DOMINO

A-SERIES EGG CODER
INK JET PRINTER
USER'S GUIDE

27273 Issue 4 March 2012

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DOMINO A-SERIES EGG CODER INK JET PRINTER USER'S GUIDE

This user's guide, Domino Part No. 27273, is for use in the operation of Domino A200/A400 egg coder printers in conjunction with the relevant A-Series manual. Please refer to this guide for Egg coder specific information and the relevant A-Series manual for general printer information.

Users of this ink jet printer are warned that it is essential to read, understand and act according to the information given in Part 1 : Health and Safety of the relevant A-Series Operation and Maintenance Manual.

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Domino UK Ltd. has a policy of continuous product improvement, the Company therefore reserves the right to modify the specification contained in this manual without notice.

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CONTENTS OF EC DECLARATION OF CONFORMITY

(in accordance with BS EN ISO/IEC 17050-1:2010)

No. 27237/1

Issuer's name: Domino UK Ltd

Issuer's Address: Bar Hill, Cambridge CB3 8TU

Object of the declaration: Domino A400/A200 Egg Coder Printers.

The object of the declaration described above is in conformity with the requirements of the following documents:

EN 61000-Part 6-4:2007 Electromagnetic Compatibility (EMC). Generic Standards. Emission standard for industrial environments.

EN 61000-Part 6-2:2005 Electromagnetic Compatibility (EMC). Generic Standards. Immunity Standard for industrial environments.

EN55022:2006/A1:2007 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.

EN60950-1:2006/A12:2011 Information technology equipment - Safety -- Part 1: General requirements.

2006/95/EC : Low Voltage Directive.

2004/108/EC : EMC Directive.

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2004/108/EC : EMC Directive.

Signed for and on behalf of
Domino UK Ltd
Bar Hill,
Cambridge,

April 5th 2012

Nick Plaister

CIJ Product Director

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

European EMC Statement

This product may cause interference if used in residential areas. Such use must be avoided unless the user takes special measures to reduce electromagnetic emissions to prevent interference to the reception of radio and television broadcasts.

AMENDMENT RECORD

Amendment	Date
All Parts at Issue 1	July 99
All Parts at Issue 2	Nov. 99
All Parts at Issue 3	Feb. 01
All Parts at Issue 4	March 2012

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Cancel
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Delete Logo
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Front Panel Topic Key Menus

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INTRODUCTION

General

This manual provides:

- A basic introduction to the printer and how it interfaces with an egg grader
- Individual sections for the specific egg graders and how the printer interfaces with them
- Specific spares for the egg coder.

An egg grader can employ numerous printers, one to code onto each egg chain. The egg grader computer controls which message is printed to which egg. This is done either by a master printer and slave printers, or directly to each printer via the grader computer. This depends upon the egg grader.

Communication to the printers is uni-directional from the Diamond and Selecta egg graders and bi-directional on Moba egg graders, the printers flag any alarms individually and display them on the beacons and front panels, although alarms can be used as a line stop.

Message creation and editing is either carried out on the designated master printer or on the egg grader computer - depending on the egg grader used.

The A-Series egg coder contains extra PCBs - an egg interface PCB, an egg daughterboard and a flash expansion PCB.

The egg controller PCB (PC104) mounted on the Main control PCB set controls the inter-printer communications and Selecta control.

The egg daughterboard acts as a buffer (opto-isolator) of signals to the egg grader and other external interfaces.

These PCBs allow the printers to interface with all supported egg grader types.

The flash expansion PCB is used in conjunction with the larger screen interface as extra memory.

SCREEN DESCRIPTIONS

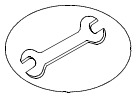
The following screens are egg coder specific screens. For all other screens refer to screen descriptions in the relevant A-Series Operation and Maintenance Manual.

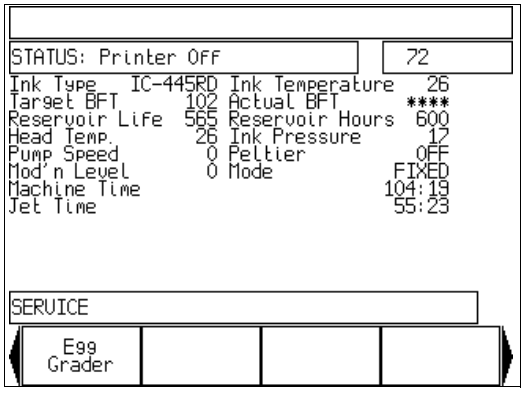
To display the screen shown, press the key sequence shown in the margin. Options to be changed are selected by the use of a highlight bar, which is moved using the cursor keys. Preset option conditions or values are selected using the increment and decrement keys (+ and -). Numerical values are initially highlighted and can be incremented or decremented as complete numbers, or replaced by typed in values. However, when values are being entered, the highlight bar is confined to single characters and has to be moved using the left and right cursor keys. Highlighted characters can be removed with the delete key and typed characters will be inserted to replace them. Repeated use of the delete key will delete the highlighted character and successive characters to the left.

Moving the highlight bar up or down will automatically scroll the screen line-by-line. To scroll the whole screen, use the shift key with the cursor keys.

If more than four options are available on the softkey bar, an arrow will appear at each end of the bar. To scroll through the key bar, press the left/right arrow beneath the screen.

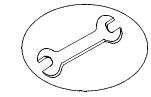
Egg Grader



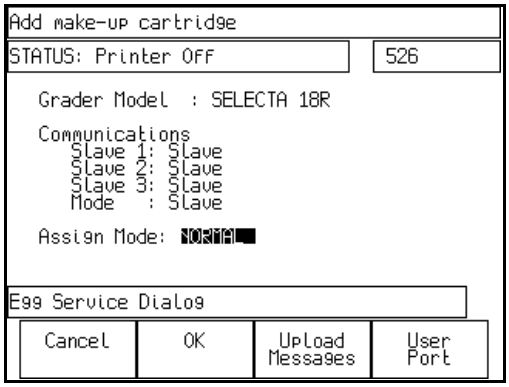


This is the top level screen for access into the egg coder set-up screens. When the Egg Grader key is pressed, screen 526 is displayed (as shown over page).

Egg Service Dialog

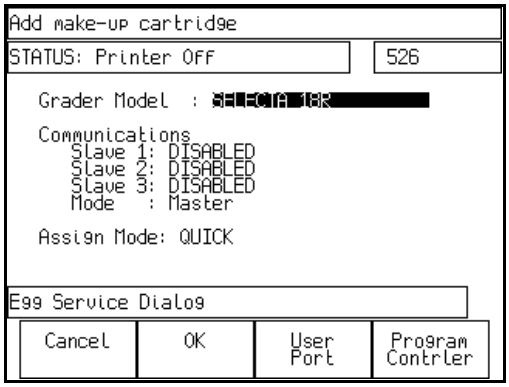


Egg Grader



Use this screen to select the type of egg grader and, in the case of Diamond or Selecta, set up the master and slave functions.

(Slave Screen 526)



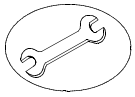
(Master Screen 526)

Grader Model:	Select the type of grader used, i.e. Selecta 18R
Communications:	For the master printer only, select which slave printers are connected (Only used on Selecta or Diamond type egg graders).
Mode:	This indicates if the printer is a master or slave (Selecta or Diamond).
Assign Mode	Select Normal or Quick (Master/Slave communications only).

Function key options:

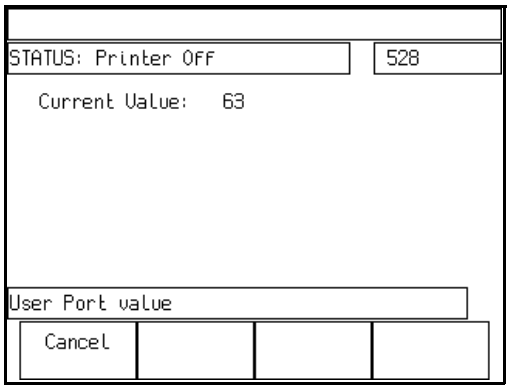
Cancel	Returns display to previous screen.
OK	Accepts the settings.
Upload Messages	Permits a slave printer to upload the entire message store from the master.
User port	Displays the User Port information screen.
Program Ctrlr	Re-programs the Selecta controller on the PC104 egg controller card (Selecta only).

User Port Value



Egg Grader

User Port

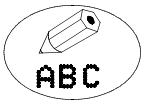


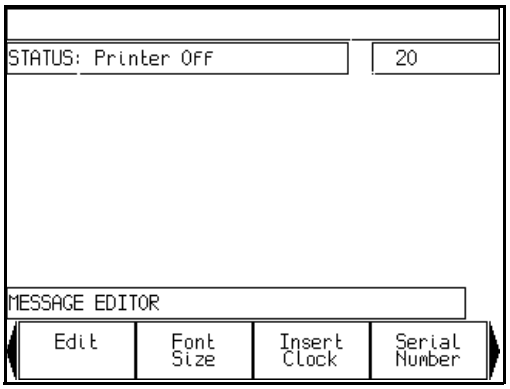
Displays the current user port value.

