

# Guide: Serial number change for BLECF

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## 1. Discover the new serial

In general, the person responsible for the exchange of the card has the serial number since it is printed on the front panel.

As soon as the card is installed and starts transmitting data, we can double check. From the Status application we check that the serial read online from the card is correct, i.e. equal to the one installed.

*NOTE: the example covers the exchange of the BLECF serial in the crate SR6.R and card 9 A*

Name	Dump A	Dump B	L1 CRC ...	L1 CRC ...	L2 CRC ...	L2 CRC ...	CRC Comp ...	CRC Comp ...	CID Comp ...	CID Comp ...	FID Comp ...	FID Comp ...	L1 Lost A	L1 Lost B	L2 Lost A	L2 Lost B	CID A	CID B	
Card 01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	198	165	
Card 02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	159	542	
Card 03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	164	147	
Card 04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	527	730	
Card 05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	532	569	
Card 06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	274	301	
Card 07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	563	
Card 08	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	566	295	
Card 09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	242	540	
Card 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	234	555	
Card 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	564	Value = 242	
Card 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	561	
Card 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	565	210	
Card 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	154	356	
Card 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65535	0	65535	176	0
Card 16	Not Pres...	Not Pres...	Not Pres...	Not Pres...	Not Pres...	Not Pres...	Not Present	Not Present	Not Present	Not Present	Not Present	Not Present	Not Pres...	Not Pres...	Not Pres...	Not Pres...	Not Pres...	Not Pres...	Not Pres...

## 2. Insert serial in the database

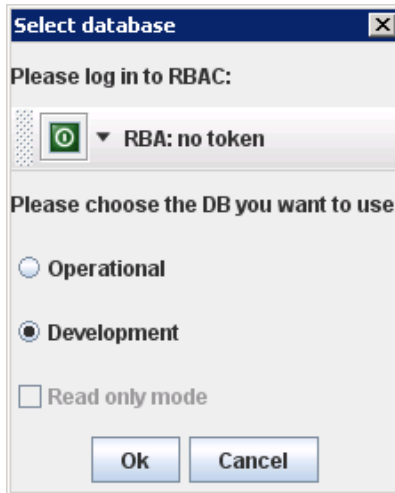
### 2.1. Internal parameters application

The internal parameters application allows the insertion of settings in the database.

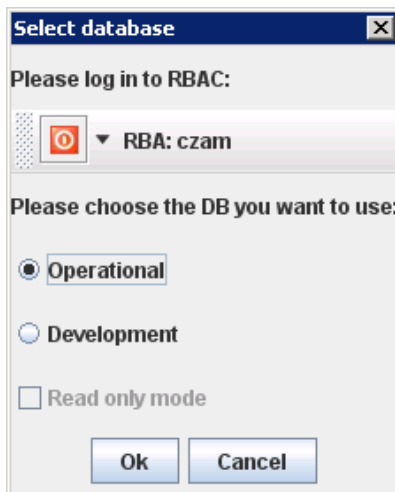
- a) Start the internal parameters application from the following url:

[http://bdidev1/bdisoft/operational/applauncher.php?launch=BLMInternalParametersApp\\_V2](http://bdidev1/bdisoft/operational/applauncher.php?launch=BLMInternalParametersApp_V2)

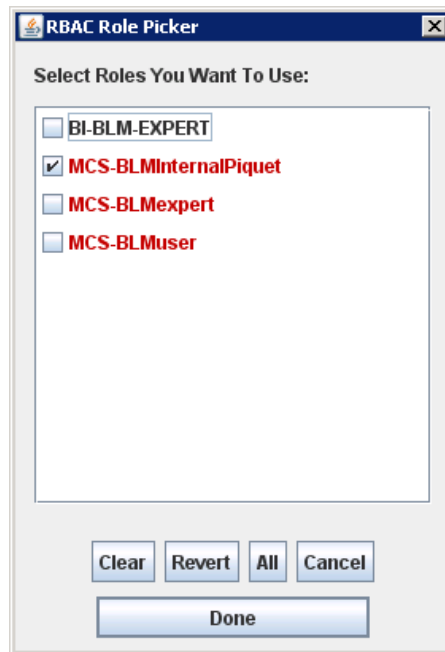
- b) First window asks to choose the database:



- c) Select the "**Operational**" and choose the appropriate Access Role:



d) You need the **MCS-BLMInternalPiquet** selected only.



Application starts and the interface present:

- tabs with groups of parameters,
- a set of buttons for the propagations between tables.

