# Power775 Time of Day (TOD) Battery Service Procedure Last Modified 9/30/2011



# CONTENTS

1	GENERAL	4
1.1	RELEASE / REVISION HISTORY	4
1.2	WHERE TO FIND THIS DOCUMENT, AND CONTENTS OF THE PARENT PDF	4
1.3	REQUIRED DOCUMENTS	4
1.4	ABBREVIATIONS	5
2	OVERVIEW	6
2.1	SAFETY NOTICES	6
2.2	CONFIRM HOW YOU GOT TO THIS POWER 775 TIME OF DAY (TOD) BATTERY SERVICE PROCEDURE	6
2.3	TIME OF DAY (TOD) BATTERY DESCRIPTION	6
2.4	BACKGROUND	7
2.5	CONCURRENCY	7
2.6	TIME OF DAY (TOD) BATTERY WEIGHT	7
2.7	REQUIRED SSRs AND ROLES	7
2.8	ESTIMATED SERVICE TIME	7
2.9	P7IH HAND TOOL KIT REQUIRED TOOLS	7
2.1	) PREREQUISITES FOR THIS PROCEDURE	8
2.1	OVERVIEW OF PROCEDURE	8
3	SERVICE PROCEDURE	9
3.1	IDENTIFY CEC DRAWER REQUIRING BATTERY SERVICE <= SSR TASK	9
3.2	REMOVE BATTERY COVER AND BATTERY <= SSR TASK	12
3.3	INSTALL NEW BATTERY AND RE-INSTALL BATTERY COVER <= SSR TASK	13
3.4	VERIFY BATTERY INSTALLATION <= SSR TASK	16
4	END OF POWER775 TIME OF DAY (TOD) BATTERY SERVICE PROCEDURE	20
5	APPENDIX A: POWER775 BPC FSP COMMAND LINE PROCEDURE	21
5.1	PROCEDURE TO ACCESS THE BPC FSP COMMAND LINE	21
5.2	END OF APPENDIX A: POWER775 BPC FSP COMMAND LINE PROCEDURE	23

# **Figure List**

Figure 1	Blue Battery Cover Location	7
Figure 2	Battery Location with Blue Battery Cover Removed	7
Figure 3	Identify LED Selection	9
Figure 4	System Unit, Model F2C Selection	10
Figure 5	Battery Identify LED Selection in DCCA	11
Figure 6	Depressing Blue Battery Cover Tab	12
Figure 7	Removing Blue Battery Cover	12
Figure 8	Battery Removal	12
Figure 9	Battery Replacement	13
Figure 10	Replacing Blue Battery Cover	13
Figure 11	Replacing Blue Battery Cover Continued	14
Figure 12	Securing Blue Battery Cover	14
Figure 13	Manage Serviceable Events	16
Figure 14	Filter Serviceable Events	17
Figure 15	Serviceable Event Selection	18
Figure 16	Add comments panel	19
Figure 17	Close Serviceable Event	19

## **Table List**

Table 1	Release / Revision History	4
Table 2	Required Documents	4
Table 3	Abbreviations	5

# 1 GENERAL

#### 1.1 Release / Revision History

Document Name	Date	PDF name	Description
Power775 Time of Day (TOD) Battery Service Procedure	9/30/2011	"p775_tod_battery.pdf"	Initial Release

Table 1 Release / Revision History

## **1.2** Where to find this document, and contents of the parent PDF

The current Power775 Time of Day (TOD) Battery Service Procedure document is "p775\_tod\_battery.pdf" which is to be downloaded from:

InfoCenter Website: <u>http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7ee2/p7ee2kickoff.htm</u> Click "PDF files for the IBM Power 775 (9125-F2C) removing and replacing parts"

Under "CEC Drawer", click "Power775 Time of Day (TOD) Battery Service Procedure" to download PDF "p775\_tod\_battery.pdf"

This is the only valid source for the latest Power775 Time of Day (TOD) Battery Service Procedure.

