

Australian Upgrade Kits - Installation Instructions

Existing 4100+, 4100A or 4100U systems can be upgraded to 4100ES by fitting the appropriate upgrade kit. Separately, the 2x40 character LCD user interface can be upgraded to the graphic InfoAlarm LCD.

Which Kit do I Need?

Use this table to determine which kit or kits will be required for your upgrade situation.

Starting from:	Upgrading to:	Requires this kit:
4100 Classic cabinet	4100ES with 2x40 LCD	4100-7152K
	4100ES with InfoAlarm	4100-7152K + 4100-7156K
4100+ or 4100A in Legacy cabinet	4100ES with 2x40 LCD	4100-KT0488
	4100ES with InfoAlarm	4100-7156K
4100+ or 4100A in 19" rack cabinet	4100ES with 2x40 LCD	4100-7149K
	4100ES with InfoAlarm	4100-7158K + 4100-ME0498 (Note 1)
4100U in 19" rack cabinet	4100ES with 2x40 LCD	4100-7158K
	4100ES with InfoAlarm	4100-7158K + 4100-ME0498 (Note 1)
4100U-S1 in 21U cabinet	4100ES with 2x40 LCD	4100-7158K
	4100ES with InfoAlarm	4100-7158K + 4100-7155K
4100ES in 19" rack cabinet	4100ES with InfoAlarm	4100-ME0498 (Note 1)
4100ES-S1 in 21U cabinet	4100ES with InfoAlarm	4100-7155K

Note 1: The 4100-ME0498 InfoAlarm rack mounting door is 8U high. To use this to replace the existing 4U LCD door requires some physical rearrangement of the fire panel to make this possible. If you are not sure about this, refer to product bulletin PBS0047, or contact your Simplex sales representative.

Upgrade Kits – Summary of Contents

Kit	What It Contains	See page
4100-KT0488 4100ES 2x40 LCD UPGRADE KIT FOR 4100 LEGACY CABINET	4100ES LCD User Interface on a swing-down bay door assembly and a 4100ES CPU card. These are fitted in place of the existing 4100+ door and CPU card. Manuals and ES appliqué are included. The rest of the system hardware does not require change.	7

Kit	What It Contains	See page
4100-7149K 4100ES 2x40 LCD UPGRADE KIT FOR 4100+ OR 4100A 19” CABINET	4100ES 4U LCD User Interface door assembly and a 4100ES CPU card. These are fitted in place of the existing 4U 4100A or 4100+ door and CPU card in a 19” rack cabinet, reusing the 4100-0157A PSU. Manuals and 4100ES appliqué are included. The other system hardware does not require change.	9
4100-7152K 4100ES 2x40 LCD Upgrade Kit for 4100 Classic	Complete replacement CPU bay with 2x40 LCD, including power supply, 8 relay card, 6 signal card, and 4100ES CPU card, manuals and 4100ES appliqué.	11
4100-7155K InfoAlarm Upgrade Door for 4100ES/4100U	InfoAlarm LCD on a 4100ES/4100U bay door, which fits in place of an existing display door. Manuals and ES appliqué are included. The other system hardware does not require change.	10
4100-7156K 4100ES InfoAlarm Upgrade Door For 4100 Legacy Cabinet	InfoAlarm User Interface on a swing-down bay door assembly and a 4100ES CPU card. These are fitted in place of the existing 4100 door and CPU card. Manuals and ES appliqué are included. The other system hardware does not require change.	8
4100-7158K 4100U TO 4100ES Upgrade Kit	4100ES CPU card, Ethernet service port hardware and cable, 4100ES Operator and Installation manuals, and 4100ES appliqué.	14
4100-ME0498 InfoAlarm Rack Mounting Upgrade Door	InfoAlarm user interface mounted on an 8U hinged rack mounting door for use in 4100ES in a 19” rack cabinet.	13

Replacement Kits – for systems that have already been upgraded

Kit	What It Contains and What It Is Used For	See page
4100-KT0486 4100U/4100ES 4U Australian LCD Module	4100ES 4U LCD User Interface door assembly for a 4100U or 4100ES system in a 19” cabinet, to replace a scratched or otherwise damaged door. It has a serial service port, not Ethernet.	16
OBSOLETE: 4100ES Legacy Door AS4428 Replacement	The 4100-KT0470 legacy cabinet LCD module spare/replacement door is no longer available. Use a 4100-KT0488 4100ES upgrade kit instead	15

Except where noted above, all the other existing cards in the 4100 system being upgraded can be reused after the upgrade.

There is also new scope for expansion after completing the upgrade, e.g., by adding an IDNet card, or replacing existing MAPNET cards and motherboards with IDNet cards. However, note that some MAPNET devices cannot be used with IDNet, which might limit this option in some installations.

Cautions and Warnings

READ AND SAVE THESE INSTRUCTIONS. Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depends upon proper installation.