**Note:** *the database uses staging for introduction of data.*





**INFO:** The new value should appear marked in blue colour as well as in the log panel.

The screenshot shows the 'Internal Parameters' application window. At the top, it displays 'Accelerator Mode: PROTHYS' and 'Beam Mode: NOBFAM'. Below this, there are tabs for 'Common parameters', 'Parameters per IP', 'Parameters per Monitor', 'Serial Numbers', and 'Master View'. A search field contains 'HC BLM SR6 R'. The main area is divided into two sections: 'Stage' and 'Final', each containing a table with columns for 'BLECF1', 'BLECF2', and 'BLETC'. The 'Stage' table has a row for 'Card 9' with a value of 242 highlighted in blue. The 'Final' table has a row for 'Card 9' with a value of 540. Below the tables is a 'Log' panel showing a series of messages, including the final one: '[14-07-2011 10:53 AM] (Serial Numbers\Final table) - Row: 9 Col: 0-->Value 242 was correctly updated'.

Card	BLECF1	BLECF2	BLETC
Card 1	198	165	7926335405143564033
Card 2	159	542	6701356306499622145
Card 3	164	147	7349874652946896252
Card 4	527	730	13114482175875650817
Card 5	532	569	612489554196600577
Card 6	274	301	15348267591048020481
Card 7	19	563	504403219237901825
Card 8	566	295	11385099918961443329
Card 9	242	540	136099131702050845
Card 10	234	555	9655717662051465729
Card 11	561	557	720576001351883041
Card 12	63	561	8646911345524087297

- i) Press button "**Stage to Final**" to propagate the value in the FINAL LSA tables
- j) Press button "**Final to Master**" to propagate the value in the MASTER LSA tables

The screenshot shows the 'Internal Parameters' application window. At the top, there are tabs for 'Compare stage with final', 'Stage -> Final', 'Final -> Master', and 'Final -> Stage'. Below these are fields for 'Accelerator Mode: PROIPHY5', 'Beam Mode: NOREAM', and 'Beam 1 Present: NO'. A search field contains 'HC.BLM.SR6.R'. The main area displays two tables: 'Stage' and 'Final'. Both tables have columns for 'Card', 'BLECF1', 'BLECF2', and 'BLETC'. The 'Log' window at the bottom shows a series of timestamped messages indicating data reading and processing for various tables and crates.

Card	BLECF1	BLECF2	BLETC
Card 1	198	165	7926335405143564033
Card 2	159	542	6701356306499627145
Card 3	164	147	7349874652040896257
Card 4	527	730	13114482315075650817
Card 5	539	569	612489554196600577
Card 6	274	301	15348267591048020481
Card 7	19	563	504403719237961825
Card 8	566	295	11395069910961443329
Card 9	242	540	1369094347692050945
Card 10	234	555	9655717662051465729
Card 11	564	557	726576091351863041
Card 12	63	561	8648911345524087297

*INFO: the database changes have now been completed. Next steps are to Generate the Settings and Drive them to the electronics.*

### 3. Generate and Drive the settings

The generation application collects the data from the multiple tables and produces groups of those data per crate signed with a private key calculated by the user role.

The drive application is used to send and flash the parameters on each crate. The front-end receives the data and distributes them per card's flash memory.

*Note: after the send to final action the timestamps for the data stored in the DB have been changed, therefore it is necessary to re-generate and drive the settings for both the BLECS and BLETC modules.*

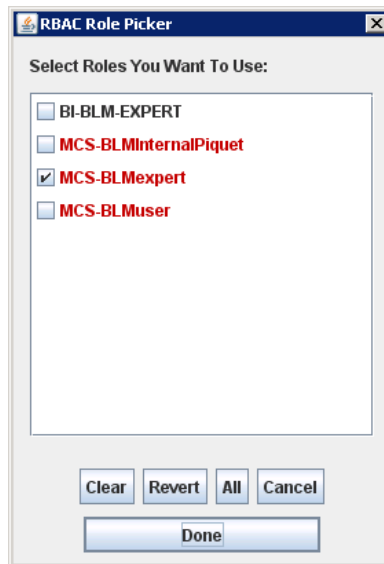


### 3.1. Generation application

- a) Start the generation application from the following url:

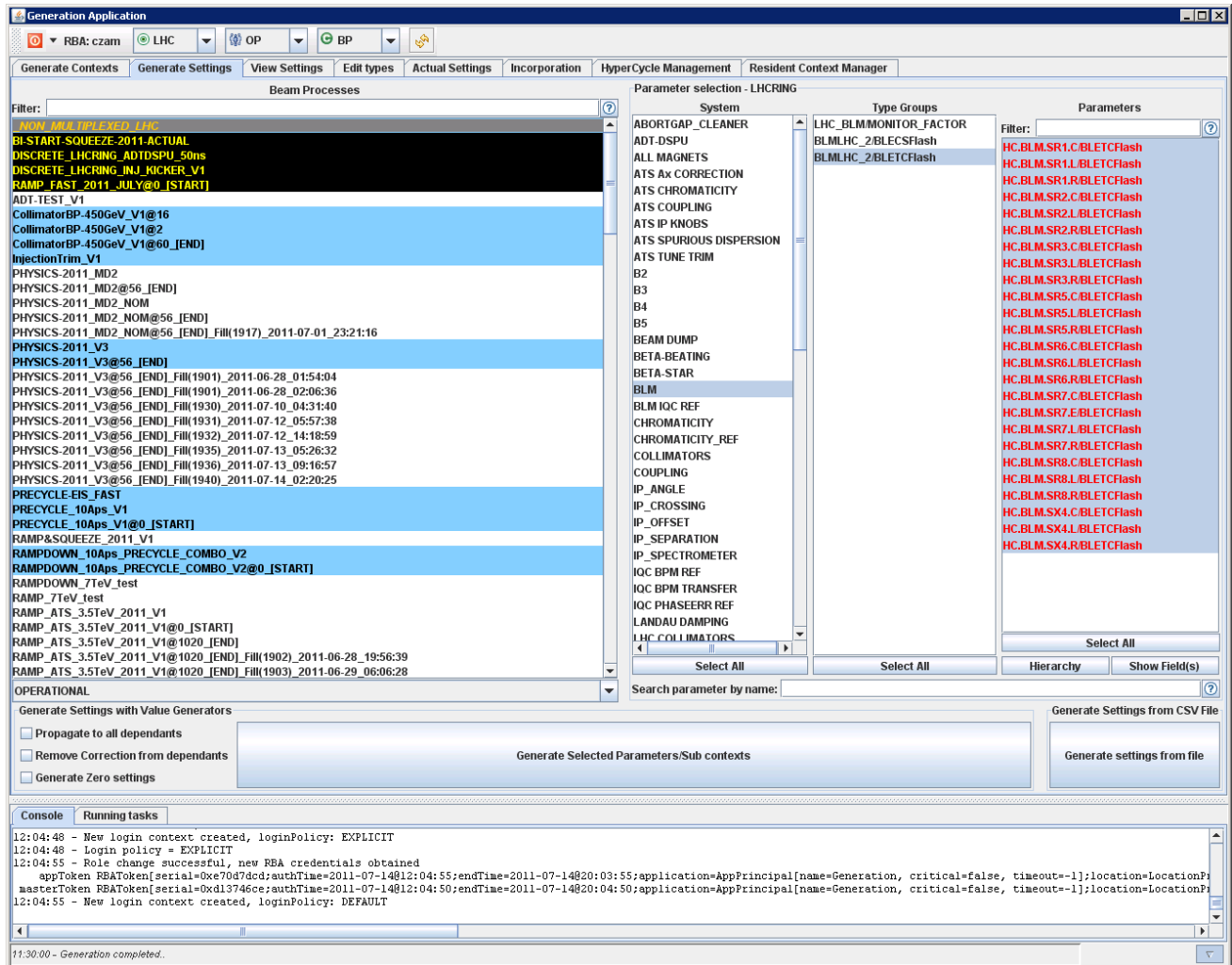
<http://slwww.cern.ch/%7Epcrops/releaseinfo/pcropsdist/Isa/Isa-app-generation/NEXT/Isa-global-generation-3t.inlp?accelerator=LHC&contextfamily=beamprocess&Isa.server=lhc>

- b) Choose the appropriate Access role (RBAC): **MCS-BLMexpert**



- c) Choose tab "Generate Settings"  
d) From the "**Beam Process**" (left) panel select "`_NON_MULTIPLEXED_LHC`"  
e) From the "System" panel select "BLM"  
f) From the "**Type Groups**" select "`BLMLHC_2:BLECSFlash`"  
g) From the "**Parameters**" press the "Select All" button.  
h) Press the (large) button "Generate Selected Parameters/Sub contexts"

- i) Continue with the generation of the BLETC module parameters:
- j) From the "**Type Groups**" select "**BLMLHC\_2:BLETCFlash**"
- k) From the "**Parameters**" press the "Select All" button.
- l) Press the (large) button "Generate Selected Parameters/Sub contexts"



*INFO:* In the console part of the window the log will have similar to the following messages:

11:25:34 - Generating settings for '\_NON\_MULTIPLEXED\_LHC'

11:25:36 - Generation completed..

11:26:06 - Generating settings for '\_NON\_MULTIPLEXED\_LHC'

11:30:00 - Generation completed..