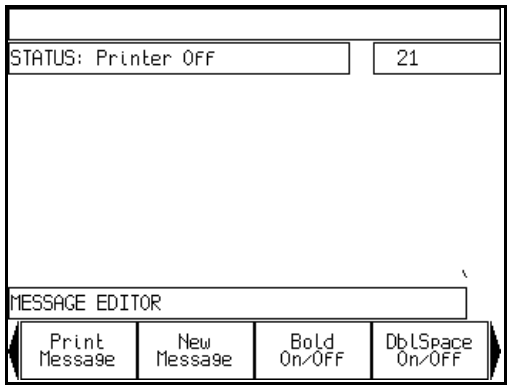
(In this screen, 63 is the message number)

Note: The port is only read and displayed at 1 second intervals.

Message Editor

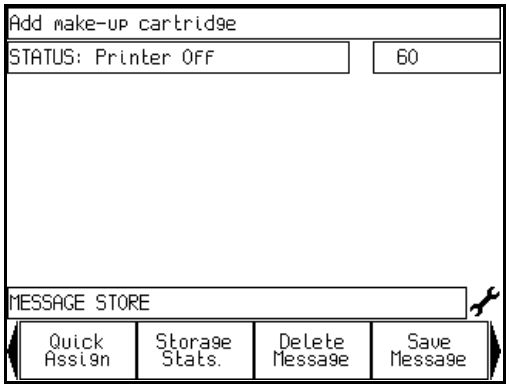






The Message Editor contains a *Print Message* softkey. Do not use this to print messages as it may conflict with the message store, and cause the wrong message to be printed. Instead, use the *Print Message* softkey in the Message Store.

Message Store (Quick Assign Mode Only)



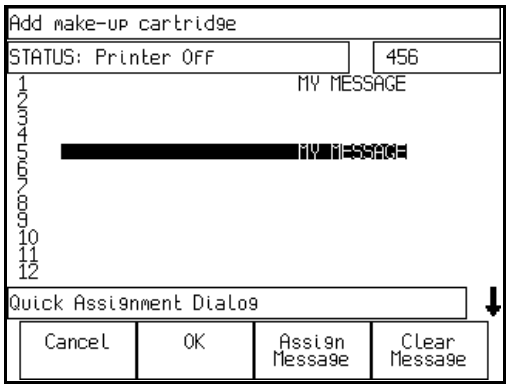
Message entry for the Quick Assign mode.

Quick Assign — Displays screen 456 to quickly assign messages to specific message select numbers.

For the other options and message entry/creation etc. refer to the relevant A-Series Operation and Maintenance manual. If the Assign Mode is set to Normal, then message entry is performed in the normal way, refer to Message Creation in the A-Series Operation and Maintenance Manual.

Quick Assign

Quick Assign



Permits the assignment of messages, from the message store, to message select numbers.

Move the highlight bar to the lane required and press the *Assign Message* key.

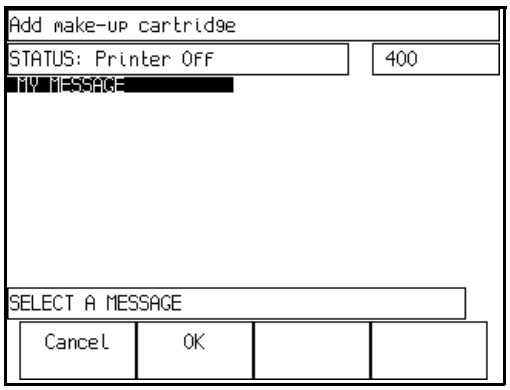
Assign Message — Select the required message number and move the highlight bar next to it, pressing the assign message key will then display screen 400 (as overleaf).

Clear Message — This clears any message that is assigned to a message number.

Assign Message

Quick Assign

Assign Message



Allows the message to be selected for association with a message select number.

Cancel Returns to the previous screen without assigning a message.

OK Accepts the changes and assigns the message to the chosen message select number.

MOBA SYSTEMS

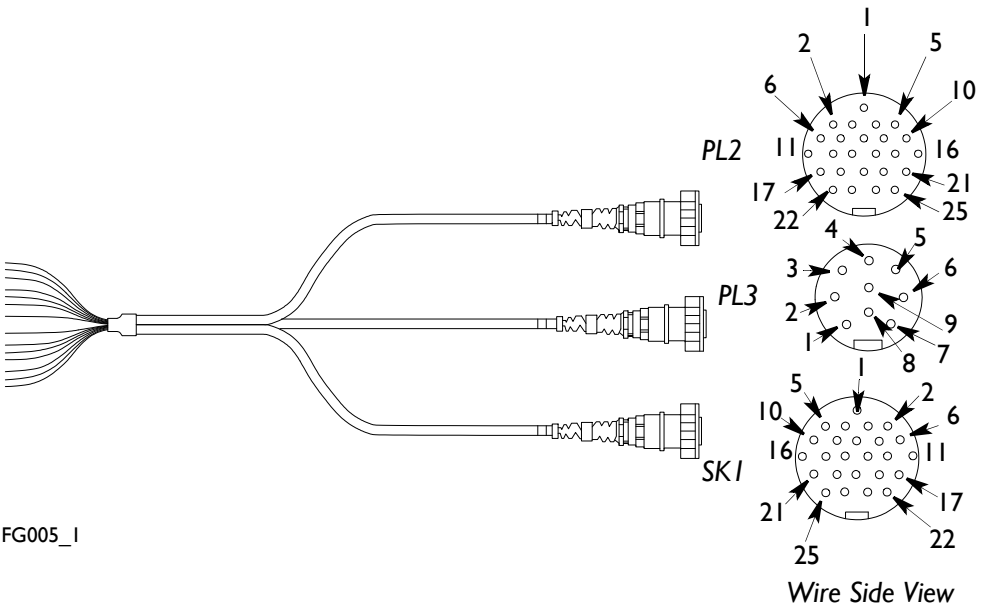
Moba 3500, 5000, 5100, 6000, 8000, Omnia 250 and 330 Graders.

Moba graders can support one printer per egg chain. The computer of the Moba grader controls each printer separately, and provides the printers with the relevant message select and print-go signals and messages.

Each printer requires one set of Moba system cables, so a four track grader will require four printers and therefore, four sets of system cables.

The print head for a Moba grader can be either straight or V90 with the appropriate bracketry being supplied with the Moba grader.

