Honeywell

Five/Ten-Slot Module Service

LC13-500

CAUTION

Power must be removed from the module whenever you are removing or installing any board, including an I/O paddle board. Be sure that an I/O paddle board is installed in the correct slot; some boards have only one slot that they can be installed in without causing damage. I/O paddle boards plugged into the wrong slot can cause traces on the backplane to burn open.

2.2.2 Application Module Configurations

Table 2-7 — Application Module (AM) Factory Configurations Valid for R500

Type	P-MAD15-100		P-MAD16-200		P-MAD17-200	
Slot	Front	Rear	Front	Rear	Front	Rear
5						
4					QMEM-2	
3			EMEM-		AMR	AMR I/O
2 *Note 7*	LLCN	LCN I/O	LLCN	LCN I/O	LLCN	LCN I/O
1 *Note 5*	HPK2-3	*Note 6*	HPK2-3	*Note 6*	HMPU	*Note 6*

Type	P-MAD19-100 (Release 321 or later)		AM Redundancy	
Slot	Front	Rear	Front	Rear
5	QMEM-3			
4	QMEM-2		QMEM-1	
3	AMR	AMR I/O	AMR	AMR I/O
2 *Note 7*	LLCN	LCN I/O	LLCN	LCN I/O
1 *Note 5*	HMPU	*Note 6*	HMPU	*Note 6*

Application Modules upgraded from previous releases with upgrade kit MP-PROC2 will have one of the following configurations.

Table 2-8 — Application Modules Upgraded to R500 Configurations

Type	3 Megaword		4 Megaword		5 Megaword	
Slot	Front	Rear	Front	Rear	Front	Rear
5						
4						
3	AMR	AMR I/O	AMR	AMR I/O	AMR	AMR I/O
2	K2LCN-3	LCN I/O	K2LCN-4	LCN I/O	K2LCN-6	
1		*Note 6*		*Note 6*		

Type	6 Megaword		7 Megaword	
Slot	Front	Rear	Front	Rear
5				
4				
3	AMR	AMR I/O	AMR	AMR I/O
2	K2LCN-6	LCN I/O	K2LCN-8	LCN I/O
1		*Note 6*		*Note 6*

Note 5 HMPU and HPK2-2 boards are interchangeable except in the Redundant AM.
Note 6 Optional clock source/typer boards CS/R or MCPU I/O (see Table 2-5) may be included with any module type. Clock sources are generally placed in either the HG or NIM module.
Note 7 LCN and LLCN (Low Power LCN) boards are interchangeable.

CAUTION

Power must be removed from the module whenever you are removing or installing any board, including an I/O paddle board. Be sure that an I/O paddle board is installed in the correct slot; some boards have only one slot that they can be installed in without causing damage. I/O paddle boards plugged into the wrong slot can cause traces on the backplane to burn open.

2.2.19 Universal Station Configurations

Universal Stations upgraded from previous releases with upgrade kit MP-ZPROC4 or MP-ZPROC6 will have one of the following configurations. USs with Operator personality require 4 Mw of memory. USs with Universal personality require 6 Mw of memory.

Table 2-21 — Universal Station (US) Upgraded to R500 (Non CE Compliant)

Type	4 Mw (Operator)		6 Mw (Universal)	
Slot	Front	Rear	Front	Rear
5	EPDG	EPDG I/O	EPDG	EPDG I/O
4				
3				
2	K2LCN-4	LCN I/O	K2LCN-6	LCN I/O
1		*Note 6*		*Note 6*

Table 2-22 — Universal Station (US) Upgraded to R500 (Non CE Compliant)

Type	4 Mw (Operator)		6 Mw (Universal)	
Slot	Front	Rear		
10				
9				
8				
7				
6 *Note 11*	SIO	SIO I/O	SIO	SIO I/O
5 *Note 10*	(Do Not Use)		(Do Not Use)	
4	EPDG	EPDG I/O	EPDG	EPDGP I/O
3 *Note 9*	FDC	FDC I/O	FDC	FDC I/O
2	K2LCN-4	LCN I/O	K2LCN-6	LCN I/O
1		*Note 6*		*Note 6*

Note 6 Optional clock source/typer boards CS/R or MCPU I/O (see Table 2-5) may be included with any module type. Clock sources are generally placed in either the HG or NIM module.
Note 9 These slots may contain optional FDC & FDC I/O or SPC & SPC I/O boards.
Note 10 Do not use the slot above EPDG—use only certain boards in the 2nd slot above EPDG.
Note 11 SIO & SIO I/O boards are optional.

