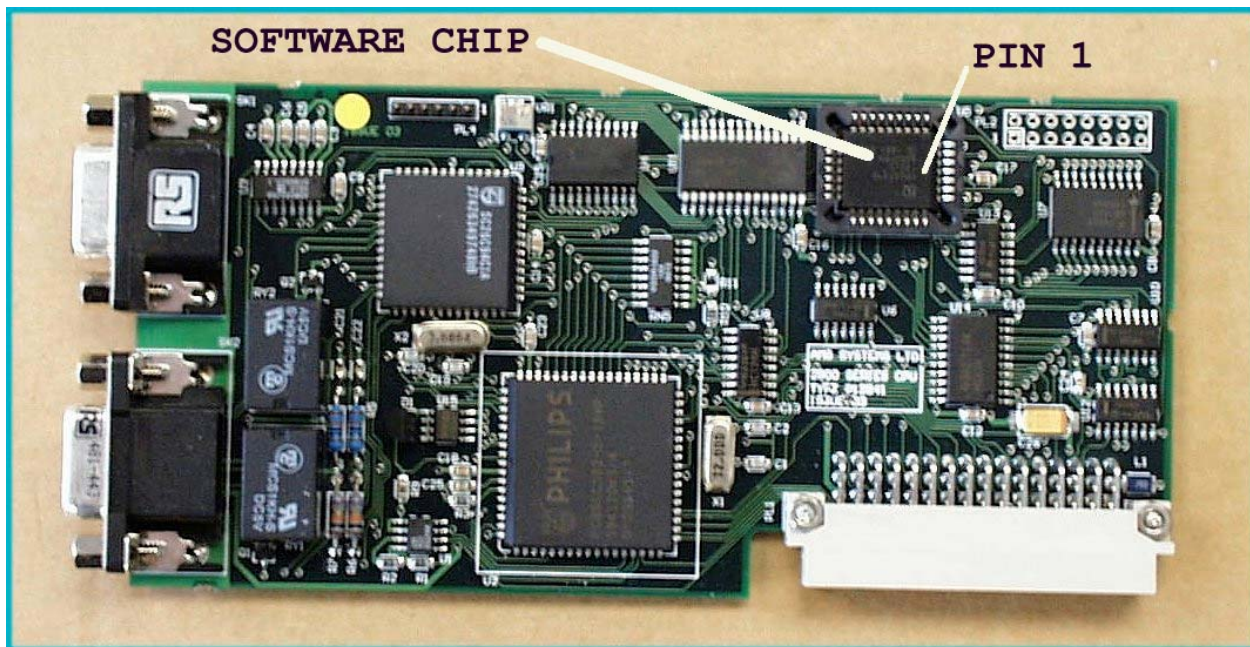


Figure 3: CPU Card Software Chip Location

Note the 'UNIT ADDRESS' number on the top of the label on the old Software Chip. This matches the number on the side of the chassis.

Fit the new Software Chip with the same 'UNIT ADDRESS' number to ensure that the AMG2800 Guardian unit keeps the same identification number in the system.

To insert the new software chip into the carrier socket, make sure that the chip is correctly aligned. Pin 1 is marked on the chip with a 'DOT' and pin 1 is marked on the socket with a small arrow as shown in Figure 3. Also the top right hand corner of the CHIP is cut off at an angle.

Push the chip firmly and squarely into the socket until it 'clicks' into place.

Insert the **CPU Card** back into the motherboard in the unit.

7 Replacing the Rear Panel Data/RS232 Chassis Plate

Ensure all boards are firmly connected to the motherboard before replacing the rear chassis plate.

After replacing the rear chassis plate, replace the 4-crosshead screws and the 4-40 UNC connector screw locks onto all the D-type connectors.

8 Fitting the Top Cover.

Ensure that all optical fibres are contained inside the unit and that the tin-plated emc strips are in position.

Ensure the lip on the front edge of the lid engages with the rail along the top of the front panel.

Carefully slide the lid into place and refit the 5 top cover screws at the back and sides of the unit.

9 Checking the Power-up Sequence.

Ideally this should be checked before inserting the AMG2800 back into the system. Switch on and observe the following power-up sequence.

- The Front Panel LEDs light in sequence from left to right to test the indicators.
- The display then 'freezes' and the LEDs illuminate to show the card positions. In particular observe the 'DATA BANK B' LEDs. The 'DATA BANK B – OUT' LEDs 2, 3 & 4 (central) will illuminate to show the presence of the additional main data board. The 'DATA BANK B – IN' LEDs 1 to 5 will illuminate if **Data Interface Daughter Boards** are present in the corresponding slots.
- Next the display changes to the 'load status' display for the configurable logic in the unit. In particular, observe that only the 'DATA BANK B IN' LEDs are lit.
- After the power up sequence the unit will progress to the normal status mode of operation and the IN & OUT LED's will illuminate if data input or output signals are present.

For more information please refer to your Guardian 2800 User Guide.