DO NOT INSTALL ANY SIMPLEX PRODUCT THAT APPEARS DAMAGED. Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify your authorized Simplex product supplier.

ELECTRICAL HAZARD - Disconnect electrical power when making any internal adjustments or repairs. Servicing should be performed by qualified Simplex representatives.

STATIC HAZARD - Static electricity can damage components. Therefore, handle as follows:

- Ground yourself before opening or installing components.
- Prior to installation, keep components wrapped in anti-static material at all times.

RADIO FREQUENCY INTERFERENCE - This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant AS/NZS CISPR 22. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area may cause harmful interference in which case the user will be required to correct the interference (at their own expense).

SYSTEM SOFTWARE CHANGES - All these 4100ES upgrade options involve replacing the existing CPU card with a 4100ES CPU card. The old site-specific software file will **NOT** work with the new 4100ES card. It must be converted into a version compatible with the 4100ES system and loaded into the new system before normal operation will be restored. Converting the site-specific software is beyond the scope of these Installation Instructions. Contact your Simplex representative for assistance with this conversion.

SYSTEM REACCEPTANCE TEST AFTER SOFTWARE CHANGES - To ensure proper operation after the upgrade, the system must be tested in accordance with AS 1670.1 after any programming operation or change in site-specific software. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring.

All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

Differences between 4100ES Upgrade Kits and Earlier Versions

4100ES provides a number of new features which are described in the 4100ES upgrade brochure.

For the upgrade process, the major difference is that the serial download port in 4100 and 4100U is replaced with an Ethernet download port. This provides faster download speeds as well as other services.

The Ethernet download port consists of a connector assembly which mounts in place of the serial download port, and connects to the 4100ES CPU card via an Ethernet cable.

In some kits, the Ethernet download port is already assembled (4100-KT0488, 4100-7149K, 4100-7152K, 4100-7154K) and additional assembly is not required.

In the other kits, the existing serial download connector must be removed and the Ethernet connector fitted in its place, as follows:

These changes should only apply to an ES CPU upgrade when the existing 2x40 LCD door is being retained. Most of the upgrade kits will already have Ethernet service ports.

1. Remove the two screws and washers that secure the current download port cover. Retain these items to secure the new download port cover.
2. Remove the current download port cover and discard it.
3. Fit the new download port cover as shown in Figure 1. The tab on the cover must be facing the panel door and positioned towards the top of the panel door.

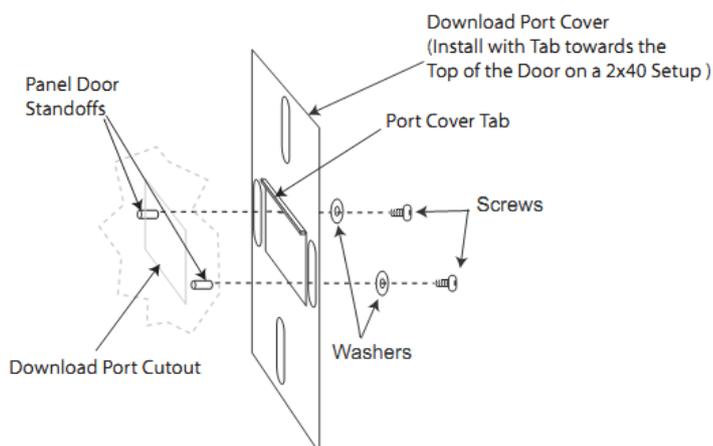


Figure 1 – Fitting the new download port cover

4. Use the hardware retained earlier to fasten the download port cover to the panel. Do not overly tighten the screws since the download port cover must still be able to slide open.

5. Install the new Ethernet download connector as shown in Figure 2.

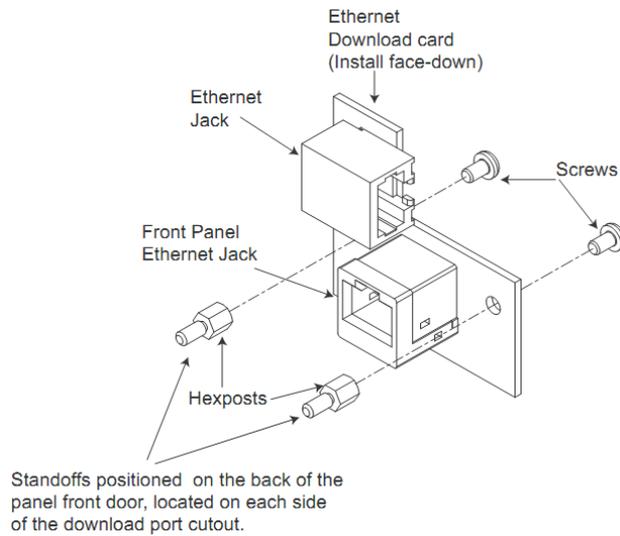


Figure 2 – Fitting hex posts and Ethernet download connector

6. Note the correct orientation of the connector as shown in Figure 3. Insert the screws provided in the kit into the holes and tighten to secure the Ethernet download connector.



