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FCO

 Level of
 Urgency
 [I]

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FIELD CHANGE ORDER

Number: LQP45-I001

Applicability: This FCO covers ECO no. 3024268-00001 (ETBU LQ 0001) and ECO no. 3027268-00001A (ETBU LQ 0003). It applies to LQP45-Bs, with serial numbers lower than 1299 and Firmware Release R1.0, used mainly in the UK area, with the Corporate Versions (i.e. not B.E.V or local language versions) of RAINBOW/WPS+, or ALL-IN-1. It should only be used where problem symptoms (1) exists. See page 2 for further information.

Problem/Symptoms: 1. LQP45-B used with Corporate versions of RAINBOW/WPS+ or ALL-IN-1. a. LQP45 does not interpret ESC[;4m and ESC[;1m. b. Character " (042 octal) is interpreted as a terminator. c. LQP45 cannot work properly in proportional mode with LQP02 printer driver. See page 2 for further information.

Quick Check: See page 3.

Compatibility/Prerequisite FCO: See page 3.

 Est. Time to Install:
 0.7 hr.

Special Tools or Test Equipment: N/A

FCO Parts Information

Order by FCO Kit #	Contents		
	Quantity	Part Number	Description
EQ-01483-01	1		See page 3.
FA-04773-01	1		FCO Document

EQ Kit Variation/System-Option Applic: N/A

Approvals

CSSE Engineer Barto Perricone	F.S. Product Safety Hank Aaron	F.S. Logistics Dean Jones
Responsible CSSE Mgr. Ian Loughlin	F.S. Microfiche Libraries	Affected Population 100
MicroMedia Publishing Ray LeBlanc	EP-FSNVX-LB VAX EP-FSP11-LB PDP11 EP-FSPD8-LB PDP8	Initial Kitting 100

Revision: A	EP-FSLCG-LB LCG VAXnotes STARS	Hardcopy Publication 100
FCO Release Date 13-OCT-87		Parts Availability November 1987

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Applicability: Continued from page 1.

This FCO also integrates into the LQP45 some new features and capabilities (refer to Appendix A) as:

- a. Specific Daisywheel Family for Denmark and Norway.
- b. Teletex Function mainly for Germany.
- c. Orator and OCR-B fonts.
- d. ASF Bin Selection from Printer Console DIP-Switch in Self-test mode.

It should mainly be used in Denmark for LQP45-Bs with S.N. lower than 2092 and Firmware Release R1.0 or R1.1.

This FCO has to be installed in all CSCs and ILCs LQP45-B units in order to phase them with the LQP45s R2.0 delivered, and the new revisions of the LQP45 Videotape Training and F.S. and user Documentation.

Problem/Symptom: Continued from page 1.

2. Country Specific Requests:

- a. Characters A with ring and lowercase o with / is not correct for Denmark.
- b. Teletex Function for Germany.
- c. Orator and OCR-B fonts.

Symptoms: 1. LQP45-B used with the Corporate versions of RAINBOW/WPS+ or ALL-IN-1:

- a. Underline and bold printing do not work.
- b. Extra characters are printed.
- c. Tabs are lost.

Part affected by problem:

Printer Firmware:

- a. Printer Controller EPROM R1.0 (DEC. P/N 29-26187 Vendor P/N 723850 E PBWP) or R1.1 (DEC. P/N 29-26624 Vendor P/N 728386 E PCUW) on AT131 Main Logic Board.

b. Character Generator EPROM R1.0 or R1.1 (DEC. P/N 29-26186 Vendor P/N 723849 H PBWN) on IF 226 Serial Interface Board.

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Quick Check: Continued from page 1.

Any of the following indicate that this FCO is not needed.

- Self-test printout shows new FW EPROMs release level 2.0 or higher.
- Printer technical level label shows number 2 crossed.
- Firmware EPROM labels show R2.0 and PCUQ for Printer Controller EPROM and R2.0 and PCUR for the Character Generator EPROM.
- LQP45-B Printer Serial Number greater than 2091.
- LQP45-A Printers.

Compatibility/Prerequisite FCO: Continued from page 1.

Under all circumstances Microprogram EPROM and Character Generator EPROM must be at the same revision level.

FCO Parts Information: Continued from page 1.

