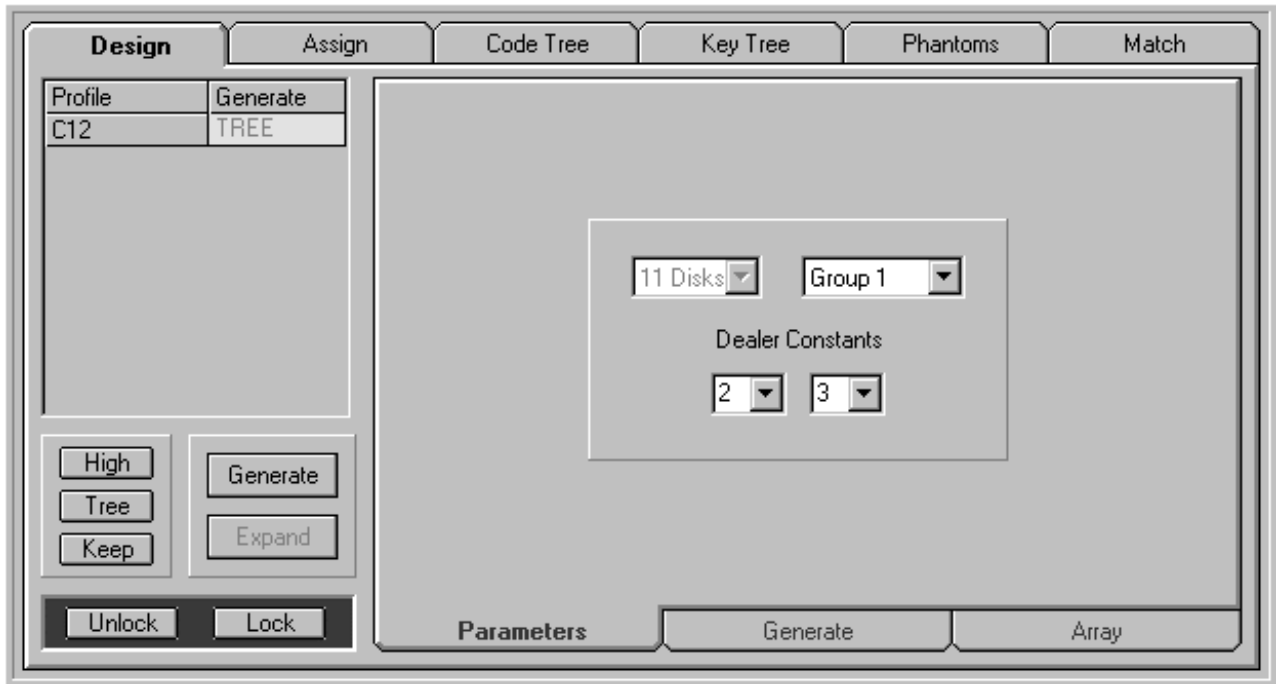


KEY MASTERY™

Disklock Pro

Version 4.3

Code Design – Disklock Module



There are six tabs within the Code Design section

- Design** This is where you initially design and generate codes for new key systems as well as expanding on existing ones.
- Assign** For assigning the generated codes to your keys or manually entering your key codes.
- Code Tree** For viewing and printing the generated codes in a tree layout according to their rank.
- Key Tree** For viewing keys with their codes in a tree layout according to their Key Above or the rank of their code.
- Phantoms** To check your key system for phantom keys. Essential after changing the keying of existing Doors.
- Match** This tab is automatically activated when necessary to match Key Codes and Design Codes. **Clicking on this tab will do nothing.**

Design

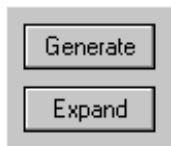
Profile	Generate
C12	TREE

To the left of the screen is a list of profiles for the key system. Although Disklock systems are usually created on a single profile, fictitious profiles can be introduced to enable you to create different design structures within the same system.

High Will only generate the Highest Level Code for that profile. This can be used for the master profile or single key systems.