Cable Wiring Diagram

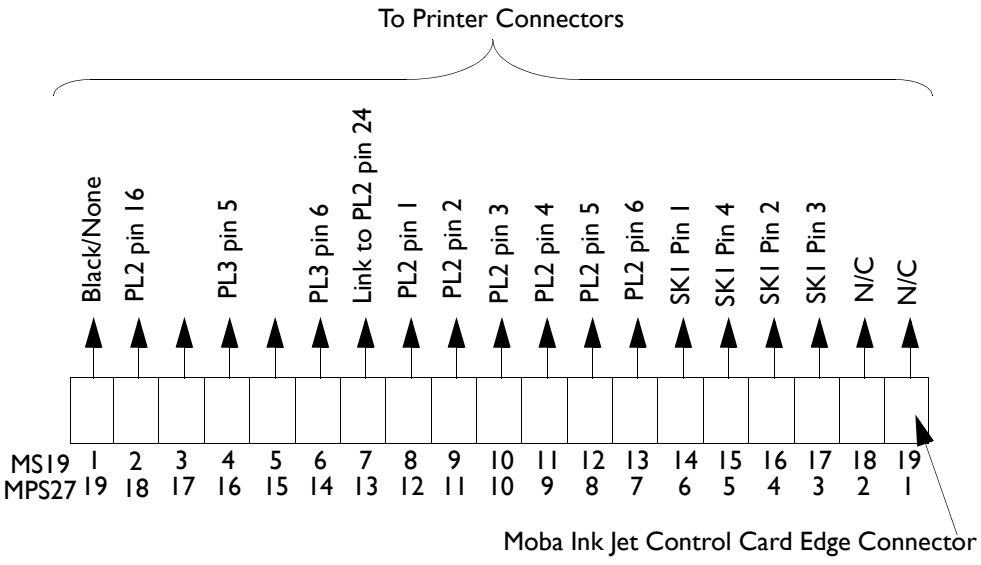


Moba Cable

Connections

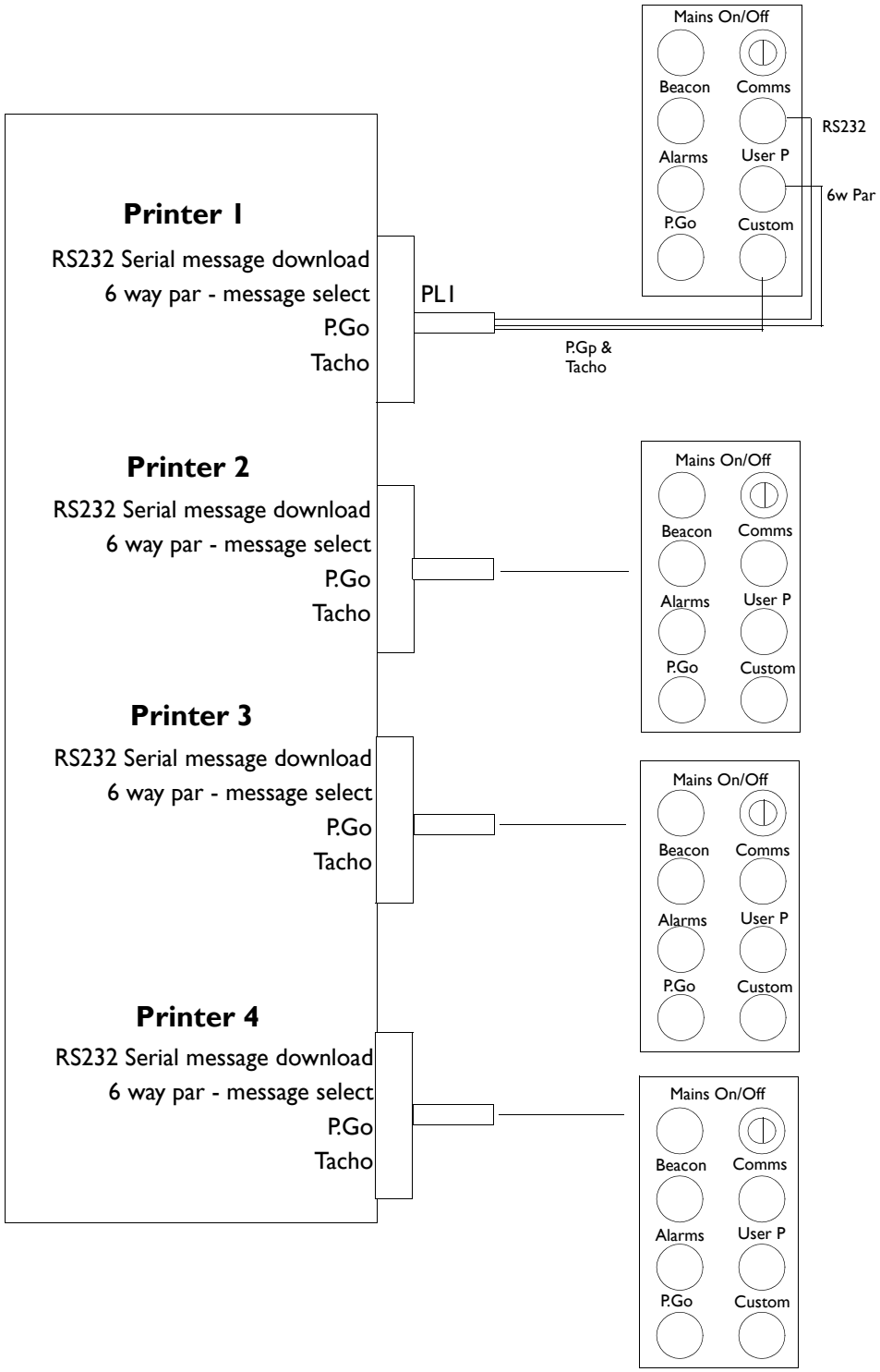
The pinout of the Moba Inkjet Interface PCB is as follows:

SIGNAL NAME MOBA/DOMINO	PIN NO. MS 19	PIN NO. MPS27	WIRE IDENT
Screen	1	19	Black/None
VA/(Isolated +12V)	2	18	216
GND/(Isolated 0V)	3	17	
DTOP+/(Print Go)	4	16	35
GND/(Isolated 0V)	5	15	
Tachy+/(Stroke Go)	6	14	36
GND/(Isolated 0V)	7	13	224
/(D0)	8	12	21
/(D1)	9	11	22
/(D2)	10	10	23
/(D3)	11	9	24
/(D4)	12	8	25
/(D5)	13	7	26
RXD/(RS232 out)	14	6	11
DSR/(CTS)	15	5	14
TXD/(RS232 in)	16	4	12
DTR/(RTS)	17	3	13
D6/(N/C)	18	2	
D7/(N/C)	19	1	



Block Diagram

The following is a basic block diagram showing the connection of a Moba system to 4 printers.



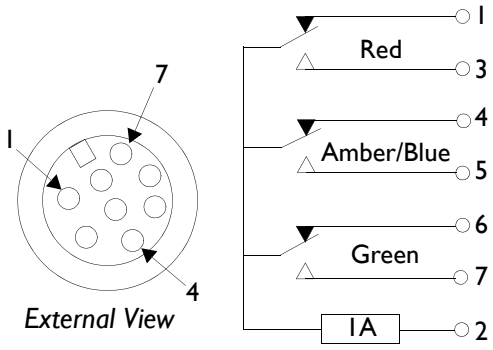
DIAMOND SYSTEMS

Diamond systems can support one printer per egg chain. The Diamond system uses a master/slave system of printer operation, whereby all message control is carried out using the designated master printer, which supplies the slave printers with the relevant information.

Print heads on Diamond systems are straight, using Diamond head bracketry.

The alarm outputs of any printer can be set as a line stop if required. The alarms output from the printer is as follows:

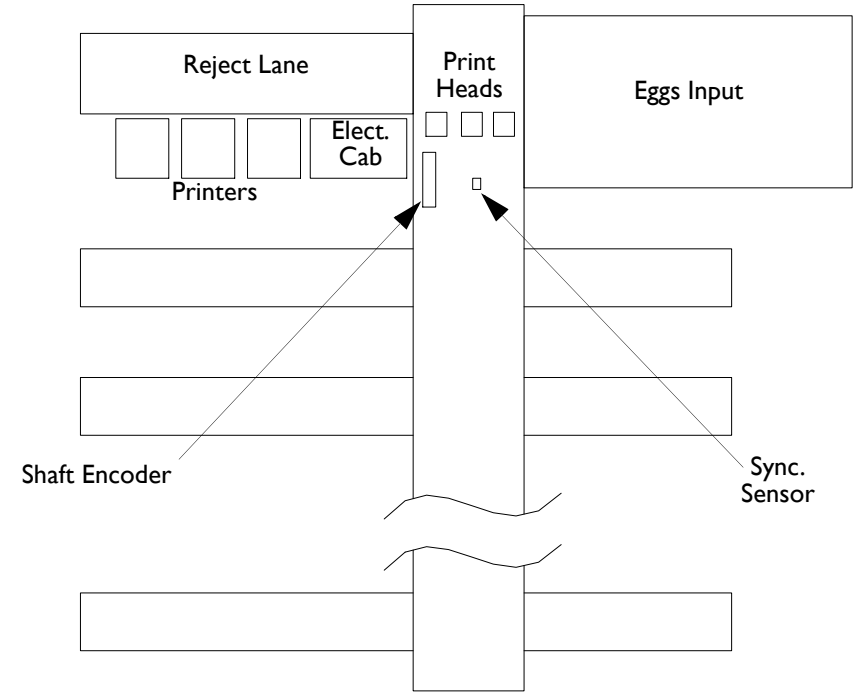
PINS	STATUS
1 - 2	Red alert not active
3 - 2	Red alert active
4 - 2	Amber/blue alert not active
5 - 2	Amber/blue alert active
6 - 2	Green status not active
7 - 2	Green status active



Alarm Kit Connection and Circuit

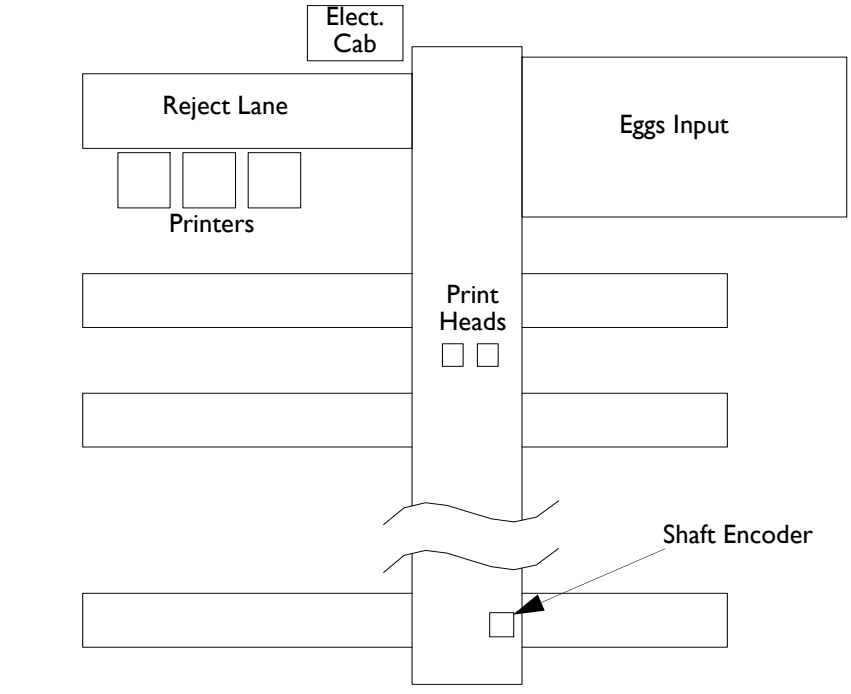
The number of printers used will depend upon the Diamond egg grader in use. All systems require 1 master/slave cable. For two printers, one Diamond system cable No.1 and one Diamond system cable No. 2 is required. For four printer, two Diamond system cables No. 1 and one Diamond system cable No. 2 is required. A shaft encoder and cable is optional, except on new installations, where a shaft encoder and cable will be required.