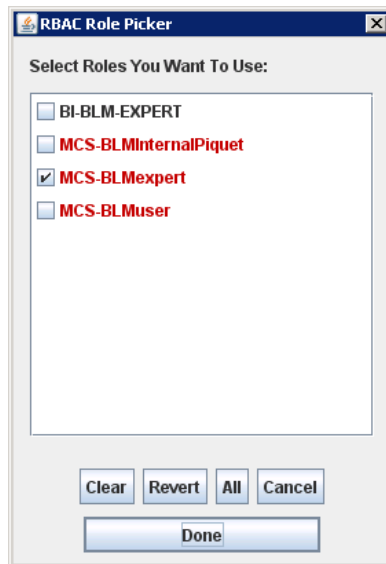
*INFO:* Generation of Settings has now been completed ---

## 3.2. Drive Application

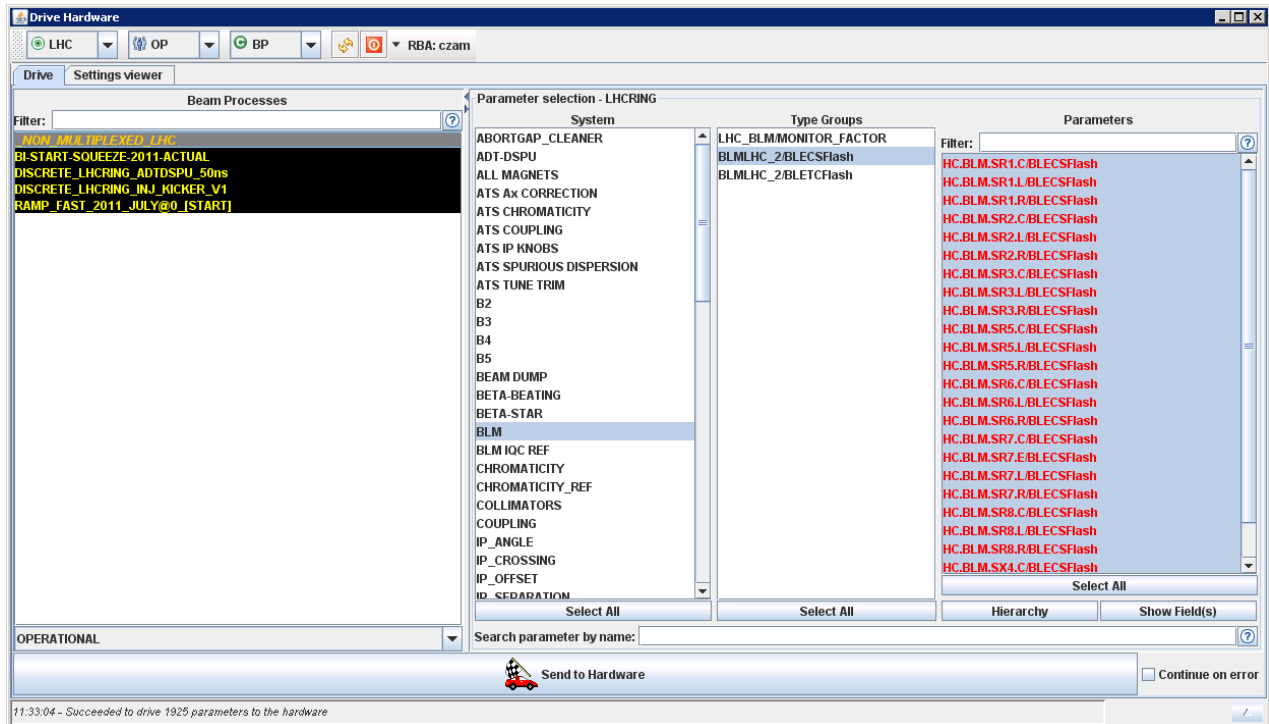
- a) Start the Drive application from the following url:

<http://slwww.cern.ch/%7Epcrops/releaseinfo/pcropsdist/lisa/lisa-app-trim/PRO/lisa-drive-hardware-3t.inlp?accelerator=LHC&contextfamily=beamprocess&lisa.server=lhc>

- b) Choose the appropriate Access role (RBAC): **MCS-BLMexpert**



- c) Choose tab "**Drive**"
- d) From the "**Beam Process**" (left) panel select "**\_NON\_MULTIPLEXED\_LHC**"
- e) From the "**System**" panel select "**BLM**"
- f) From the "**Type Groups**" select "**BLMLHC\_2:BLECSFlash**"
- g) From the "**Parameters**" press the "Select All" button.
- h) Press the (large) button "**Send to Hardware**"



- i) Continue with the drive of the BLETC module parameters:
- j) From the "**Type Groups**" select "**BLMLHC\_2:BLETCFlash**"
- k) From the "**Parameters**" press the "Select All" button.
- l) Press the (large) button "**Send to Hardware**"

*INFO: Drive of Settings has now been completed.*

#### 4. Final steps

- a) Close all applications - especially the database access and expert applications.
- b) Request from the operators to execute the Sanity checks from the sequencer.