Tree Will generate the full tree of codes as specified. This is the default.

Keep Allows you to keep the existing codes for that profile while generating others.

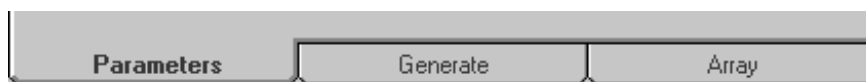


Two buttons are provided to either generate new systems or for expanding existing system.



After a system has been generated, you can lock the design to stop users from accidentally changing the structure. When locked, only the Expand button is active.

To the right of the screen are three more tabs:



Parameters The settings you wish to use to generate the codes

Generate The positions you wish to progress and the number of codes required.

Array The key depths you wish to progress in each position.

Parameters

Here you can specify:

- **11 or 9 disk locks** - If the system has a mix of both, then choose 11 Disks
- **Group 1 or 2 for the Array (Code Base)** - Group 1 is preferred for smaller systems.
- **Your Dealer Constants** - These will be automatically entered in the first two chambers.

Note: *Abloy represent their codes from Tip to Bow.*

Generate

Highest Key	2	3	0	0	0	0	0	0	0	0
Designation										
Rotating										

Type in the chosen highest level code on this line
 Designate the chambers to be progressed
 Choose which constants to rotate

Key Mastery can generate codes on up to 6 levels

- GGMK** Great Grand Master
- [G] GMK** Grand Master
- [X] XM** Cross Master – can be selectively keyed with any key under a GMK
- [M] MK** Master Key
- [I] IK** Interchange Key – can be selectively keyed with any key under a MK
- [C] CK** Change Key

The characters in brackets are used to designate the chambers. **Constants are left empty.**



The Direction Buttons allow you to choose the direction the codes will be progressed, as well as the direction that the constants will be rotated.

Generate (continued)

Direction		Highest Key	2	3	4	5	6	1	0	2	3	4
		Designation				M			C		C	C
		Rotating										c

Rank	Possible	Required	Generated	A	A	B	B	B	C	0	C	C	C
GGM	0	0											
GM	1	0											
XM	0	0											
MK	3	0											
IK	0	0											
CK	60	0											

Possible

GENERATE

FILTERED ALL

Parameters Generate Array

2	3	4	5	6	1	0	2	3	4
			M		C		C	C	
									c
A	A	B	B	B	C	0	C	C	C
			1		3		4	1	2
			3		5		6	5	6
			6		6				

As you type in the information, Key Mastery calculates the Array and the theoretical number of codes displaying them in the Possible Column.

Tip: It is a good idea to leave as many constants as possible. This will provide your customer with better security and allow flexibility when expanding.

If you do not need all the possible codes, you can specify the quantity in the Required column.

For smaller systems, simply press **Possible** which will fill in the Required column for you.

GENERATE

FILTERED ALL

FILTERED Will only generate the good codes. This is the recommended option

ALL Would generate all codes, good and bad. Handy in certain situations.

Bad codes are those with either: Five or more number 6 cuts anywhere along the key.
Three or more of the same cut together