Figure 3 – Correct orientation of the Ethernet download card on a 2x40 LCD door

7. Connect the 4100ES's CPU card's Ethernet port to the Download Ethernet port as shown in Figure 4.

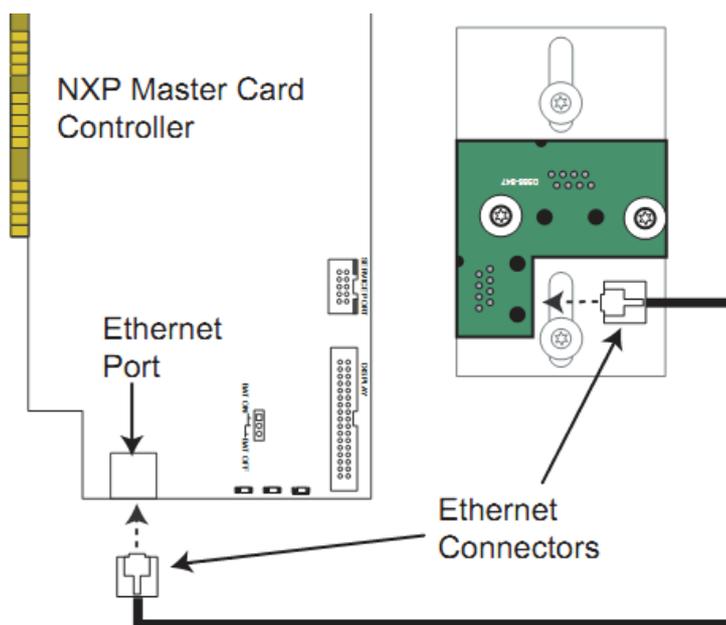


Figure 4 – Connecting the CPU and download card Ethernet ports

4100ES or InfoAlarm Upgrade Configuration

Configuration Changes Required

If a system is upgraded to 4100ES, the configuration file will require upgrading as well. Upgrading a 4100U configuration is straightforward. Upgrading a 4100 configuration is more complicated, requiring use of a conversion utility program as well as the 4100ES programmer.

If a system is upgraded to an InfoAlarm display, the upgraded configuration will require specific changes to configure the InfoAlarm, and its pushbuttons and LEDs, to replace the 2 x 40 LCD configuration.

These configuration changes are beyond the scope of this installation instruction. Contact your Simplex sales representative if you need assistance with this.

Upgrade a 4100 Legacy Cabinet to 4100ES with 2x40 LCD

**4100-KT0488
4100ES Upgrade
for Legacy
cabinets**

Kit Contents (see Figure 5):

- 4100ES 2x40 LCD Door to fit 4100+ or 4100A Legacy style cabinet, with Australian keypad and overlay, keypad PCB, sounder, CPU Harness and Ethernet service port and cable,
- 4100ES CPU card with Compact Flash card,
- Ethernet cable,
- 4100ES Operator (LT0351) and Installation (LT0350) manuals.

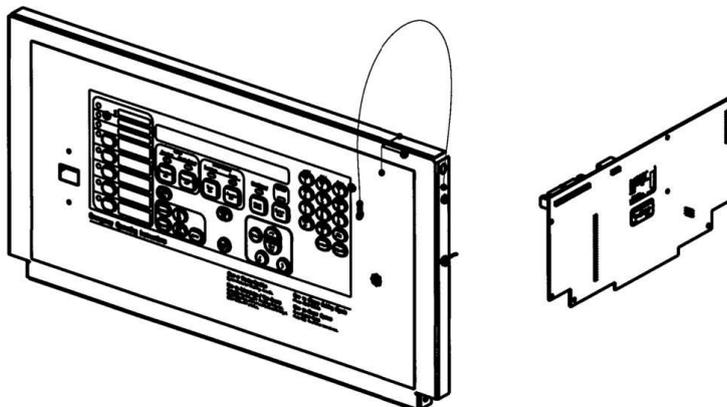


Figure 5 – 4100-KT0488 Legacy Bay Door and 4100ES CPU Card

Replacement Procedure:

- Power the system down: remove AC power from the PSU and remove the red lead from the positive battery terminal.
- Unplug the two FRCs of the old 4100 door from the 4100 CPU board.
- Disconnect the earth looms from the old door.
- Disconnect the operator interface support wire from the bay.
- Locate two pins on the top two corners of the interface that prevent it from opening. Push these pins outward and swing the door down.
- Remove the clips from the pins that hold the lower two corners of the door to the bay and then push these pins outward. Retain all these removed items. Now you can remove the door.
- Configure the links on the upgrade 4100ES CPU card as follows:
 - P1 should be in Position 1 – 2, or not fitted.
 - P3 should be in the ON position.
- Remove the old (4100) CPU card. Fit the upgrade (4100ES) CPU card in its place.
- Fit the upgrade (4100ES) door, using the fastening hardware from the old door. Connect the support wire, earth looms and wide FRC from the new door to the new CPU card.
- Connect one end of the Ethernet cable to the Ethernet download card. Connect the other end of the cable to the Master Controller card's Ethernet port as shown in Figure 4.
- Apply the mains to the power supply, and check that the cards power up correctly. When this is confirmed, reconnect the battery.
Note that the system will not operate correctly until the new site specific software is loaded into the new CPU card.