2.2.20 Universal Station Configurations (CE Compliant)

This module is only available in a Dual Node Module. Refer to *Dual Node Module Service*.

CAUTION

Power must be removed from the module whenever you are removing or installing any board, including an I/O paddle board. Be sure that an I/O paddle board is installed in the correct slot; some boards have only one slot that they can be installed in without causing damage. I/O paddle boards plugged into the wrong slot can cause traces on the backplane to burn open.

2.2.23 Universal Workstation Configurations

Universal Workstations upgraded from previous releases with upgrade kit MP-ZPROC4 or MP-ZPROC6 will have one of the following configurations.

Table 2-27 — Universal Workstation Updated to R500 (Non-CE Compliant)

Type	4 Mw (Operator)		Mw (Universal)	
Slot	Front	Rear	Front	Rear
5	EPDG	EPDG I/O	EPDG	EPDG I/O
4				
3				
2	K2LCN-4	LCN I/O	K2LCN-6	LCN I/O
1		*Note 6*		*Note 6*

Table 2-28 — Universal Workstation R500 (CE Compliant) Factory Built

Type	MP-UWSM07 4Mw (Operator) (68040)		MP-UWSM07 8Mw (Universal) (68040)	
Slot	Front	Rear	Front	Rear
5	EPDG	EPDGC	EPDG	EPDGC
4				
3				
2	K4LCN-8	CLCNC A/B*	K4LCN-6	CLCNC A/B*
1		*Note 6*		*Note 6*

Note 6 Optional clock source/typer boards CS/R or MCPU I/O (see Table 2-5) may be included with any module type. Clock sources are generally placed in either the HG or NIM module.

* CLCN A/B is the EC replacement for the LCN I/O board.

2.2.24 Universal Workstation Configurations (CE Compliant)

Information not available at this time.

B.2 RESTRICTIONS TO TOTAL REPLACEMENT

If you are contemplating the replacement of all HPK2 and EMPU processors in Five/Ten-Slot Modules, be aware that the Clock Source/Repeater board is the single point ground connection for the LCN cable shield. Therefore, even if the 12.5 kHz (Subchannel) clock function is not being used, a CS/R or other grounding means is still required on each coax segment.

Dual Node Modules can be connected to provide that single point ground without requiring a CS/R. See *Dual Node Module Service* in this binder. If there are no Dual Node Modules on the coax segment to provide that ground, then total replacement can only be accomplished by replacing two Five-Slot Modules with two Dual Node Modules.

B.3 PREREQUISITES

The system must be up and running on Software Release 320 or later before performing the processor replacement. You must have an LCN I/O card of revision T or later (either in the module or in spares). If the card in your module is an LCNFL, it (or one in spares) must be a revision F (or later).

B.4 NODE APPLICABILITY

Check that the K2LCN replacement is applicable to the intended node:

1. Visually confirm that there is **NOT** a Clock Source/Repeater (CS/R) board in the rear of the module. If there is a CS/R board and if it is necessary to replace the processor board in this node, replace it with the same type processor board. Obtain the same type processor board from the spare parts supply or from another node in the network. If you remove a processor from another node, replace it with a K2LCN per this procedure. Be sure, however, that the memory and other requirements of this procedure are met.

2. Check to be sure the processor to be replaced is not an HMPU (the HMPU cannot be replaced by a K2LCN).

3. For performance compatibility, processor board types in redundant node pairs should not be mixed. If you must replace a processor board and the affected node is one of a redundant pair, a K2LCN processor board must be installed in its partner also. See subsection B.6 below.

B.5 MEMORY SIZE

Determine the amount of memory in the node, including all memory boards and any memory on the processor board to be replaced. The replacement K2LCN must have at least this much memory. Having more memory is not a problem. Because the K2LCN board is available with different memory sizes, ensure you are installing the right size by comparing the tab portion (last three digits) of the part number on your board with the following table:

51401551-200 = 2 megawords	51401551-400 = 4 megawords
51401551-300 = 3 megawords	51401551-600 = 6 megawords