The shaft encoder on a Diamond system is mounted on the main egg chain sprocket shaft at the opposite end to the eggs input (candeller), as shown on page 23.



FG014_1

Selecta

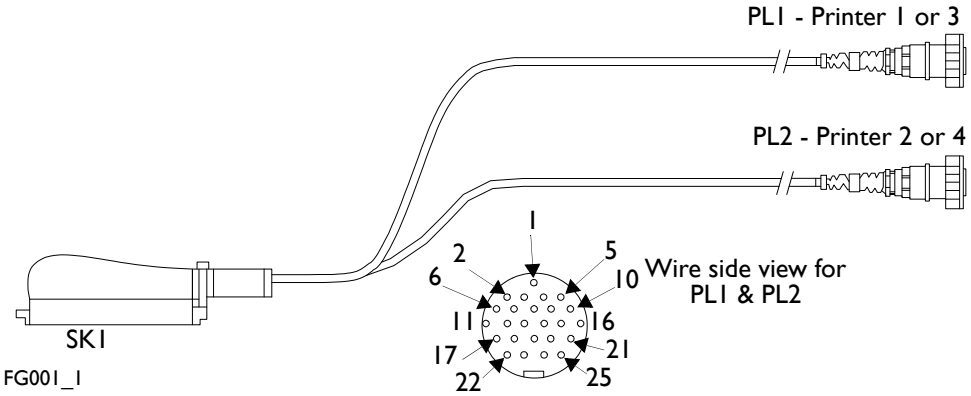


FG015_1

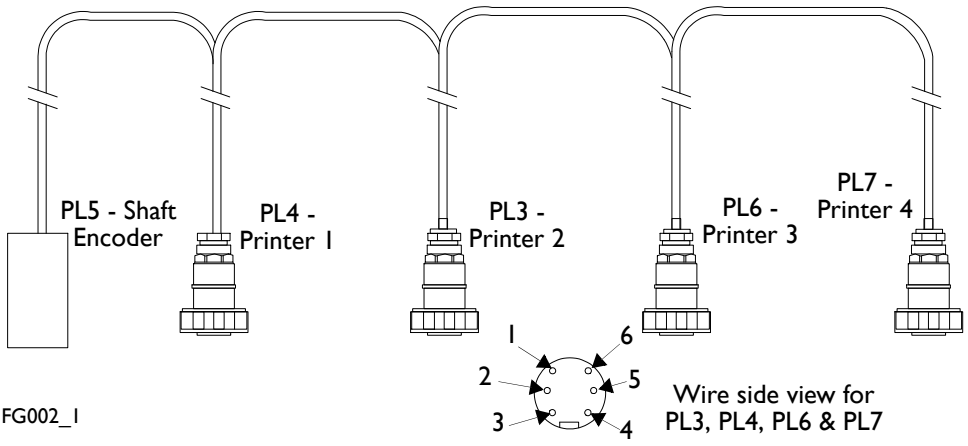
Diamond 8200/8300

Shaft Encoder Location

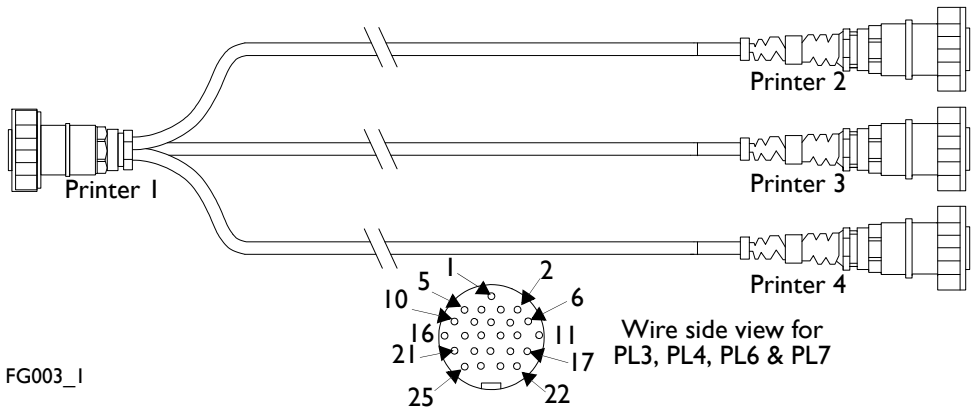
Cable Wiring Diagram



Diamond Cable 1 - Domino Part No. 67907



Diamond Cable 2 - Domino Part No. 67921



Master/Slave Cable - Domino Part No. 67905

Pin to Pin Connections

Master Slave Cable

SIGNAL NAME	PRINTER 1	PRINTER 2	PRINTER 3	PRINTER 4
Master	Link 7 to 8			
Printer 1-TX	9	10		
Printer 1-RX	10	9		
Printer 1-CTS	11	12		
Printer 1-RTS	12	11		
0V	13	13		
Printer 2-TX	14		10	
Printer 2-RX	15		9	
Printer 2-CTS	16		12	
Printer 2-RTS	17		11	
0V	18		13	
Printer 3-TX	19			10
Printer 3-RX	20			9
Printer 3-CTS	21			12
Printer 3-RTS	22			11
0V	23			13
Screen	25	25	25	25

Diamond Cable 1

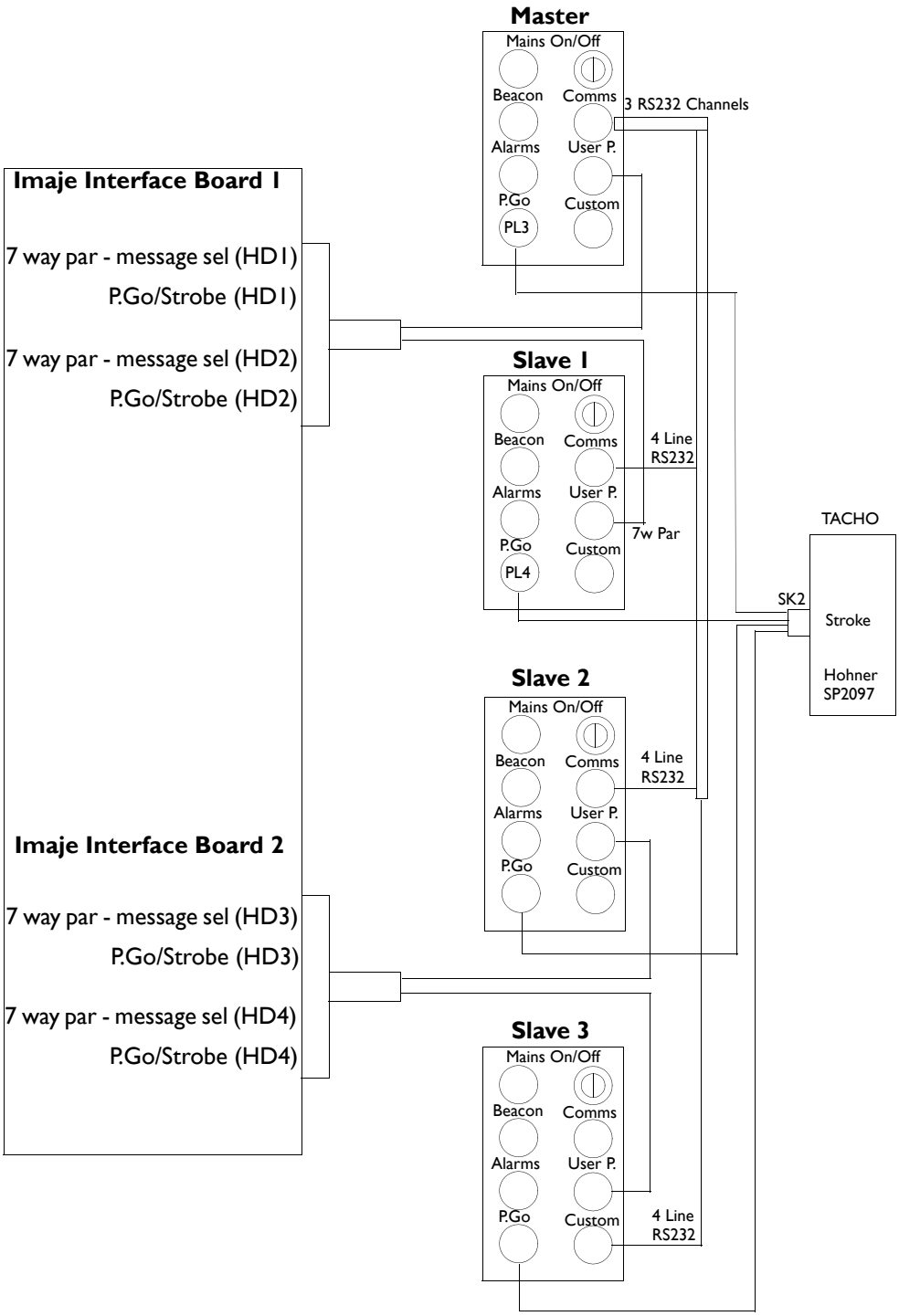
SIGNAL NAME	DIAMOND SK1	PRINTER 1 PL1	PRINTER 2 PL2
0V	Link 1,7,9,27/E	24	24
+12V	Link 2,8,26/D		
Printer 1-D0	39/T	1	
Printer 1-D1	16	2	
Printer 1-D2	37/S	3	
Printer 1-D3	15	4	
Printer 1-D4	36/R	5	
Printer 1-D5	14	6	
Printer 1-D6	22	7	
Start Print 1	20	8	
Printer 2-D0	42/X		1
Printer 2-D1	44/Z		2
Printer 2-D2	43/Y		3
Printer 2-D3	21		4
Printer 2-D4	17		5
Printer 2-D5	18		6
Printer 2-D6	39/U		7
Start Print 2	40/V		8

Diamond Cable 2

SIGNAL NAME	SHAFT ENCODER - PL5	PRINTER 1 - PL4	PRINTER 2 - PL3	PRINTER 3 - PL6	PRINTER 4 - PL7
0V	1	1	1	1	1
Stroke Go	2	2	2	2	2
+12V	5	4	4	4	4
Screen	Lug	5	5	5	5

Block Diagram

The following block diagram shows the connection of a Diamond system to four printers.