Upgrade a 4100 Legacy Cabinet to 4100ES with InfoAlarm

**4100-7156K
4100ES
InfoAlarm
Upgrade for
Legacy cabinets**

Kit Contents (see Figure 6):

- 4100ES InfoAlarm Door to fit 4100+ or 4100A Legacy style cabinet, with Australian keypad and overlay, keypad PCB, sounder, and Ethernet service port and cable,
- 4100ES CPU card with Compact Flash card,
- Ethernet cable,
- 4100ES InfoAlarm Operator manual(LT0568).

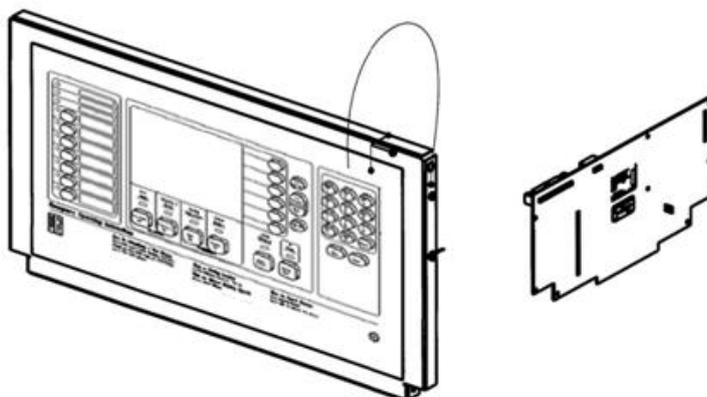


Figure 6 – 4100-7156K Legacy Bay InfoAlarm Door and 4100ES CPU Card

Replacement Procedure:

- Power the system down: switch off AC power, and disconnect the system battery.
- Unplug the two FRCs of the old 4100 door from the 4100 CPU board.
- Disconnect the earth looms from the old door.
- Disconnect the operator interface support wire from the bay.
- Locate two pins on the top two corners of the interface that prevent it from opening. Push these pins outward and swing the door down.
- Remove the clips from the pins that hold the lower two corners of the door to the bay and then push these pins outward. Retain all these removed items. Now you can remove the door.
- Configure the links on the upgrade (4100ES) CPU card as follows:
 - P1 should be in Position 1 – 2, or not fitted.
 - P3 should be in the ON position.
- Remove the old (4100) CPU card. Fit the upgrade (4100ES) CPU card in its place.
- Fit the InfoAlarm upgrade (4100ES) door, using the fastening hardware from the old door. Connect the support wire and earth looms to the bay.
- Connect the Power/Comms harness (734-073) from P7 or P8 on the InfoAlarm to P2 (blue wire) and to P3 (black wires) on the CPU motherboard.
- Connect one end of the Ethernet cable to the Ethernet download card. Connect the other end of the cable to the Master CPU card's Ethernet port as shown in Figure 4.
- Apply the mains to the power supply, and check that the cards power up correctly. When this is confirmed, reconnect the battery.
Note that the system will not operate correctly until the new site specific software is loaded into the new CPU card.

Upgrade a 19" Rack Cabinet 4100 to 4100ES with 2x40 LCD

4100-7149K Upgrade Kit for 19" Cabinet

Kit Contents (see Figure 7):

- 4100ES 4U LCD User Interface door assembly,
- 4100ES CPU card with Compact Flash card,
- Ethernet cable,
- 4100ES Operator (LT0351) and Installation (LT0350) manuals.

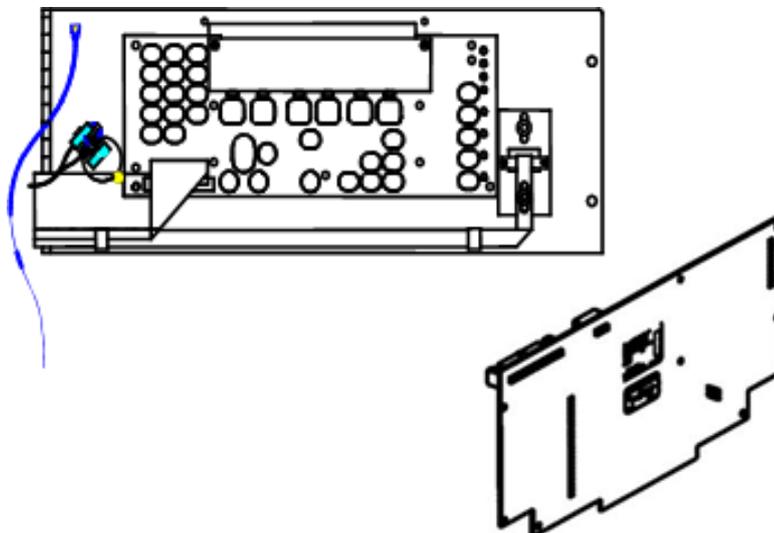


Figure 7 – 4100-7149K 4U LCD Door and 4100ES CPU Card

Replacement Procedure:

- Power the system down: remove AC power from the PSU and remove the red lead from the positive battery terminal.
- Unplug the two FRCs of the old 4U 4100 door from the 4100 CPU board.
- Disconnect the earth looms from the old 4U door.
- Remove the old 4U door after removing the four M6 mounting screws. Keep these screws and washers for use with the new door.
- Configure the links on the 4100ES CPU card as follows:
 - P1 should be in Position 1 – 2, or not fitted.
 - P3 should be in the ON position.
- Remove the old (4100) CPU card. Fit the upgrade (4100ES) CPU card in its place.
- Fit the new 4U door in place of the old door, using the fastening hardware from the old door. Connect the earth looms and FRCs from the new door to the new CPU card.
- Connect one end of the Ethernet cable to the Ethernet download card. Connect the other end of the cable to the Master CPU card's Ethernet port as shown in Figure 4.
- Apply the mains to the power supply, and check that the cards power up correctly. When this is confirmed, reconnect the battery.
Note that the system will not operate correctly until the new site specific software is loaded into the new CPU card.

Upgrade a 4100U-S1 or 4100ES-S1 2x40 LCD door to InfoAlarm

(Note: only for –S1 panels)

**4100-7155K
InfoAlarm
Upgrade Door for
4100ES/4100U**

Kit Contents (see Figure 8):

- InfoAlarm LCD door assembly
- Ethernet cable,
- 4-way 0.6m power/comms harness
- 4100ES InfoAlarm Operator manual(LT0568).

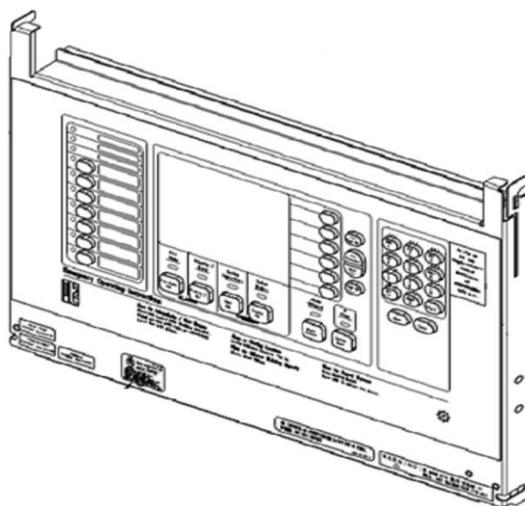


Figure 8 – 4100-7155K InfoAlarm Door

Replacement Procedure:

- Power the system down: remove AC power from the PSU and remove the red lead from the positive battery terminal.
- Unplug the FRCs from the 2x40 LCD door from the CPU card.
- Disconnect the earth looms from the 2x40 LCD door.
- Unclip the 2x40 LCD door and remove it.
- Clip the InfoAlarm door in its place.
- Connect the earth looms to the new door.
- Connect the 4-way power/comms harness between the PCB in the InfoAlarm (P7 or P8) and a 4-way connector on the CPU motherboard (P4, P5 or P6) or the PDI backplane (P1, P2 or P3).
- For a 4100ES, connect the Ethernet download cable from the InfoAlarm to the CPU as in Figure 4.
- For a 4100U (if not being upgraded), remove the Ethernet download port from the InfoAlarm door and replace it with the serial download port from the door being replaced (work through the procedure on pages 4 and 5 in reverse).
- Apply the mains to the power supply, and check that the cards power up correctly. When this is confirmed, reconnect the battery.
Note that the system will not operate correctly until the new site specific software is loaded into the new CPU card.

Upgrade a 4100 Classic Cabinet to 4100ES with 2x40 LCD

**4100-7152K
4100 Classic to
4100ES Upgrade
Kit (complete CPU
bay upgrade)**

Kit Contents:

Complete 4100ES CPU bay as shown in Figure 9, containing:

- 2x40 LCD door assembly with Australian keypad and overlay
- 4100ES CPU card with Compact Flash card,
- 4100-3003 8 Relay Card,
- 4100-4321 6 Signal Card,
- 4100-0157A power supply,
- General Power Outlet (switched)
- 002-109 DC Fuse Card.
- 4100ES Operator (LT0351) and Installation (LT0350) manuals.