#### **1.3 Required Documents**

Document	Doc Number	Location
Safety Notices http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7hdx/G229- 9054.pdf	Doc# G229-9054	InfoCenter *

#### Table 2 Required Documents

\*InfoCenter Website: http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7ee2/p7ee2kickoff.htm

## 1.4 Abbreviations

Abbreviation	Definition	Details
CEC	Central Electronic Complex	Also referred to as the node.
DCCA	Distributed Conversion and Control Assembly	The Power Supply for CEC and DE are call the CEC DCCA and DE DCCA respectively
DE	Disk Enclosure	
GPFS	Global Parallel File System	IBM's file system utilizing software RAID
HDD	Hard Disk Drive	This also means hard drive
LED	Light Emitting Diode	
РСВ	Printed Circuit Board	
RAID	Redundant Array of Inexpensive Disks	
SAS	Serial Attached SCSI	Protocol used for direct attached storage
SSR	System Service Representative	IBM Service personnel
SSD	Solid State Drive	
UEPO	Unit Emergency Power Off	

 Table 3 Abbreviations

# 2 OVERVIEW

This section is an overview only. Do not start the service procedure until Section 3 which contains the detailed steps.

#### 2.1 Safety Notices

Read "Safety\_Notices" available from InfoCenter at this link: http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7hdx/G229-9054.pdf

The following cautions apply to all Power775 service procedures:

#### **CAUTION:**

Energy hazard present. Shorting might result in system outage and possible physical injury. Remove all metallic jewelry before servicing. (C001)

#### **CAUTION:**

The doors and covers to the product are to be closed at all times except for service by trained service personnel. All covers must be replaced and doors locked at the conclusion of the service operation. (C013)

#### CAUTION: Servicing of this product or unit is to be performed by trained service personnel only. (C032)

The following notices specifically pertain to this Power775 service procedure.

#### **CAUTION:**

Only trained service personnel may replace this battery. The battery contains lithium. To avoid possible explosion, do not burn or charge the battery. Do not: Throw or immerse into water, heat to more than  $100^{\circ}$ C ( $212^{\circ}$ F), repair or disassemble. (C002)

# 2.2 Confirm how you got to this Power 775 Time of Day (TOD) Battery Service Procedure

You should be performing this procedure if

#### An SRC directed you to replace the battery

You should have downloaded this procedure from:

InfoCenter Website: http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7ee2/p7ee2kickoff.htm

This is the only valid source for the latest Power775 Time of Day (TOD) Battery Service Procedure

#### 2.3 Time of Day (TOD) Battery Description

Referring to Figure 1 and Figure 2 below, the Battery Cover and Battery are located at the middle right of each DCCA in all CEC drawers at the front of the system.



Figure 1 Blue Battery Cover Location



Figure 2 Battery Location with Blue Battery Cover Removed

## 2.4 Background

The battery provides Real Time Clock(RTC) function for the DCCA unit when 350VDC is not present on the DCCA power cables. When 350VDC is present at the DCCA power connection, the RTC function will be powered by a regulator within the DCCA circuitry. There is a blue cover placed over the top of the battery.

#### 2.5 Concurrency

The battery replacement is concurrently maintainable. The CEC will be powered on with 350 Volts DC during this procedure.

## 2.6 Time of Day (TOD) Battery Weight

The battery and battery cover have negligible weight.

#### 2.7 Required SSRs and Roles

This service procedure requires 1 SSR.

#### 2.8 Estimated Service Time

20 minutes

#### 2.9 P7IH Hand Tool Kit Required Tools

None

## 2.10 Prerequisites for this Procedure

In order to perform this procedure, you will need the following information:

- 1) The location code of the FRU to be serviced
- 2) The cage location of the FRU to be serviced
- 3) The frame number of the FRU to be serviced

#### 2.11 Overview of Procedure

This is an overview of the tasks to be performed. Read this overview but do not perform any of the tasks yet.

3.1	IDENTIFY CEC DRAWER REQUIRING BATTERY SERVICE <= SSR TASK	
3.2	REMOVE BATTERY COVER AND BATTERY <= SSR TASK	
3.3	INSTALL NEW BATTERY AND RE-INSTALL BATTERY COVER <= SSR TASK	
3.4	VERIFY BATTERY INSTALLATION <= SSR TASK	

# 3 SERVICE PROCEDURE

**NOTE**: 350VDC will remain active on the power cables of the CEC drawer when servicing the battery. If the 350VDC is powered off to the CEC Drawer while the battery is removed, you will need to re-set the clock after this service procedure.