Array

Mix Sort

Set to Parameters

Add Key Array

Set to Key Array

Edit

Mixes or Sorts the array

Sets the array to the group chosen in the parameters

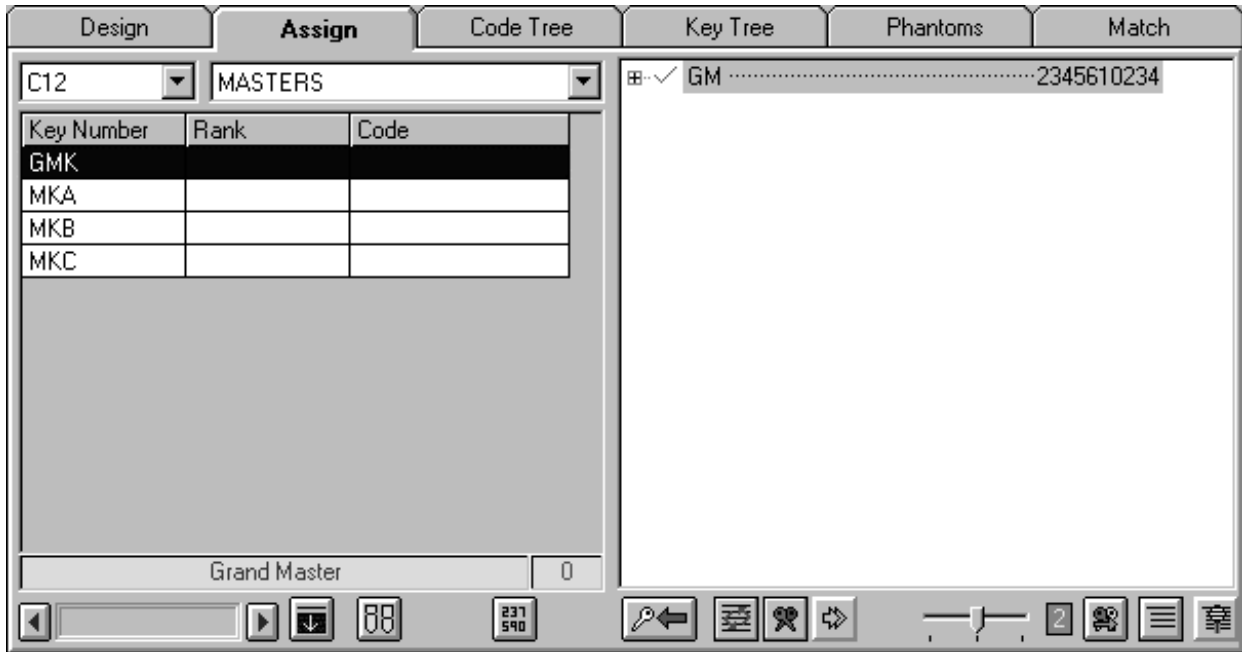
To add the array of manually entered key codes

To minimize the array to what is used.

Allows you to manually edit the array.

Assign

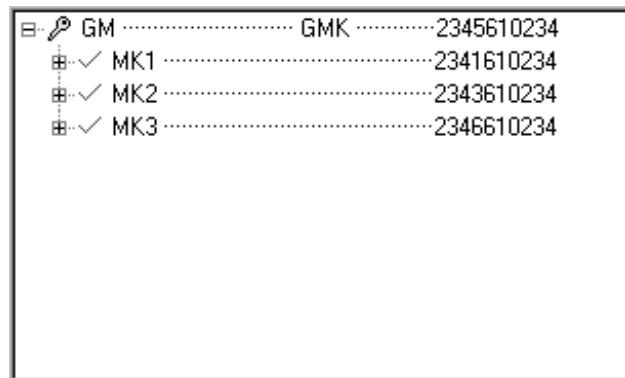
After the codes are generated, you can assign them to the keys.



On the left hand side is the key list under the MASTERS heading. On the right, are the generated codes, in a tree format. As our GMK key is already selected, you can simply assign it a code by Right Clicking on the GM code. Once a code is assigned a small key appears next to the code.

The tree will expand allowing you to choose the codes for your masters. Right Click on any of the MK codes for the MK

You will notice that the Rank as well as the Code is transferred to your keys in the key list. The code tree also displays the key using the assigned codes.