This completely replaces the existing CPU bay in a classic 4100 system, since that power supply is not suitable for the 4100ES. Note that the power supply in this kit is the older 4100-0157A type, not a 4100ES SPS (which is too large to fit).

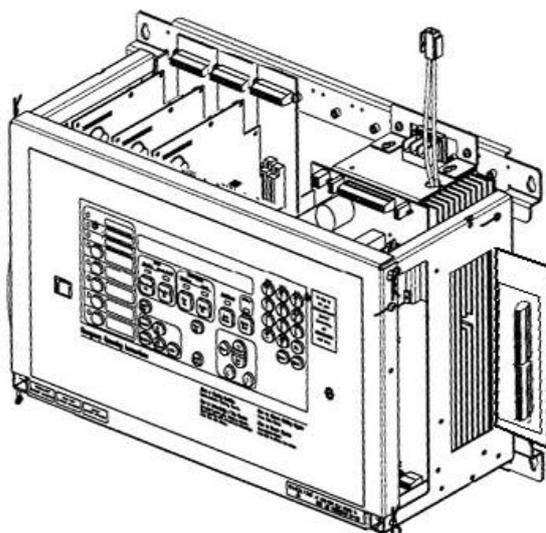


Figure 9 – External view of the 4100-7152K Upgrade Bay

Replacement Procedure:

- Power the system down: remove AC power from the PSU and remove the red lead from the positive battery terminal.
- Arrange for a suitably qualified electrician to disconnect the mains power from the CPU bay being replaced.
- Remove connections from the CPU bay being replaced to other bays, the door switch and the batteries.
- Remove this CPU bay.
- Configure the links on the upgrade (4100ES) CPU card as follows:
 - P1 should be in Position 1 – 2, or not fitted.
 - P3 should be in the ON position.
- Fit the upgrade CPU bay, and restore connections from the other bays, door switch and batteries. Do NOT power the system from the batteries at this stage.
- Check that wires are not pinched or damaged during the installation of the new bay.
- It may be necessary to rewire the brigade call relays and external bell / strobe from the old CPU signal outputs to the new 6 way signal card.
- Check the relay wiring to the old CPU. This will need to be transferred to the new 8 way relay card.
- Transfer the white ribbon cable connection from the old 64/64 LED controller output in the CPU to the new 64/64 LED switch control card.

- It may be necessary to remove old battery test resistors in the panel as the new power supply comes equipped with these.
- Some older panels are equipped with analogue battery volt and current meters. These can be optionally be removed - the new 4100-0157AU power supply will monitor and display this data on the LCD.
- Arrange for an electrician to connect mains power to the switched outlet in the new CPU bay.
- Apply the mains to the power supply, and check that the cards power up correctly. When this is confirmed, reconnect the battery.
Note that the system will not operate correctly until the new site specific software is loaded into the new CPU card.

Upgrade a 4100ES 19" Cabinet 2x40 LCD with InfoAlarm

4100-ME0498 InfoAlarm Rack Mounting Upgrade Door

Kit Contents (see Figure 11):

- 8U rack mounting InfoAlarm LCD door assembly
- 4-way 0.6m power/comms harness
- 4100ES InfoAlarm Operator manual (LT0568).

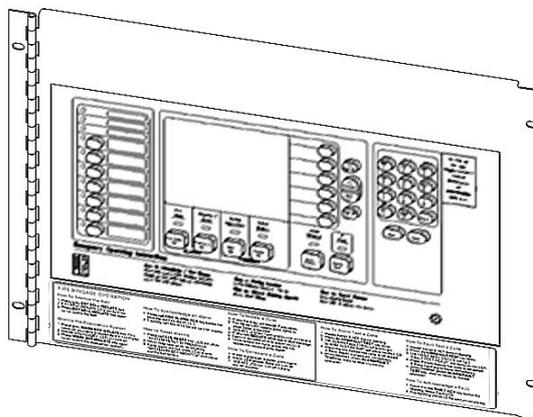


Figure 11 – 4100-ME0498 InfoAlarm Door

Replacement Procedure:

NOTE: the following procedure assumes that there is an 8U clear space in the front of the 19" cabinet for the InfoAlarm door to fit into. This will require removal of the 4U LCD door and 2U blank panel above it, and possible relocation of equipment bays down by 2U. Please contact your Simplex sales representative if you are unsure about this process.

- Power the system down: remove AC power from the PSU and remove the red lead from the positive battery terminal.
- Unplug the FRCs from the 2x40 LCD door from the CPU card.
- Unplug the Ethernet cable from the service port connector on the 2x40 LCD door.
- Disconnect the earth looms from the 2x40 LCD door.
- Remove the 4U 2x40 LCD door and other associated rack-mounting panels.
- Fit the 8U InfoAlarm door in its place.
- Connect the earth looms to the new door.
- Connect the 4-way power/comms harness between the PCB in the InfoAlarm (P7 or P8) and a 4-way connector on the CPU motherboard (P5, P6 or P7) or the PDI backplane (P1, P2 or P3).
- Connect the Ethernet cable to the service port connector on the InfoAlarm door.
- Apply the mains to the power supply, and check that the cards power up correctly. When this is confirmed, reconnect the battery.
Note that the system will not operate correctly until the new site specific software is loaded into the new CPU card.