## 3.1 Identify CEC Drawer requiring Battery Service <= SSR TASK

STEP 1 Identify with the customer and locate the HMC that manages the frame you will be performing this procedure on.

STEP 2 In the Navigation menu on the HMC, expand **Systems Management** then select **Servers** 

STEP 3 Place a checkmark in the Select column of the CEC Drawer that you want to flash the Battery Identify LED on.

STEP 4 From the **Tasks** menu *select* **Operations -> LED Status -> Identify LED**. See Figure 3.

System	s Manageme	nt > Servers				
Coloct.	Tasks bu	Menu tton	) (=	Filter Tasks 💌 Vi	ews 🔻	Available Bracessing Upits
Jeleci			Jiaiu	<b>a</b>	201	Available Frocessing office
	cec01	Properties		Operating		
	cec02	Operations		Power Off		
	cec03	Configuration		Power Management		
	Cec04	Connections		LED Status	٠.	Deactivate Attention LED
		Hardware Information		Schedule Operations		Identify LED
121	Cec05	Updates		Launch Advanced System Management (ASM)		Test LED
	cec06	Serviceability		Utilization Data		
	cec07	Capacity On Demand (CoD)		Rebuild		
	cec08			Change Password		

Figure 3 Identify LED Selection

STEP 5 In the window titled **Identify LED**, **Select Enclosure** *select* **System Unit**, **Model F2C** then *click* the List FRUs... button. See Figure 4.

⊌ bulab80: Identify LED - Mozilla Firefox: IBM Edition 🛛 📃 🗖 🔀							
ttps://bulab80.ppd.pok.ibm.com/hmc/wcl/T1946#tableTop_28242824							
Identify LED, Select Enclosure - ihc03 Select an enclosure from the table below and either operate against its Identify LED or display the selected enclosure's ERUs and operate against those Identify LEDs.							
Selected System: 9125-F2C*P7IH011							
🖉 😰 🛛 Select Action 💌							
Select Description ^ Enclosure Machine Type-Model/SN ^ Identify LED state ^							
<ul> <li>U78A9.001.9998887 System Unit, Model F2C</li> <li>Off</li> </ul>							
O U78AC.100.0AUS012 System Unit Bulk Power Assembly no LED present							
Activate LED Deactivate LED List FRUs Cancel Refresh Help							

Figure 4 System Unit, Model F2C Selection

STEP 6 In the window **Identify LED, Select Location**, place a checkmark in the Select column for the battery location for the appropriate LED. Figure 5 shows the example of replacing the battery in **U78A9.001.[Serial#]-P1-C147-E1** and then *click* the **Activate LED** button. To select for the battery in the lower DCCA of the CEC Drawer it would be **U78A9.001.[Serial#]-P1-C148-E1.** 

#### Identify LED, Select Location - cec01

The current Identify LED states for all the location codes contained in the selected enclosure are displayed below. Select a single location code or multiple location codes to operate against and activate or deactivate the LED(s) by selecting the corresponding button.

Selected System: Selected Enclosure: 9125-F2C\*02A5C26 System Unit, Model F2C, 78A9-001/1147002