FCO Kit #	Contents			
	Qty.	DEC P/N	Vendor P/N	Description
EQ-01483-01	1	29-26685	728388 Q	Printer Cont. EPROM R2.0 PCUQ
	1	29-26686	728389 R	Char. Gen. EPROM R2.0 PCUR
	1	N/A	724560 C	Internal Console Label
	1	EK-A0193-UG-001		Owner's Manual
	1	EK-A0193-OM-001		Owners's Manual Addendum
	1	EK-A0182-IN-002		UK Update Installation Guide
	1	EK-MULTI-IN-001		Multilingual Addendum for Installation Guide
	1	99-07877-01		Binder
FA-04773-01	1			FCO Document

```

*****
*                                     *
*                               NOTE   *
*                                     *
* The Customer must be informed sufficiently in advance before the FCO *
* installation, that in order to use the new LQP45 features (i.e.      *
* Teletex Function, Orator and OCR-B fonts, and DK/NW Specific        *
*                                     *
*****

```

* Daisywheels) relevant Daisywheel is required. Customer can order *
* them from DECdirect (see Appendix A for Daisywheel references). *
* Some character printout limitations exist depending on Daisywheel *
* used. This is shown in the User Documentation Update included in the *
* EQ Kit. *

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REWORK PROCEDURE

Refer to Quick Check and, if necessary, use LQP45 Pocket Service Guide EK-LQP45-PS-002 and perform the following :

* WARNING *
* Before removing any parts be sure that all power is removed from *
* the printer. *

1. Open the front and rear covers.

* CAUTION *
* Use proper ESD protection to protect module from static discharge.*

2. Remove the AT131 Main Logic Board (refer to Chapter 2, "FRU Removal and Replacement", of your LQP45 Pocket Service Guide).

3. Refer to Figure 1 for correct location of the Printer Controller EPROM to be removed and replaced.

4. Remove the Printer Controller EPROM and replace it with the new EPROM R2.0 (DEC P/N 29-26685 Vendor P/N 728388 Q PCUQ).

* NOTE *
* Check installed EPROM and insure that it is seated correctly and *
* that there are no bent pins. *

5. Remove the Mechanical Group (refer to Chapter 2, "FRU Removal and Replacement", of your LQP45 Pocket Service Guide) to access the IF 226 Serial Interface Board.

6. Refer to Figure 2 for correct location of the Character Generator EPROM to be removed and replaced on IF 226-M Serial Interface Board.

7. Remove the Character Generator EPROM and replace it with the new EPROM R2.0 (DEC P/N 29-26686 Vendor P/N 728389 R PCUR).

```
*****
*
*                               NOTE                               *
* Check installed EPROM and insure that it is seated correctly and *
* that there are no bent pins.                                     *
*****
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8. Re-install Mechanical Group and AT131 Main Logic Board (refer to Chapter 2, "FRU Removal and Replacement", of your LQP45 Pocket Service Guide).

9. Close the front and rear covers.

10. Open the Console cover and remove the Internal Console label. Install the new one included in the EQ-Kit (see Figure 4).

11. Set DIP-1 switches for National Character Set Selection (see Figure 5) according to National or Specific (Denmark/Norway) Daisywheel used. Refer to LQP45 Pocket Service Guide.

12. Reconnect Power Cord and Switch the Printer ON.

13. Perform LQP45 Self-test (Pitch Selector in position 4) and Serial Interface Test (position 6) in accordance with the LQP45 Pocket Service Guide. The self-test printout should now indicate the revision level 2.0 (L REL 2.0). Figure 6 and 7 show Self-test Printout using Specific DK/NW Daisywheel and ORATOR Daisywheel.

Note : Whole ORATOR or OCR-B Character Set printout cannot be printed in Self-test mode.

14. Set Pitch Selector in position 5 and perform Teletex-test in accordance with the LQP45 Pocket Service Guide. Figure 8 shows Teletex-test Printout using a Teletex Daisywheel.

15. Install ASF device, if available, and perform ASF Bin Selection Test in accordance with Chapter 6.6.4, "ASF Testing", of the LQP45 Pocket Service Guide (Refer also to Appendix A).

16. When all tests have been passed the installation is complete.
17. Update the Printer Technical Level label on the underside of the printer. Cross number 2 as shown in Figure 3.
18. Update the Site Management Guide to reflect this FCO.
19. Give to the Customer the LQP45 Updated User Documentation.
20. Report LARS activity as shown in Table 1.

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Figure 1 Printer Controller EPROM location

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Figure 2 Character Generator EPROM location

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Figure 3 Printer Technical Level label update

Figure 4 Internal Console Label

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d	i	g	i	t	a	l
_	_	_	_	_	_	_

Figure 5 National Character Set Selection

Figure 6 Self-test Printout with Specific DK/NO Daisywheel

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d	i	g	i	t	a	l	
-	-	-	-	-	-	-	-

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Figure 7 Self-test Printout using ORATOR Daisywheel

Figure 8 Teletex-test Printout using Teletex Daisywheel

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Table 1 LARS Reporting for Europe

EUROPE

Activity -	
Contract and Warranty	Y
Non Contract/Non Warranty	F
DEC Option	LQP45-B
Type of Call	M
Action Taken	I
Fail Area-Module-FCO-Comments	FCO LQP45-I001
Material Used	EQ-01483-01

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APPENDIX A

COUNTRY SPECIFIC DAISYWHEELS AND SPECIAL FONTS :

A. Denmark/Norway Specific Daisywheel Family :

The following Daisywheel set supports Denmark/Norway National Replacement Character Sets (NRC) and a part of the DEC Multinational Character Set.

DEC P.N.	DW DESCRIPTION
E0-LQP4X-ED	Pica 10
E0-LQP4X-EF	Livius 10
E0-LQP4X-EA	Courrier 10
E0-LQP4X-EB	Courrier 12
E0-LQP4X-EC	Italico 12
E0-LQP4X-EG	Letter Gothic 10/12
E0-LQP4X-EK	Orator

When printing with the above set, DIP 1 Switches must be set as follows :

Country	DIP-1 Setting			
	Sw 1	Sw 2	Sw 3	Sw 4
Denmark/Norway	OFF	ON	OFF	OFF

Note:

When the Printer operates through this setting :

1. DEC multinational is selected when LQP03 Identifier is set (DIP-2 Sw 4 ON).
2. NRC table when LQP02 Identifier is set (DIP-2 Sw 4 OFF).

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B. Special Fonts :

Additional Multinational type Daisywheels can be used with LQP45 R2.0.

DEC P.N.	DW DESCRIPTION
-----	-----
E0-LQP4X-CM	ORATOR
E0-LQP4X-CN	OCR-B

These two Daisywheels require Pitch selector to be set to position 9, marked "Special Fonts".

Notes :

1. The two fonts do not support the complete DEC Multinational set (Refer to Owner's Manual Update).
2. If OCR-B Daisywheel is used together with Optical Reading Systems read rate cannot be guaranteed.

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TELETEX EMULATION

Teletex mode needs the specific Teletex Daisywheel to be loaded.

DEC P.N.	DW DESCRIPTION
----------	----------------

E0-LQP4X-FT	Teletex
-------------	---------

The Teletex emulation is activated and reset through a pair of software commands :

ESC % 9	Enter Teletex
033 045 071	

When LQP45 enters Teletex mode of emulation the following printer parameters become active:

Parameter	Default
Horizontal pitch	Console setting
Vertical pitch	6 LPI
Form length	Console setting
Horizontal tabs	Every eight columns
Vertical tabs	Every eight lines
Left margin	Column 1
Right margin	Column 32
Top margin	Line 1
Bottom margin	Line 168