Upgrade a 4100U System to 4100ES

4100-7158K 4100U to 4100ES Upgrade Kit

Kit Contents (see Figure 12):

- 4100ES CPU card with Compact Flash card,
- Ethernet download port cover and connector assembly,
- Ethernet cable,
- 4100ES Operator (LT0351) and Installation (LT0350) manuals.

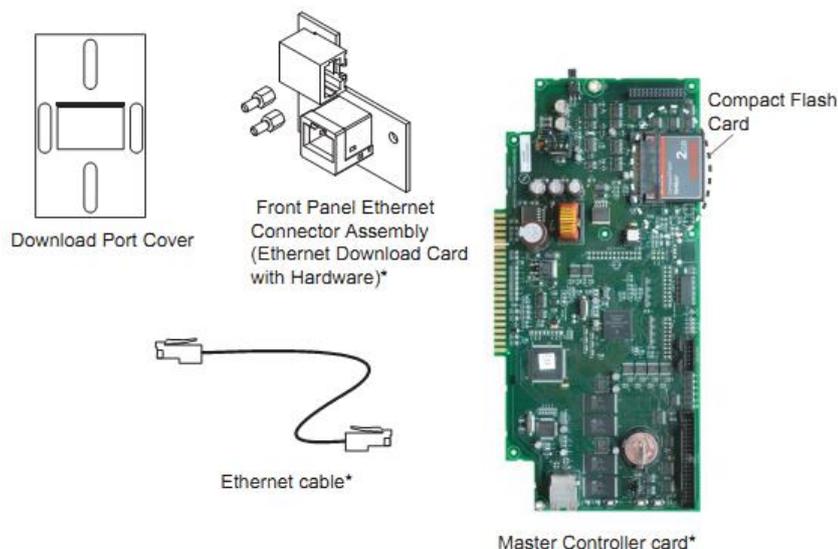


Figure 12 – Content of the 4100-7158K Upgrade Kit

Replacement Procedure:

- Power the system down: remove AC power from the PSU and remove the red lead from the positive battery terminal.
- Remove the obsolete 4100 CPU card. Fit the upgrade (4100ES) CPU card in its place.
- Configure the links on the 4100ES CPU card as follows:
 - P1 should be in Position 1 – 2, or not fitted.
 - P3 should be in the ON position.
- Fit the new Ethernet download port in place of the serial download port connector, as shown in Figures 1 to 3.
- Connect one end of the Ethernet cable to the Ethernet download connector. Connect the other end of the cable to the CPU card's Ethernet port as shown in Figure 4.
- If using a 2x40 LCD door, connect the FRC from the LCD to the new CPU card. An InfoAlarm display has a different connection method, described elsewhere in this manual.
- Apply the mains to the power supply, and check that the cards power up correctly. When this is confirmed, reconnect the battery.
Note that the system will not operate correctly until the new site specific software is loaded into the new CPU card.

4100ES Legacy Door 2x40 LCD AS4428 Replacement

Note: The 4100-KT0470 legacy cabinet LCD module replacement door is no longer available. Use a 4100-KT0488 4100ES upgrade kit instead. See page 7 for a fuller description of this kit.

Kit Contents:

- As for 4100-KT0488 (use relevant parts only – see Figure 13).

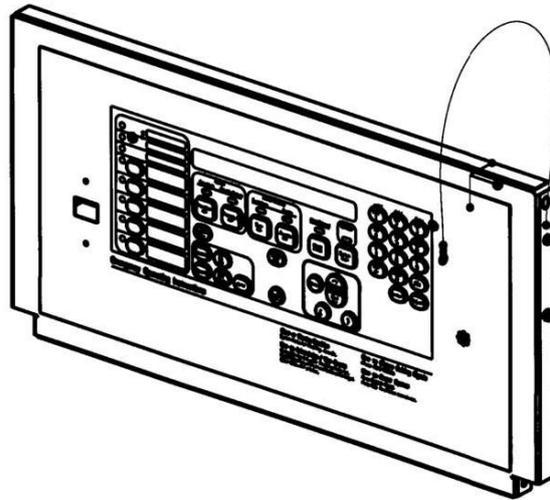


Figure 13 – Replacement 2x40 LCD Legacy Bay Door

Replacement Procedure:

- Power the system down: remove AC power from the PSU and remove the red lead from the positive battery terminal.
- Unplug the FRCs of the damaged door to be replaced from the CPU card.
- If the damaged door is fitted with an Ethernet download connector, remove this from the damaged door and transfer it to the replacement. Refer to Figures 1 to 3 for details.
- Disconnect the earth looms from the faulty door.
- Remove the damaged door.
 - Disconnect the operator interface support wire from the bay.
 - Locate two pins on the top two corners of the interface that prevent it from opening. Push these pins outward and swing the door down.
 - Remove the clips from the pins that hold the lower two corners of the door to the bay and then push these pins outward. Retain all removed items. Now you can remove the door.Keep the door fasteners and washers for use with the new door.
- Fit the replacement door, using the fastening hardware from the old door. Connect the support wire, earth looms and FRCs from the new door.
- If an Ethernet download connector was fitted, reconnect the Ethernet cable from the CPU (see Figure 4).
- Apply the mains to the power supply, and check that the system powers up correctly. When this is confirmed, reconnect the battery.