Select	Location ^	Description ^	Identify LED State ^	
	U/8A9.001.114/002-P1-C146	SystemVPDCard	no LED present	
	U78A9.001.1147002-P1-C147	Distributed Converter and Control Assembly	Off	
	U78A9.001.1147002-P1-C147-E1	unknown	Off	
	U78A9.001.1147002-P1-C147-T1	unknown	no LED present	
	U78A9.001.1147002-P1-C147-T2	unknown	Off	
	U78A9.001.1147002-P1-C147-T3	unknown	Off	
	U78A9.001.1147002-P1-C147-T4	unknown	no LED present	
	U78A9.001.1147002-P1-C148	Distributed Converter and Control Assembly	Off	
	U78A9.001.1147002-P1-C148-E1	unknown	Off	
	U78A9.001.1147002-P1-C148-T1	unknown	no LED present	
	U78A9.001.1147002-P1-C148-T2	unknown	Off	
	U78A9.001.1147002-P1-C148-T3	unknown	Off	
	U78A9.001.1147002-P1-C148-T4	unknown	no LED present	
	U78A9.001.1147002-P1-C15	PCI Riser	Off	
	U78A9.001.1147002-P1-C16	PCI Riser	Off	
	U78A9.001.1147002-P1-C17	PCI Riser	Off	
	U78A9.001.1147002-P1-C18	MemoryDIMM	Off	
	U78A9.001.1147002-P1-C19	MemoryDIMM	Off	
	U78A9.001.1147002-P1-C2	PCI Riser	Off	
	U78A9.001.1147002-P1-C20	MemoryDIMM	Off	
	U7040 001 1147003 D1 C31	Momon/DIMM	Off	_

#### Figure 5 Battery Identify LED Selection in DCCA

STEP 7 Locate and confirm the Frame selected now has a flashing UEPO Switch LED and is the frame you plan to perform a service action on.

## **3.2** Remove Battery Cover and Battery <= SSR TASK

STEP 8 Open the front door of the frame.

STEP 9 Locate the battery to be replaced. This battery will have the amber colored battery ID LED illuminated which is included in the lower left of the blue battery cover. Be sure to leave the hoses connected to DCCA as it requires water cooling.

STEP 10 Remove the battery cover by first depressing the tab on the top of blue battery cover as indicated in Figure 6.



Figure 6 Depressing Blue Battery Cover Tab

STEP 11 While depressing the top tab, pull the top of the blue battery cover towards you while leaving the bottom tab engaged in the DCCA. Do this in a rocking fashion as seen in Figure 7. The last step is to pull the bottom of the blue battery cover out of the DCCA.



Figure 7 Removing Blue Battery Cover

STEP 12 Remove the old battery from the DCCA by gripping the top and bottom of the battery and pulling it straight back towards you as seen in Figure 8.



Figure 8 Battery Removal

## 3.3 Install new Battery and Re-install Battery Cover <= SSR TASK

STEP 13 Install the replacement battery into the battery slot by lining it up and pushing it into the DCCA as seen in Figure 9. Note that the Plus side of the battery faces down. The tabs of the battery holder will expand slightly as the battery slides into place. Be careful to note the orientation of the battery; inserting the battery incorrectly will cause mechanical damage to the battery holder.



Figure 9 Battery Replacement

- STEP 14 Verify that the new battery is seated tight to the back of the battery receptacle.
- STEP 15 Reinstall the blue battery cover.
  - a) Engage the bottom tab of the blue battery cover into the DCCA.
  - b) Raise the top right corner of the blue battery cover so it encases the connector housing as seen in Figure 10.
    - Be careful to note the alignment of the left and right sides of the cover such that the cover is not shifted compared to the opening.
  - c) Ensure the blue battery cover is lined up correctly by raising the top left corner up, as seen in Figure 11
  - d) Engage the top tab of the blue battery cover until it snaps into place as seen in Figure 12.



Figure 10 Replacing Blue Battery Cover



Figure 11 Replacing Blue Battery Cover Continued



Figure 12 Securing Blue Battery Cover

STEP 16 Verify that the blue cover is on securely by pulling gently on the cover. Note: do not depress top tab.

STEP 17 When the use of the Battery and UEPO Identify LEDs are complete, turn them off by selecting it in the list in **Identify LED, Select Location** and then *click* the **Deactivate LED** button.

- STEP 18 *Click* the **Cancel** buttons to close the **Identify LED** windows.
- STEP 19 Close the front door of the frame.

STEP 20 Use the procedure "Appendix: Power775 BPC FSP Command Line Procedure" (included in Section 5 of this document). Verify the accuracy of the Real Time Clock (RTC) and if necessary reset the RTC by executing the following commands on the BPC FSP Command line.