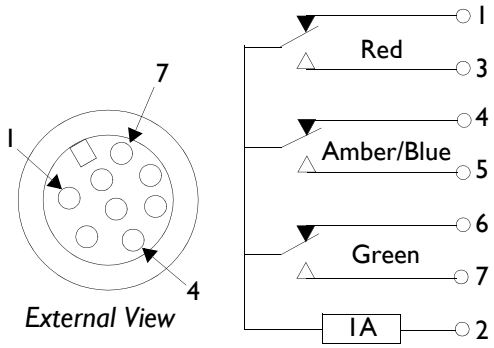
SELECTA SYSTEMS

Selecta systems can support one printer per egg chain. The Selecta system uses a master/slave system of printer operation, whereby all message and data control is carried out using the designated master printer, which supplies the slave printers with relevant information. The sync sensor and shaft encoder on the Selecta supply the master printer with print go information.

Print heads on Selecta systems are straight, using Selecta head bracketry.

The optional alarm outputs of any printer can be set as a line stop if required. The alarms output from the printer is as follows:

PINS	STATUS
1 - 2	Red alert not active
3 - 2	Red alert active
4 - 2	Amber/blue alert not active
5 - 2	Amber/blue alert active
6 - 2	Green status not active
7 - 2	Green status active

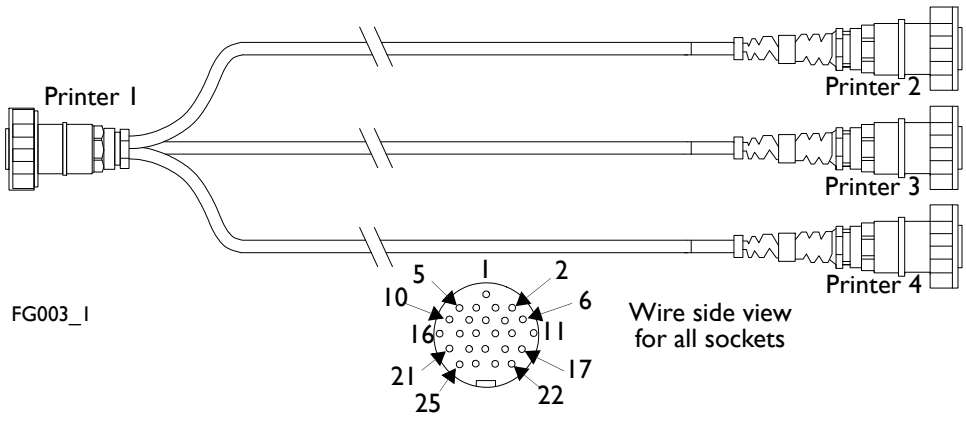


Alarm Kit Connections and Circuit

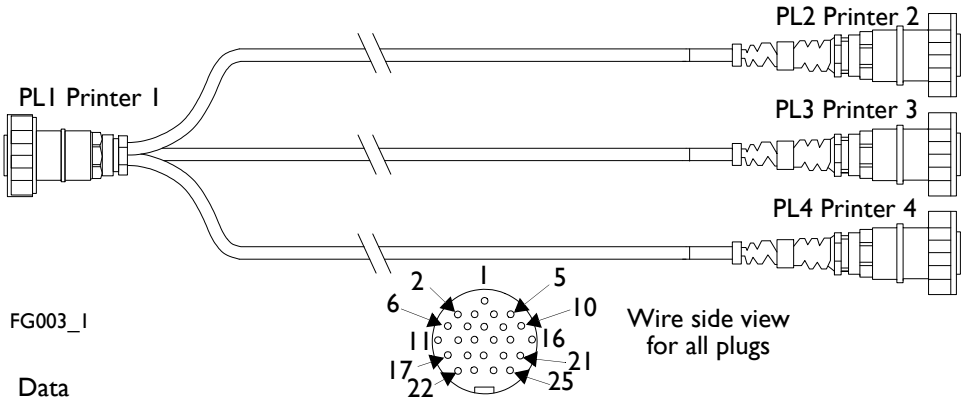
The number of printers used will depend on the Selecta grader in use. All systems require one master/slave cable, one Selecta system cable No. 1 and one Selecta system cable No. 2. A shaft encoder and cable are optional, except on new installations, where a shaft encoder and cable will be required. The sync sensor and AXR are also optional (this is normally supplied by Selecta, but without the AXR).

The shaft encoder on a Selecta system is mounted below the main egg chain on the cam, as shown in diagram on page 23.

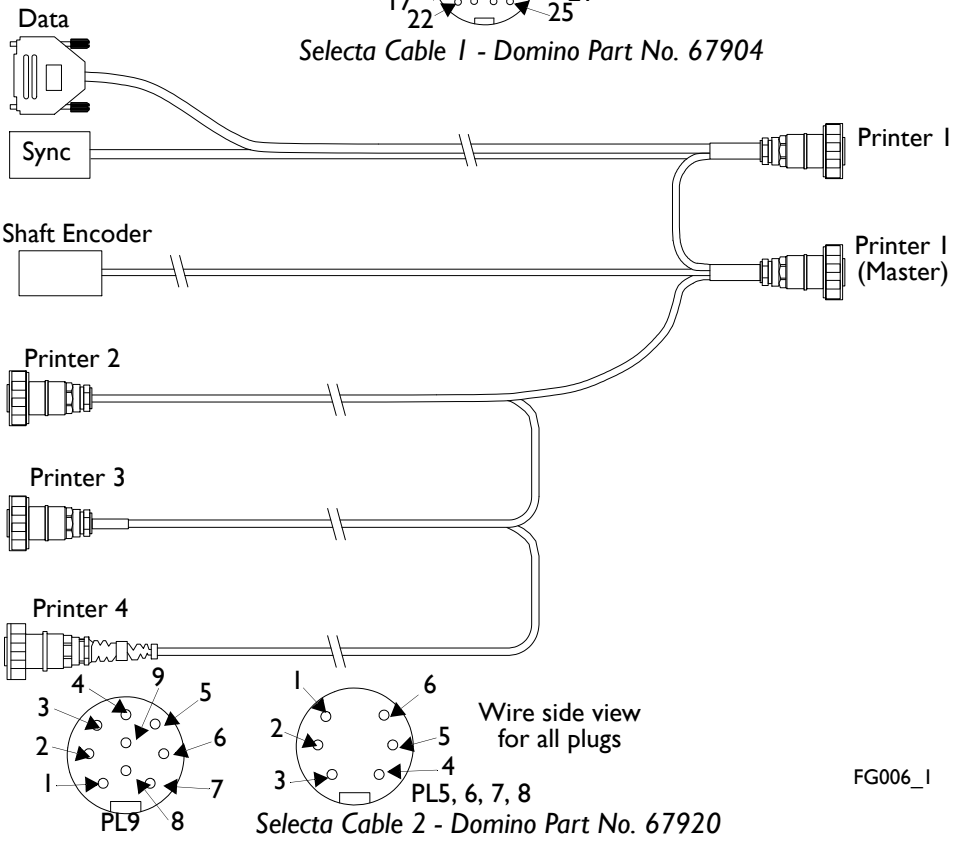
Cable Wiring Diagram



Master/Slave Cable - Domino Part No. 67905



Selecta Cable 1 - Domino Part No. 67904



Selecta Cable 2 - Domino Part No. 67920

Pin to Pin Connections

Selecta Cable 1

SIGNAL NAME	PRINTER 1 - PL1	PRINTER 2 - PL2	PRINTER 3 - PL3	PRINTER 4 - PL4
Printer 2-D0	1	1		
Printer 2-D1	2	2		
Printer 2-D2	3	3		
Printer 2-D3	4	4		
Printer 2-D4	5	5		
Printer 2-D5	6	6		
Printer 2-D6	7	7		
0V	24	24		
Printer 3-D0	9		1	
Printer 3-D1	10		2	
Printer 3-D2	11		3	
Printer 3-D3	12		4	
Printer 3-D4	13		5	
Printer 3-D5	14		6	
Printer 3-D6	15		7	
Screen	25	25	23, 25	24, 25
Printer 4-D0	17			1
Printer 4-D1	18			2
Printer 4-D2	19			3
Printer 4-D3	20			4
Printer 4-D4	21			5
Printer 4-D5	22			6
Printer 4-D6	23			7