4100ES 19" 4U AS4428 AUSTRALIAN 2x40 LCD Door Replacement.

4100-KT0486
4100U/4100ES 4U
Australian LCD
Door for 19"
cabinets

Kit Contents:

- 4U LCD User Interface door assembly, with Australian keypad and overlay, keypad PCB, sounder, CPU Harness and Download Harness
- Mounting parts.

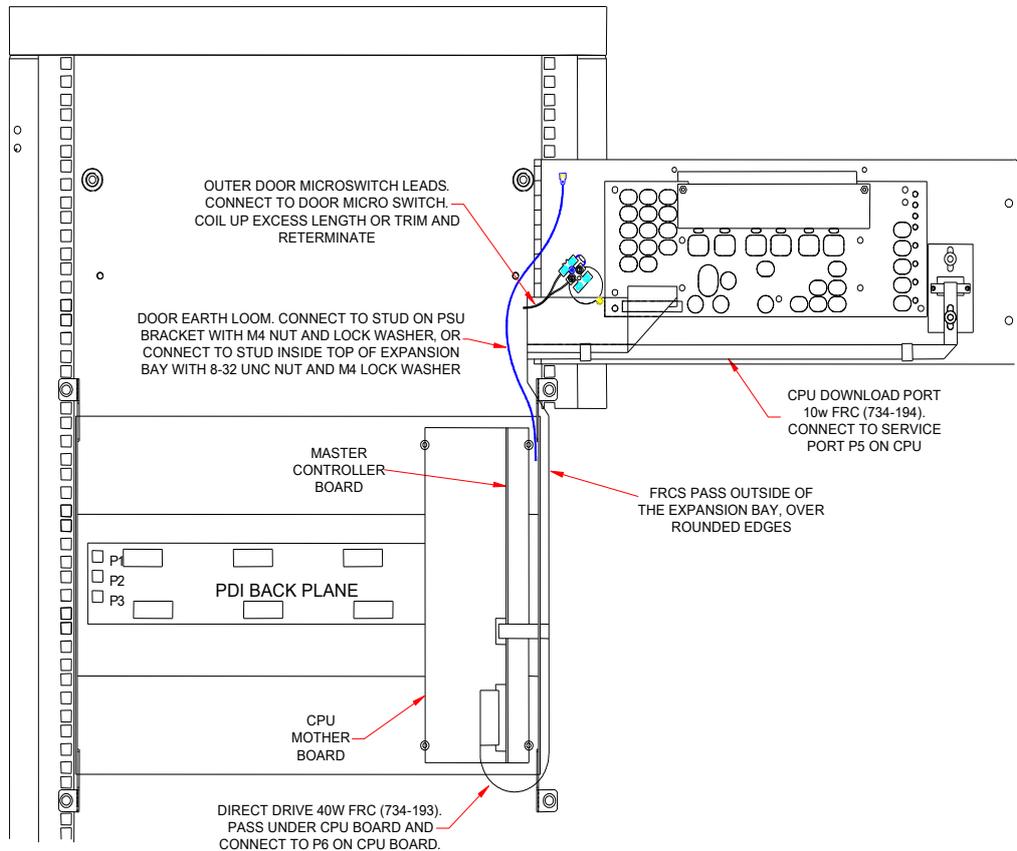


Figure 14 – Fitting replacement 4U LCD door to 4100ES cabinet

Replacement Procedure:

- Power the system down: remove AC power from the PSU and remove the red lead from the positive battery terminal.
- Unplug the two FRCs of the faulty door to be replaced from the CPU card. Disconnect the earth looms from the faulty door. Disconnect the door switch loom from the door switch and free it from any cable ties.
- If the damaged door is fitted with an Ethernet download connector, remove this and transfer it to the replacement. Refer to Figures 1 to 3 for details.
- Remove the faulty door. Retain the door mounting screws and washers for use with the new door.
- Fit the replacement door. Connect the earth looms and FRCs and door switch loom as described in the notes in Figure 14 above.
- If an Ethernet download connector was fitted, reconnect the Ethernet cable from the CPU (see Figure 4).
- Apply the mains to the power supply, and check that the system powers up correctly. When this is confirmed, reconnect the battery.