I. Determine the current Time Of Day (TOD) settings by executing the following command on the BPC FSP Command line.

rtim timeofday

II. If the TOD needs to be changed, execute the following command on the BPC FSP Command line.

rtim timeofday yyyyMMddhhmmss

Where:

- yyyy: Year (0001 9999) MM: Month (01 - 12) dd: Day (01 - 31) hh: Hour (00 - 23) mm: Minute (00 - 59) ss: Second (00 - 59)
- Confirm any changes by repeating the rtim timeofday command as necessary
- If time of day settings can not be properly set contact next level of support.

III. Log out of BPC FSP ASM

## 3.4 Verify Battery Installation <= SSR TASK

STEP 21In the Navigation menu on the HMC, expand Systems Management then selectServersSTEP 22STEP 22Place a checkmark in the Select column of the CEC Drawer that requires battery<br/>service.STEP 23From the Tasks menu select Serviceability -> Manage Serviceable Events. See<br/>Figure 13.



Figure 13 Manage Serviceable Events

STEP 24 In the window titled **Manage Serviceable Events**, make changes to the filtering as appropriate then *click* the **OK** button. See Figure 14.

🥹 bulab80: Manage Serviceable Events 💷 🗆 🔀					
ibm.com https://bulab80.ppd.pok.ibm.com/hmc/content?taskId=41&refre	]				
Manage Serviceable Events - ihc03         Use this window to specify selection criteria for the serviceable events you wish to view or manage. Only events that meet all the criteria that you specify will be displayed.         Event criteria         Serviceable event status:         * Open         Problem number:         * ALL					
Error criteria Reporting MTMS: * 9125-F2C/P7IH011 Failing MTMS: * ALL Reference code: * ALL Number of days to view: * ALL					
Field-Replaceable Unit (FRU) criteria Part number: * ALL Location code: * ALL OK Cancel Help					

Figure 14 Filter Serviceable Events

STEP 25 In the window titled **Manage Serviceable Events – Serviceable Event Overview**, *select* the Problem associated with the required battery replacement. Then *click* the **Selected** pulldown and choose **Close Event**. See Figure 15.

😻 bulab80: Mana	ge Serviceable Events	s - Mozi	lla Firefox: IBM Edi	tion 💷 🗆					
ttps://bulab80.ppd.pok.ibm.com/hmc/wcl/T7690#tableTop_da00da0									
Manage Serviceable Events - Serviceable Event Overview - ihc03									
<u>S</u> elected ▼			0						
This list shows all serv	viceable events that match you	r selection	criteria. Each event is grou	ped with all errors th	at				
are associated with th	at event. Use the menu bar ab	ove to per	form actions on the service	able event.					
Compact table view	N ○ Full table view								
	8 8 - Select Activ								
		лі <b>т</b>							
Select Problem # ^	PMH # ^ Reference code ^	Status ^	Last reported time ^	Failing MTMS ^					
565	<u>B15A3305</u>	Open	Aug 3, 2011 3:16:02 PM	9125-F2C/P7IH011	<u>^</u>				
436	14022052	Open	Aug 2, 2011 8:54:01 PM	78AC-100/0AUS012					
453	<u>1402B035</u>	Open	Aug 2, 2011 8:53:59 PM	78AC-100/0AUS012					
442	14020575	Open	Aug 2, 2011 8:52:39 PM	78AC-100/0AUS012					
441	<u>1402056C</u>	Open	Aug 2, 2011 8:52:10 PM	78AC-100/0AUS012					
452	14020573	Open	Aug 2, 2011 8:52:10 PM	78AC-100/0AUS012					
454	14022052	Open	Aug 2, 2011 8:30:35 PM	78AC-100/0AUS012					
366	<u>110000AC</u>	Open	Aug 2, 2011 7:42:41 PM	9125-F2C/P7IH011					
548	<u>B160B73F</u>	Open	Jul 29, 2011 10:32:01 AM	9125-F2C/P7IH011					
451	<u>14020082</u>	Open	Jul 28, 2011 8:55:37 PM	78AC-100/0AUS012					
551	B150B106	Open	Jul 28, 2011 12:13:01 AM	9125-F2C/P7IH011	_				
555	B181EF88	Open	Jul 28, 2011 12:09:02 AM	9125-F2C/P7IH011	~				
	Total: 184 Filtered	l: 184	Selected: 1						
View Search Criteria	View Search Criteria Cancel Help								

Figure 15 Serviceable Event Selection

STEP 26 In the window titled **Manage Serviceable Events – Enter Serviceable Event Comments,** fill in details as appropriate, then *click* the **Close Events** button. See Figure 16.