```

Active position      Line 168
New line mode       Disabled
Right margin wrap   Disabled
Underlining         Disabled
Bolding             Disabled
Shadow printing     Disabled
Positioning unit mode Disabled
Unsolicited status  Disabled

```

```

ESC  %  @      Return to DEC Mode
033 045 100

```

When this command is received the Default Power On printer parameters are reactivated (Refer to LQP45 Owner's Manual).

Note :

At Power ON the default emulation mode is DEC.

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Teletex Character Set :

1. Primary Control Set

LQP45 Teletex primary control characters form a subset of CO control characters (LQP45 Owner's Manual, Table C-1 page C-2) :

Character Mnemonic	Hex Value	Description
BS	08	Back Space
LF	0A	Line Feed
FF	0C	Form Feed
CR	0D	Carriage return
SUB	1A	Substitute (printer error character)
ESC	1B	Escape

2. Supplementary Character Control Set

LQP45 Teletex supplemental control characters form a subset of C1 control characters (LQP45 Owner's Manual, Table C-2 page C-3).

Character	Hex	Description
-----------	-----	-------------

Mnemonic	Value	
PLD	8B	Partial Line Down (Increment active line by half VAI)
PLU	8C	Partial Line Up (decrement active line by half VAI)
CSI	9B	Control Sequence Introducer

Note :

In Teletex mode the LQP45 DEC control command set is still operative except the following commands :

- Character set selection.
- Proportional spacing.

Teletex-test :

At Power On with Pitch selector to position 5, a Teletex-test is performed in the same way as the Operator Self-test position 4. In order to perform Teletex-test the Teletex Daisywheel is required.

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ASF BIN SELECTION TEST

With the Printer in Self-test mode (position 4 or 6 of the Pitch Selector), pressing the Local Switch (Printer in local mode) and then the Form Feed Switch will cause the following to occur :

If ASF1 is selected (refer to LQP45 Pocket Service Guide, Chapter 3 "Console and DIP-Switch Settings"), paper will be fed only from Bin 1 (Front Bin),

If ASF2 is selected, paper will be fed only from Bin 2 (Rear Bin),

If ASF3 is selected, paper will be fed only from Bin 3 (Envelope Bin).

Note :

You can feed paper from the Front Bin (Bin 1) only, if the Printer Firmware version is less than R 2.0.

Refer to LQP45 Pocket Service Guide for complete test procedure.

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