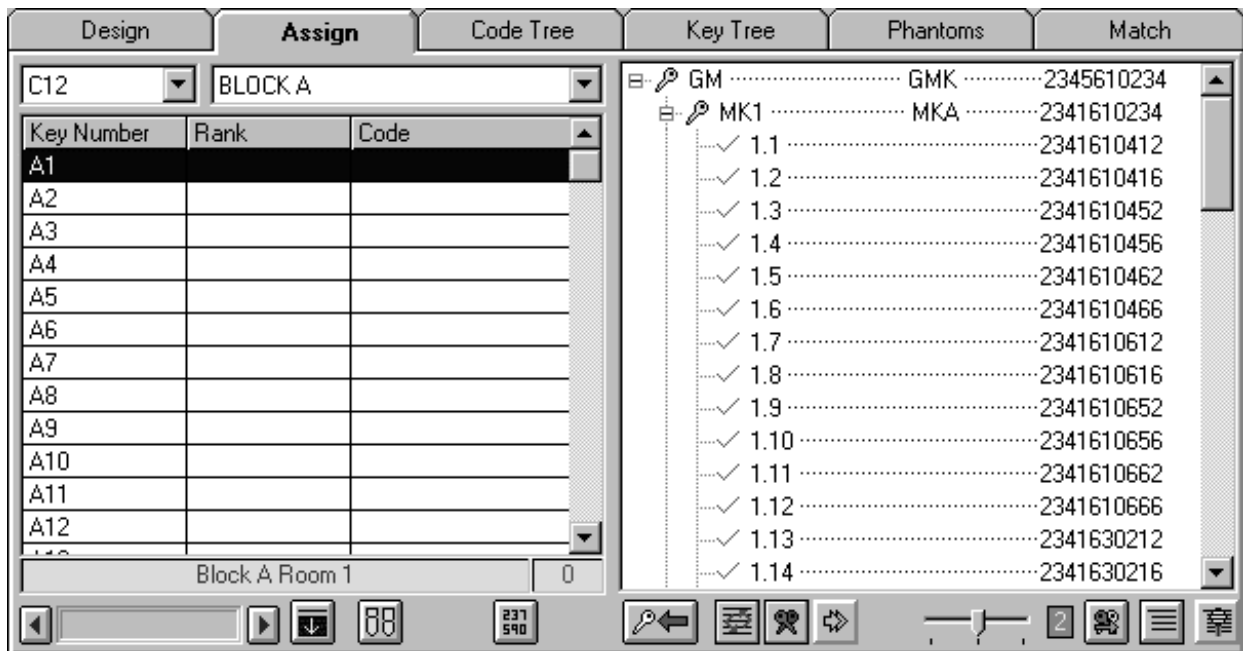


Key Mastery has many features to help you assign codes, but it cannot assume what you want with any level of masters and cross masters, as there are too many possible alternatives that you may have in mind. Hence it is up to you to choose these codes to meet with your requirements.

Once the masters have been chosen, Key Mastery is ready to automatically assign your individual keys, which would normally be the most laborious job, especially if there is any cross keying

Assign (continued)

Click the drop down Headings list and choose BLOCK A.



For the majority of systems, all you will need to do is click 2 buttons to assign your individual Keys:



The select down button will select all your keys.



The assign button will automatically assign codes to the selected keys according to your settings.



Will randomly select codes in the list. (Default)

This button toggles to:



Will search for codes sequentially down the list.



Ensures that no Phantoms (unwanted cross-keys) are created. (Default On)
Only required for cross-keyed systems, but should be left on anyway.



Looks for codes that will produce the least number of master pins. (Default Off)
This is only required for cross-keyed systems. Will slow down assigning.



Selects the variation required between key codes. (Default: 2)

Assign (continued)

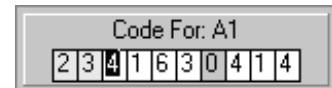
There are also additional buttons below your key list. Their functions are as follows:



Counts the number of master positions throughout the system. The smaller the number, the more secure the system.



Allows you to manually Enter a Key Code



The remaining buttons are for altering your viewing options as follows:-



Shows the status of each Code in relation to the selected key.

