

MLAA Masterkeying Glossary of terms

Version 4

Primary Term -Secondary term	Definition - Description
General Masterkeying terms	
Main Perm <i>Main Permutation</i>	(n) The highest level bitting. <i>This is the CODE from which the entire system is derived. If cut, this bitting should result in a Master key which will operate all locks within the system.</i>
Bitting <i>Code</i>	(n) A potential key. <i>These numbers represent the cuts of a key.</i>
Ghost	(n) A Bitting which, if cut, will become a Phantom. <i>Ghosts will be contained in any lock which contains master pins in more than one chamber.</i>
Phantom	(n) A Key which utilises existing shearlines to operate locks it is not authorised to operate. <i>Phantoms make use of cuts contained within the lock by authorised keys to also operate the lock.</i> (v) Operating a lock despite not being authorised to. <i>A term used to describe the action of a Phantom key.</i>
Designation	1.(n) The type of keys produced from a chamber. <i>-When referring to the lock.</i> 2. (n) The general category a key falls into. <i>-When referring to the key. Often used by Masterkeying software.</i>
Progress	(v) Change. <i>Can be used when describing depths, positions or chambers.</i>
Progress Order <i>Sequence of progression</i>	(n) The numerical order in which chambers are progressed. <i>The order in which chambers are progressed affects where in the matrix a specific bitting will appear.</i>
Depth Steps <i>Steps away</i>	(n) The minimum difference between useable depths. <i>Set at the creation of the system, this will dictate the number of unique codes which can be produced from a chamber.</i>
Profile	(n) The shape of a keyway. <i>Usually used to describe the specific design of a key blank, however may also be used to describe the keyway of a cylinder.</i>
Broach	1. (v) To cut a key profile into a barrel.
Pinning	(n) The specific combination of pins contained within a Cylinder to allow the authorised keys to operate.
Keying	(n) The specific keys which operate a Cylinder. <i>-When referring to a lock.</i>
Forced Phantoming	(n) A situation where a key can be made to operate a lock despite not having the correct cuts. <i>This takes place due to tolerances within the lock or wear in the key.</i>
Bitting Array <i>Array</i>	(n) A table which shows all potential cuts to be generated from a chamber. <i>Used to aid in writing out a Matrix.</i>
Progression Chart	(n) A table displaying the method each chamber should be progressed. <i>Used to aid in writing out a Matrix. A Progression Chart should include the chamber designations, depths steps used and the order in which they are progressed.</i>

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Forms of Masterkeying	
Standard System	(n) A system where chambers retain their original designations. <i>In this form of masterkeying chambers receive designations at the creation of the system and remain unchanged throughout the life of the system.</i>
Rotating Constant System <i>Hold and Vary System</i>	(n) A system where chambers may change their designations. <i>Chambers will usually alternate between producing keys or remaining constant.</i> <i>There are strict rules to this which must be adhered to in order to maintain system integrity.</i>
Positional System	(n) A system which uses partially loaded locks to restrict access. <i>Multiple keys are given access to a lock by leaving chambers empty or using "universal" pins. Keys are prevented from operating a lock by loading specific chambers will lock that key out.</i> <i>Kaba Quattro is an example of a locking system that uses Positional Masterkeying as standard.</i>
Multi-Profile System	(n) A system which utilises more than one key profile. <i>This system may utilise a profile family which contains profiles that could be described as servant and master.</i>
Keyed Alike System	(n) A system where all locks are keyed to the same combination.
Keyed Different System <i>Keyed to Differ</i>	(n) A system where all locks are on a unique combination. <i>A Keyed Different system should never contain a Master key.</i>
Maison key <i>Maison</i>	(v) Allowing a group of lower level keys to operate a common door. <i>Generally done by utilising "universal" chambers which allow all keys within a specific group to pass through unhindered.</i>
Cross Key System	(n) A system which makes use of "Incidental Master keys" <i>Incidental keys are identified, cut and used to achieve masterkeying.</i> <i>Conventional Master keys and Change keys may also be used.</i>
Level 1 System	(n) A system where one position is progressed. <i>A Two-tiered system.</i>
Level 2 System	(n) A system where two positions are progressed. <i>A Three-tiered system, including Incidental Masters.</i>
Level 3 System	(n) A system where three positions are progressed. <i>A Four tiered system, including Incidental Masters.</i>
Level 4 System	(n) A system where four positions are progressed. <i>A Five tiered system, including Incidental Masters.</i>
Level 5 System	(n) A system where five positions are progressed. <i>A Six tiered system, including Incidental Masters.</i>
Level 6 System	(n) A system where six positions are progressed. <i>A Seven tiered system, including Incidental Masters.</i>

