

Cards Capacity and Dynamic Buffer Size

from firmware versions 2012

1. Cards Capacity

The cardholders' capacity depends on the ROM as shown in the following table:

Cardholders Capacity											
ROM Label	IC1000	IC1000 (2M)	IC2000	IC4000	IC2000 DR	IC4000 DR	IC2001 (512K)	IC4001 (512K)	IC2001 (2M)	IC4001 (2M)	IC550 (2M)
xxx5	2048	2048	2048	2048	2048	2048	2048	2048	2048	2048	2048
xxx3	4352	4352	4352	4352	4352	4352	4352	4352	4352	4352	4352
xxx6	5120	5120	5120	5120	5120	5120	5120	5120	5120	5120	5120
xxx4	6400	6400	6400	6400	6400	6400	6400	6400	6400	6400	6400
xxx1	8704	8704	8704	8704	8704	8704	8704	8704	8704	8704	8704
xxx7	-	10240	10240	10240	10240	10240	10240	10240	10240	10240	10240
xxx2	-	20480	20480	20480	20480	20480	20480	20480	20480	20480	20480
xxx8	-	32512	32512	32512	32512	32512	32512	32512	32512	32512	32512
xxx9 ¹	-	44544	44544	-	44544	-	44544	44544	44544	44544	44544
xxxA	-	60928	-	-	-	-	-	-	60928	60928	60928
xxxB	-	81920	-	-	-	-	-	-	81920	81920	81920
xxxC	-	102400	-	-	-	-	-	-	102400	102400	102400
xxxD	-	118784	-	-	-	-	-	-	118784	118784	118784
xxxE ¹	-	163776	-	-	-	-	-	-	163776	163776	163776

Note 1: ROM xxx9 with 512K memory and ROM xxxE with 2M memory supports card code of **8 digits** only and restricted to **2 doors** only.

2. Optimizing the Event Buffer Size

For 128K and 512K controllers, the default allocated event buffer space holds **1935 transaction** and for 2M RAM controllers, this space holds **24860 events**. Cardholders' Database and the Event Buffer share the same memory space in the controller. By default, the Cardholders' Database is maximized in order to support the highest card number authorized (also called the maximum "Num_Badge"). As the Cardholders' Database depends on the RAM, the maximum "Num_Badge" is **8934** for 128K controllers, **44670** for 512K controllers and **163790** for 2M RAM controllers.

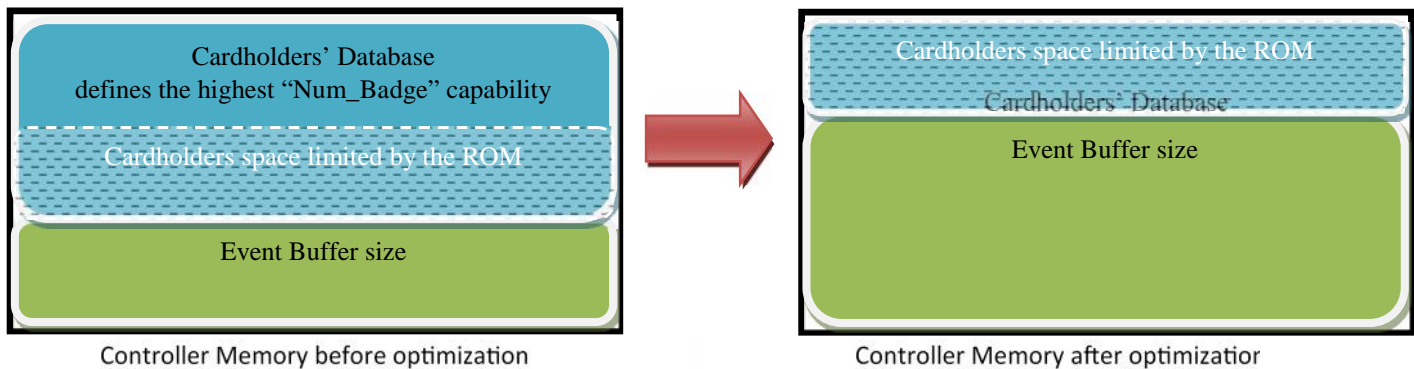
Note that the ROM defines how many cardholders may be recorded in the database whereas the Cardholders' Database size fixes the highest card number authorized.

However, if none of the controller of a site needs the highest card number authorized, because the maximum "Num_Badge" of a site corresponds to the biggest ROM capacity, this memory space can be optimized and adjusted to allow you to use the potentially unused space to increase the available Event Buffer size

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This adjustment will have a direct effect on the highest card number authorized. Because of this fact, this adjustment must be made according to the biggest ROM that will be in use on the site. This allows for the highest card number that could be used in all the controllers.



To increase the Event Buffer size of a controller, send the following command to the relevant controller from GPP (open the "Controller" screen, press Shift+F12 and write in the "Script" tab): **76 40 02 03 HGH 00 00**

Where the 'HGH' value ('00' by default) defines the new buffer size.

Select the possible values **according to the biggest ROM used in the site**, as in the following table below.

HGH according to Event Buffer Capacity

ROM Label	HGH (hex)	Cards Capacity According to ROM	Event Buffer Capacity		
			IC1000 128K	512K Memory Controllers	2M Memory Controllers
Any ROM	00 ¹		1935	1935	24860
xxx5	01	2048	8485	47785	201710
xxx3	02	4352	5210	44510	198435
xxx6	02	5120	5210	- ²	-
xxx6	03	6400	1935	41235	195160
xxx4	03	6400	1935	41235	195160
xxx1	04	8704	-	37960	191885
xxx7	05	10240	-	34685	188610
xxx2	0A	20480	-	18310	172235
xxx8	0F	32512	-	1935	155860
xxx9	15	44544	-	-	136210
xxxA	1C	60928	-	-	113285
xxxB	26	81920	-	-	80535
xxxC	2F	102400	-	-	51060
xxxD	37	118784	-	-	24860

Examples:

- If the biggest ROM of a site is xxx2 (20480 cardholders), selecting HGH=0A will allow an Event Buffer of 1831 transactions for a 512K controller and 172235 for a 2M controller. (Command to send will be 76 40 02 03 0A 00 00)

- If the biggest ROM of a site is xxxB (81920 cardholders), selecting HGH=26 will allow an Event Buffer of 8053 transactions for a 2M controller (Command to send will be 76 40 02 03 26 00 00)

- If for example you have a site with a 128K IC1000 with ROM xxx5 (2048 cardholders) and a 512K IC2000/4000 with ROM xxx6 (6400 cardholders). Selecting HGH=03 will allow the highest badge number of 6400 for both controllers. Meaning the IC1000 will still be able to accept a badge containing the number 6399 on it, while still limited by the ROM for a total number of badges to 2048. (Command to send will

be 76 40 02 03 03 00 00)

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Note 1: Default Values

Note 2: If, for a **HGH** value selected, the '-' symbol appears in a column, and the corresponding controller is present on the site, this means that the HGH value is not available. Select then, for the same ROM capacity, another **HGH** value. (For example, for ROM=xxx6, value HGH=02 is not available for a 512K or 2M controllers. Select then HGH=03).

If you add any new controller(s) to GPP, do not forget to include the script.