- MK1 This code is the best for the chosen key.
- 1.1 Meets with the minimum variation but will cause unnecessary master disks.
- 1.2 Meets with the minimum variation but will cause unnecessary master disks.
- 1.3 Creates minimum masters, but does not meet with the minimum variation.
- 1.4 Creates minimum masters, but does not meet with the minimum variation.
- 1.5 A good code, but did not meet with any of your requirements.
- 1.6 A good code, but did not meet with any of your requirements.
- 1.7 This is a bad code.
- 1.8 This is a bad code.
- 1.9 This code is already assigned to another key.
- 1.10 This code is already assigned to another key.
- 1.11 This is a phantom code and should not be used.
- 1.12 This is a phantom code and should not be used.
- 1.13 Assigning this code will cause other keys to phantom.
- 1.14 Assigning this code will cause other keys to phantom.
- 1.15 The assigned code is a phantom or causes other keys to phantom.



Close Branches. Will close the branches of your key tree to display masters only.



Find Key Above ON/OFF.

Key Mastery always tries to find the code branch for the Key Above. If you have not specified a Key Above or allocated the incorrect one, this button will enable you to open the correct code branch manually.

Code Tree

Displays the generated codes.



Displays all codes.

[-] C12	..... Profile	
[-] GM	..... GMK	..... 2345610234
[-] MK1	..... MKA	..... 2341610234
- 1.1	..... A12	..... 2341610412
- 1.2	.....	..... 2341610416
- 1.3	..... A14	..... 2341610452
- 1.4	..... A6	..... 2341610456
- 1.5	..... A4	..... 2341610462
- 1.6	.....	..... 2341610466



Only displays the assigned codes.

[-] C12	..... Profile	
[-] GM	..... GMK	..... 2345610234
[-] MK1	..... MKA	..... 2341610234
- 1.1	..... A12	..... 2341610412
- 1.3	..... A14	..... 2341610452
- 1.4	..... A6	..... 2341610456
- 1.5	..... A4	..... 2341610462
- 1.7	..... A8	..... 2341610612
- 1.8	..... A10	..... 2341610616

Key Tree



Key Above Tree



Key Rank Tree

[-] GMK	..... GM	..... 2345610234	..... Grand Master
[-] MKA	..... MK1	..... 2341610234	..... Master Block A
- A1	..... 1.17	..... 2341630262	..... Block A Room 1
- A2	..... 1.47	..... 2341630654	..... Block A Room 2
- A3	..... 1.9	..... 2341610652	..... Block A Room 3
- A4	..... 1.5	..... 2341610462	..... Block A Room 4
- A5	..... 1.50	..... 2341650454	..... Block A Room 5
- A6	..... 1.4	..... 2341610456	..... Block A Room 6
- A7	..... 1.12	..... 2341610666	..... Block A Room 7
- A8	..... 1.7	..... 2341610612	..... Block A Room 8
- A9	..... 1.28	..... 2341660256	..... Block A Room 9
- A10	..... 1.8	..... 2341610616	..... Block A Room 10

In most cases, both tree options will produce the same tree, as they did here. If they didn't and you want the Key Above to correspond with the rank of the code, simply click on this button:



Set Key Above to Code Rank

Phantoms

Although Key Mastery has the option to automatically check for Phantoms as you are assigning codes, there are two instances where a separate phantom check is vital.

- Re-Keying Doors after the system has been designed.
- Replacing lost keys in doors that have been cross keyed.

In any case, it is good practice to run a check.

The following example shows a system that was cross keyed after codes were assigned.

Design		Assign		Code Tree		Key Tree		Phantoms		Match	
Phantom Keys				Doors Accessed				Door Keying			
Key Number	Code	Door Number	Stamped	Key Number	Code						
A2	2341630654	A12		GMK	2345610234						
A3	2341610652	A13		MKA	2341610234						
A8	2341610612			A12	2341610412						
A16	2341610656			A19	2341660614						
A25	2341630216										
A26	2341630632										
A27	2341630636										
A28	2341630256										
A29	2341660414										
Block A Room 8				Block A Room 12				Grand Master			

The Phantom Keys list shows all key that access doors they were not intended to.

The Doors Accessed list displays the doors accessed by the highlighted key.

The Door Keying list shows the keying of the highlighted door, with the codes of the keys.

On close examination, you should be able to determine which keys need replacing.