Selecta Cable 2

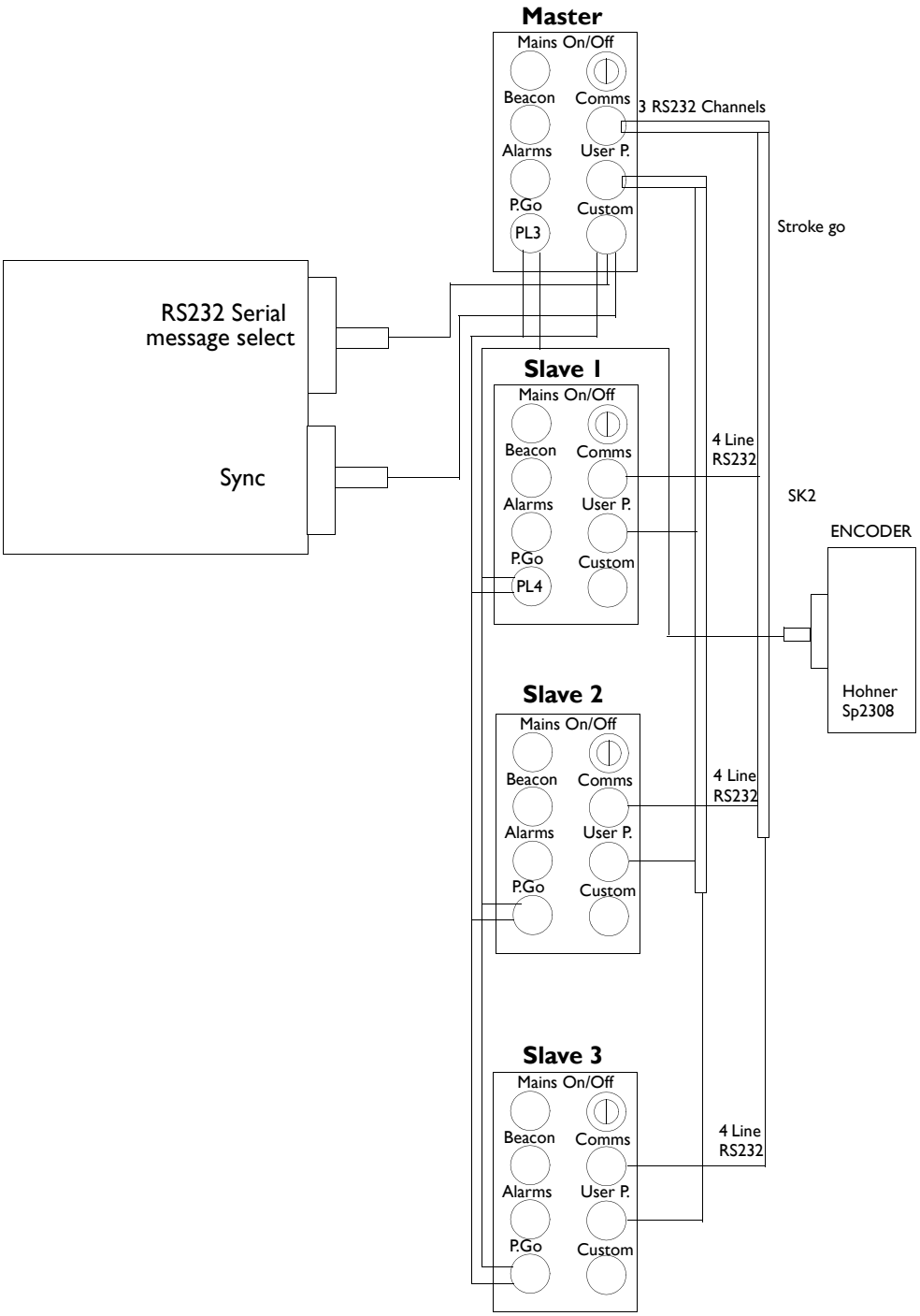
SIGNAL NAME	DATA SK1	SYNC SK3	SHAFT SK2	PRINTER 1 - PL9	PRINTER 1 - PL5	PRINTER 2 - PL6	PRINTER 3 - PL7	PRINTER 4 - PL8
0V		1	1		1	1	1	1
+12V		5	5		4	4	4	4
Stroke Go			4		2	2	2	2
Print Go				2	3	3	3	3
Screen	1			9				
RS232	2			1				
0V	7			4				
Sync		3		3				
Screen			Lug		5	5	5	5

Master Slave Cable

Refer to Table on page 25.

Block Diagram

The following block diagram shows the connection of a Diamond system to four printers.



REPAIRS

The egg coder specific repairs are detailed below. For all other repairs, refer to the relevant A-Series Operation and Maintenance Manual.

Egg Interface PCB Replacement

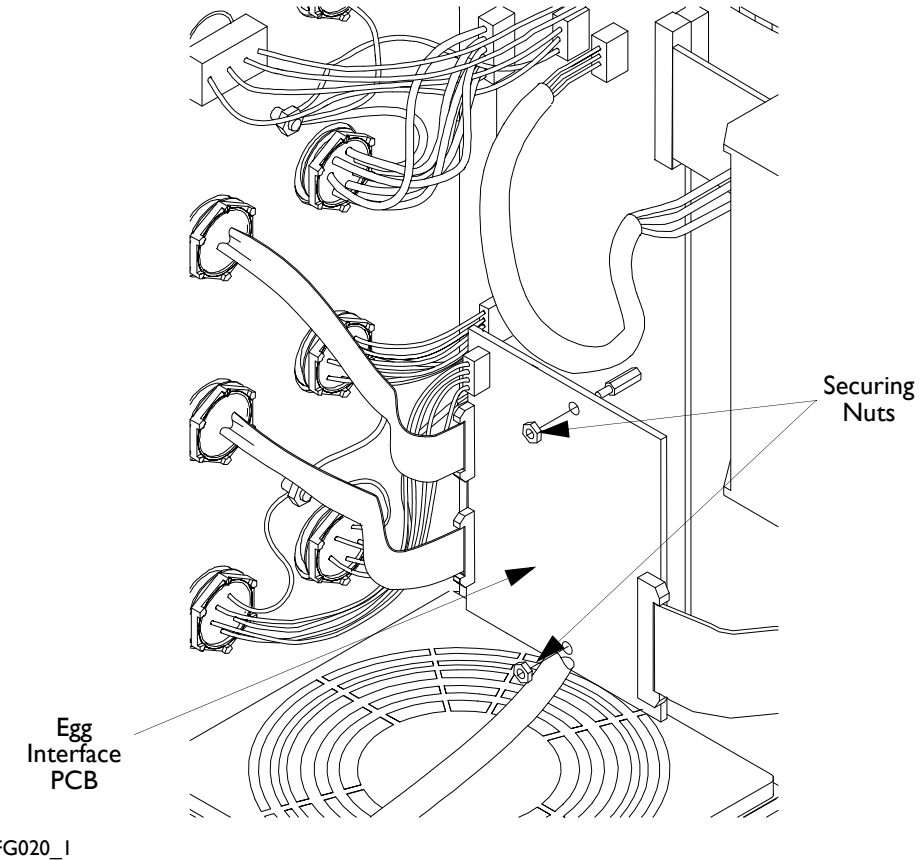
WARNING: **Remove power to the printer.**

CAUTION: *Anti-static precautions must be taken.*

(1) Remove all connections to the Egg Interface PCB.

(2) Remove the 2 nuts and washers securing the PCB and carefully pull the Egg Interface from the External Interface PCB.

Replacement is the reverse of removal.



Egg Interface PCB Replacement

PC104 Memory Expansion PCB Replacement

WARNING: **Remove power to the printer.**

CAUTION: *Anti-static precautions must be taken.*

(1) Remove the two screws securing the PC104 Memory Expansion to the Egg Controller PCB and carefully pull off the Memory PCB.

CAUTION: *When replacing, ensure no pins are bent or broken.*

Replacement is the reverse of removal.