⊌ bulab80: Manage Serviceable Events - Mo 💷 🗖 🔀							
ibm.com https://bulab80.ppd.pok.ibm.com/hmc/wcl/T7690							
Manage Serviceable Events - Enter Serviceable Event Comments - ihc03							
Add comments for the serviceable event or events you are closing. Your name:							
Close Events Cancel Help							

Figure 16 Add comments panel

STEP 27 In the window titled **Manage Serviceable Events – Close Serviceable Events**, *click* the **Yes** button. See Figure 17.



Figure 17 Close Serviceable Event

- STEP 28 Click Cancel on the remaining screens until you are back to the main HMC screen,
- STEP 29 Execute the battery verification test on the CEC FSP Command line: registry -Hw rtim/BatteryAlertTime 0x0000000

STEP 30 Check the HMC for any new battery Serviceable Events.

- If no new battery Serviceable Events show up on this DCCA within 3 minutes of executing STEP 29, then the procedure is complete.
- If a new battery Serviceable Events is created within 3 minutes of executing STEP 29, then the procedure failed and you must have not successfully completed the procedure. Complete the service procedure again until this step shows no new battery Serviceable Events in this DCCA.
- If you continue to have a serviceable event on this DCCA, contact next level of support.

# 4 END OF POWER775 TIME OF DAY (TOD) BATTERY SERVICE PROCEDURE

# 5 APPENDIX A: POWER775 BPC FSP COMMAND LINE PROCEDURE

## 5.1 Procedure to Access the BPC FSP Command Line

- 1. The HMC can be accessed via the keyboard/display that resides in the network management rack.
- 2. Login to the HMC if not done already.
- 3. In the HMC navigation pane, expand 'Systems Management' + sign and then click 'Frames':

	Hardware Management Console							
<b>→</b>		Systems Management > Frames						
	Welcome Systems Management Servers		Filter					
		Select Name	^ ∫ Status					
		frame04	Standby/Standby					
	Erames		Max Page Size: 500 Total:					
	System Plans							

4. From the Tasks Menu right-arrow pull-down menu, click **Operations → Launch Frame Advanced Systems Management (ASM)** 

#### Systems Management > Frames

Task Menu		Filter Tasks 🔻
Select Name		^ ∫ Status
✓ frame04 Properties		Standby/Standby
Operations	►	Initialize Frame(s)
Configuration	•	Rebuild
Connections	►	Change Password
Updates	×	Power off unowned VO drawers
Serviceability	•	Launch Frame Advanced System Management (ASM)
		<u>d</u> u)

5. From the Launch ASM Interface window, select SIDE\_A for the 'Frame IP Address' then click the OK button.



6. The ASM login window is presented. Acquire the necessary User ID and Password.

"celogin" requires Daily PW from the IBM Support Center.

"celogin1" might be has enabled by the customer. If so, obtain the password from the customer.

- 1. Enter User ID
- 2. Enter Password
- 3. Click Log in button



7. Expand 'System Service Aids' + sign and Select 'Service Processor Command Line'.

IEM. Advanced Sy	ystem Management	right © 2002, 2011 IBM Corporation. All rights reserved.
Log out User ID: celogin1	frame04	AP730_033
<ul> <li>Expand all menus</li> <li>Collapse all menus</li> <li>System Service Aids Error/Event Logs Service Processor Dump Reset Service Processor</li> <li>Service Processor Command Line</li> <li>System Information</li> <li>System Configuration</li> <li>Network Services</li> <li>Login Profile</li> </ul>	Service Processor Command Line Attention: Command entered will be executed on the service processor. Execute Clear	0

- 8. The ASM BPC FSP Command line will be presented. Enter the commands defined in the paper service procedures at this command line and press the Enter key (or click the **Execute** button).
- 9. Return to the step of the paper service procedure that directed you to this Appendix.

#### 5.2 End of Appendix A: Power775 BPC FSP Command Line Procedure