PC104 Egg Controller PCB Replacement

WARNING: **Remove power to the printer.**

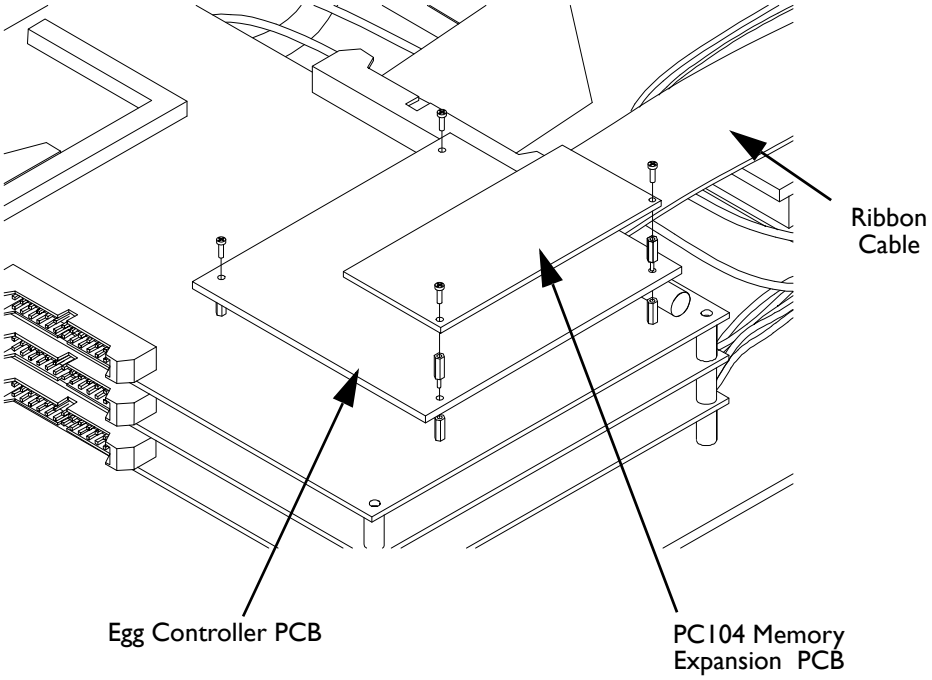
CAUTION: *Anti-static precautions must be taken.*

(1) Remove the PC104 Memory Expansion PCB as described above.

(2) Unplug the ribbon cable to the Egg Controller PCB.

(3) Remove the two screws and two stand offs securing the Egg Controller PCB, retain any washers for replacement.

Replacement is the reverse of removal.



PC104 Memory Expansion and Egg Controller PCB Removal

Inverter PCB Replacement

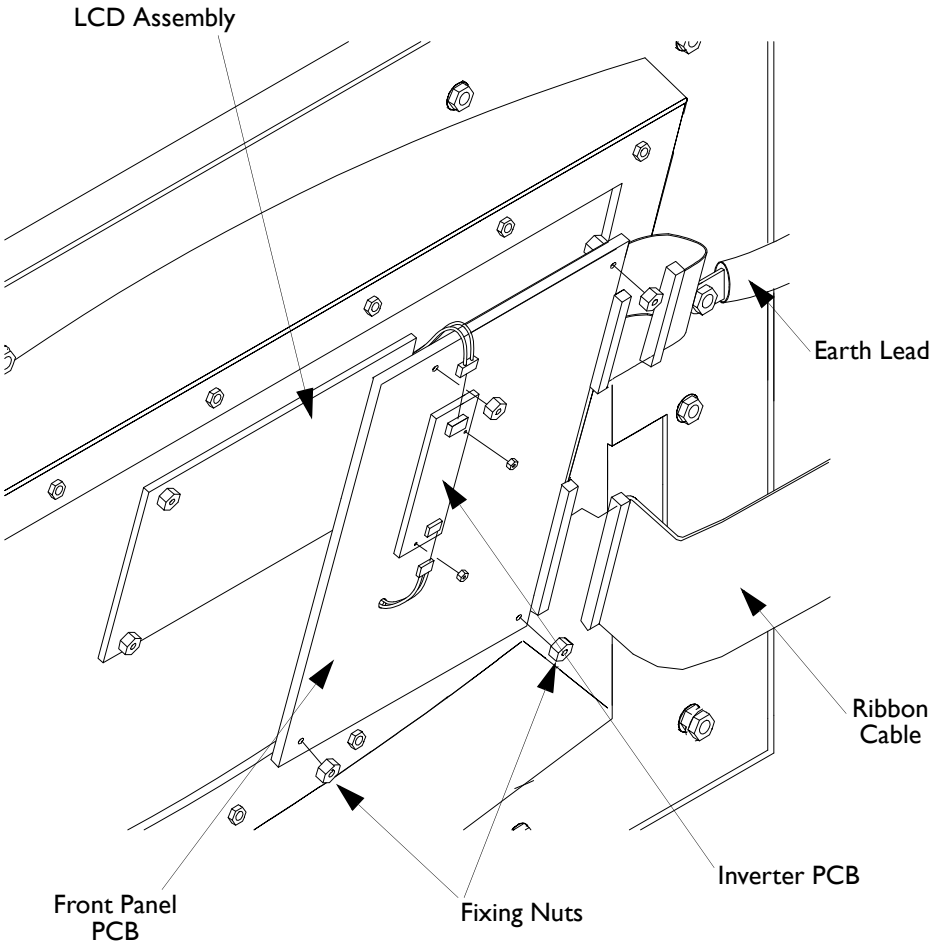
WARNING: **Remove power to the printer.**

CAUTION: *Anti-static precautions must be taken.*

(1) Remove the front panel cover, the ribbon cable and earth lead will slide through the slots in the cover.

(2) Disconnect the cables to the Inverter PCB.

(3) Remove the two nuts securing the Inverter PCB to the Front Panel PCB.



MG312_1

Inverter PCB Replacement

Front Panel PCB Replacement

WARNING: **Remove power to the printer.**

CAUTION: *Anti-static precautions must be taken.*

(1) Remove the front panel cover, the ribbon cable and earth lead will slide through the slots in the cover.

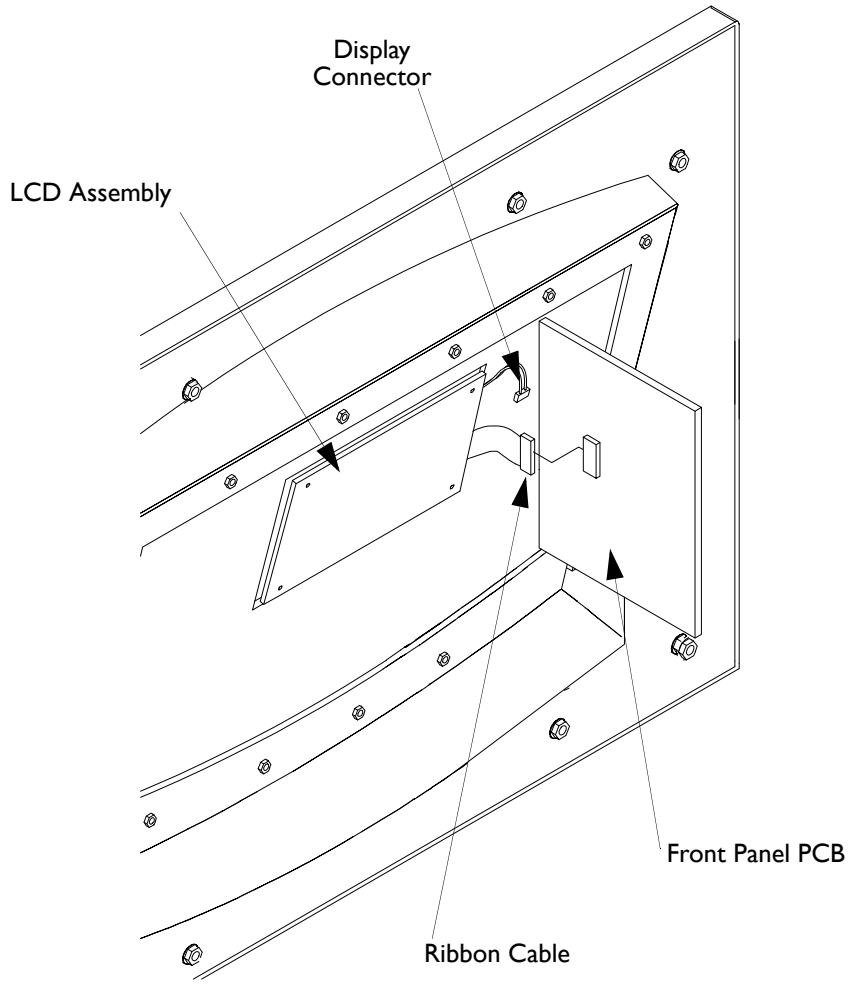
(2) Unplug the display connector to the Inverter PCB.

(3) Remove the four nuts securing the Front Panel PCB.

CAUTION: *When removing the Front Panel PCB, ensure that the ribbon cables on the rear are not damaged.*

(4) On the reverse side, remove the ribbon cables. The smaller ribbon cable requires the plug to be opened slightly to release the cable.

Replacement is the reverse of removal.



MG313_1

Front Panel PCB Replacement

LCD Assembly Replacement

WARNING: **Remove power to the printer.**

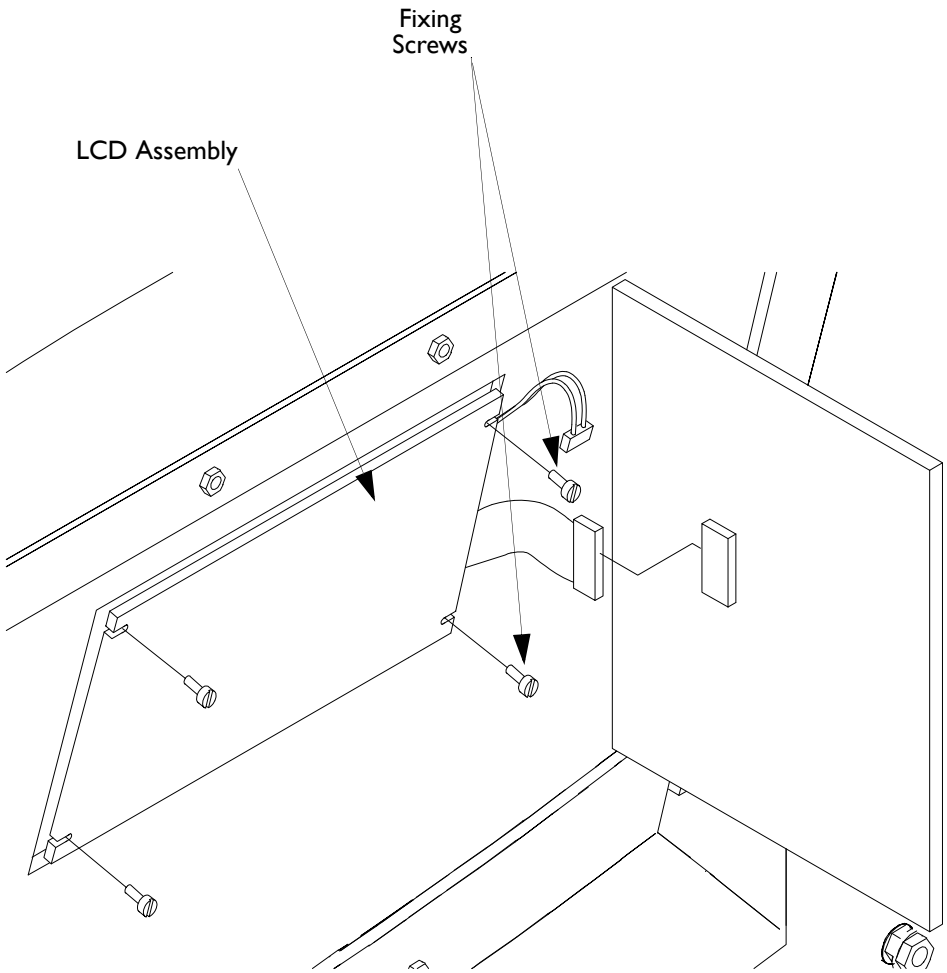
CAUTION: *Anti-static precautions must be taken.*

(1) Remove the front panel cover, the ribbon cable and earth lead will slide through the slots in the cover.

(2) Remove the front panel PCB as described on page 36.

(3) The LCD has slots. Remove the two screws on one side of the assembly, then whilst supporting the assembly, loosen the two screws on the opposite side of the assembly and remove.

Replacement is the reverse of removal.



MG320_2

LCD Assembly Replacement

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SPARES

CAUTION: *This section takes precedence over the A-Series Spares section, in case of duplicate parts.*

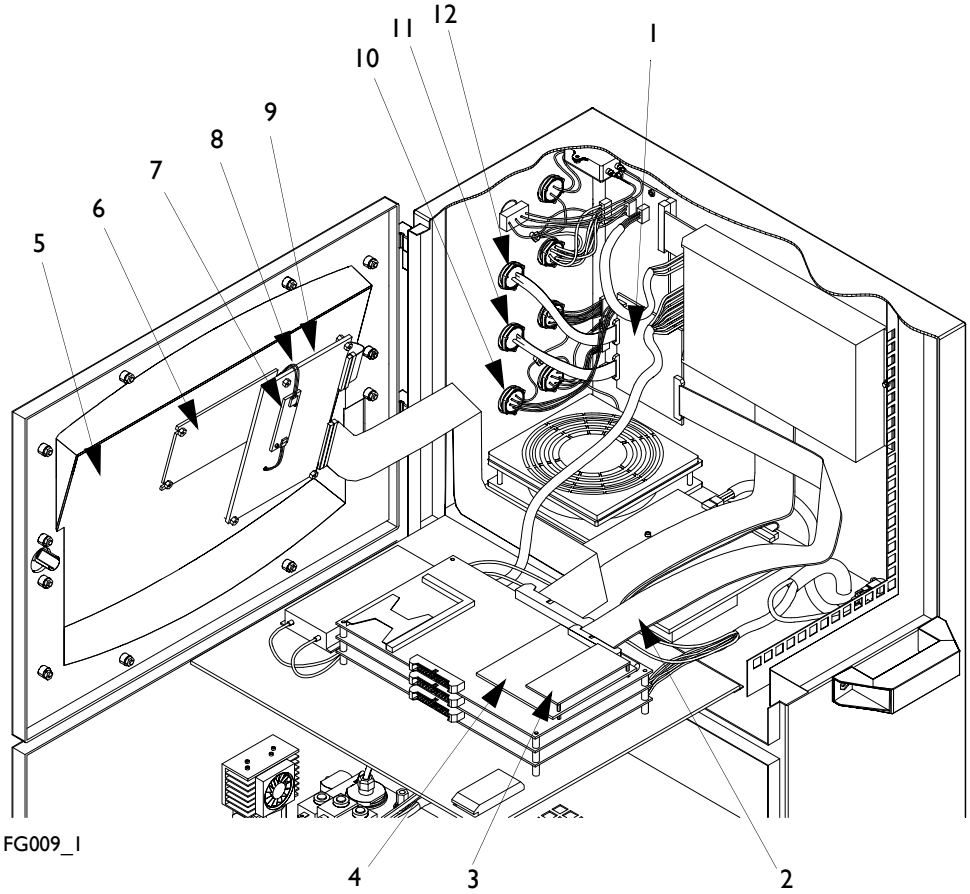
The following spares are egg coder specific. Refer to the Spares and Accessories section of the A-Series manual for all other spares.

Second Level Spares

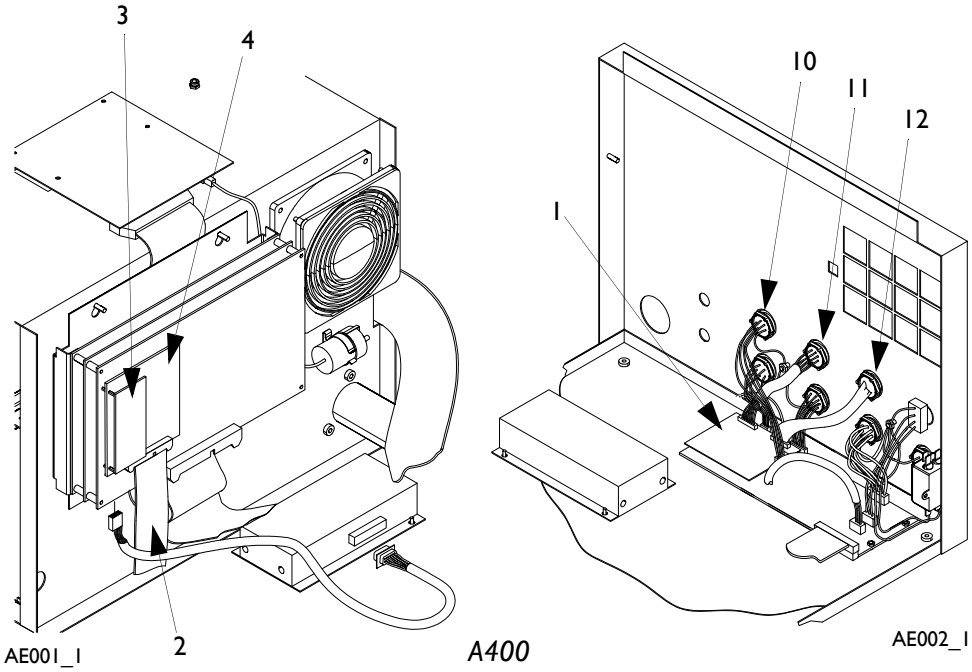
The following is a list of second level spares for all egg grader types, and are to be carried in conjunction with the spares given in the relevant operation and maintenance manual

General

25126	Egg Control PCB (PC104)	1
25112	PCB Assy A-Series Front Panel Asian	1



General and A200



A400

Electronics Cabinet

Electronics Cabinet

Item	Part No.	Description	Qty
(1)	25127	PCB Assy Egg Interface	1
(2)	67902	Cable Assy Egg Interface 34-way	1
(3)	25121	PC104 Memory Module	1
(4)	25126	PCB Assy PC104 Egg Controller	1
(5)	36675	European Keyboard Assembly Keyboard A300/A200	1
(6)	67772	Keyboard Assembly (European L/A) A400	1
(7)	37462	LCD Display ¼ VGA	1
(8)	37463	Inverter PCB Assembly for 37462	1
(9)	37838	Cable Assembly Inverter to SED (25112)	1
(10)	25112	PCB Assy A-Series Front Panel Asian	1
(11)	67900	Cable Assy Egg Comms Port 1	1
(12)	37740	Cable Assy User Port	1
(13)	67901	Cable Assy Egg Comms Port 2 (not shown)	1

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