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Masterkeying-related terms relating to the LOCKS	
Lock	(n) The complete Lock. <i>Includes the Cylinder and Barrel.</i>
Cylinder	(n) The part of the lock which contains the pinning. <i>Includes the Barrel.</i>
Barrel <i>Core</i> <i>Plug</i>	(n) The component of the Cylinder that the key slides into. <i>Each LOCK contains at least one CYLINDER. Each Cylinder contains at least one BARREL.</i>
Bottom Pins	(n) Cylindrical tumblers which prevent a Barrel from being turned unless the correct key is used. Direct contact with the Key. <i>Regardless of being above or below Top Pins, Bottom Pins will make direct contact with the key.</i>
Top Pins	(n) Cylindrical tumblers which prevent a Barrel from being turned unless the correct key is used. Direct contact with the spring. <i>Used in conjunction with a spring and Bottom Pin to create a shearline.</i>
Matched Top Pins <i>Stacked Top Pins</i>	(n) Individually sized Top Pins to create a stack height within specific tolerances.
Shearline	1. (n) The point within a Cylinder where the tumblers must be correctly aligned to allow the Barrel to turn. <i>Usually where the Barrel makes contact with the inside of the Cylinder.</i> 2. (n) The point where two separate objects meet. <i>Where the Top Pin meets the Bottom Pin is a Shearline. This definition requires context.</i>
Tumbler	(n) Individually sized objects causing obstruction within a Cylinder, until correctly aligned with a Key. <i>Generic term which can be used to describe a wide range of such objects.</i>
Masterkeying-related terms relating to the KEYS	
Top Master Key <i>TMK</i>	(n) The highest level Master Key in a system. <i>Should operate all Mastered locks within a system.</i>
Master Key <i>MK</i>	1. (n) Any key which has keys or codes below it in the hierarchy. <i>Generic term referring to ALL levels of Master keys. Alternate terms should be used if the intent is to describe a specific level of Master. This term should NOT be used for Selective keys.</i>
Change Key <i>CK</i>	(n) A key which has NO keys or codes below it in the hierarchy. <i>A change is the lowest possible level of key and should differ from the MP in every progressed position.</i>

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Selective Key	<p>(n)A key that is able to work a selection of locks across a range of sub-masters without creating phantoms.</p> <p><i>This must be achieved by designating specific position to contain a unique cut. All other positions must match the immediate Master. (in PM7, the "Key Above")</i></p> <p><i>This term should not be used for Change keys or Master keys.</i></p>
Sub-Master Key	<p>(n)A Master key which has a Master key above it in the hierarchy.</p> <p><i>This term refers only to the fact that this Master is not the TMK. This term may be used for ALL types of Master Key.</i></p>
Incidental Master Key	<p>(n)A Master key which utilises Main Perm cuts in positions also used to generate Change Keys.</p> <p><i>Generic term referring to ALL levels of Incidental key. When describing the number of tiers or levels a system has, Incidental keys should not be included as a separate level.</i></p>
Level 1 Incidental Master	<p>(n)An Incidental Master Key which contains ONE Main Perm cut in a chamber designated for generating Change Keys.</p> <p><i>This Master key will operate a group of 4 change keys.</i></p>
Level 2 Incidental Master	<p>(n)An Incidental Master Key which contains TWO Main Perm cuts in chambers designated for generating Change Keys.</p> <p><i>This Master key will operate a group of 16 change keys.</i></p>
Level 3 Incidental Master	<p>(n)An Incidental Master Key which contains THREE Main Perm cuts in chambers designated for generating Change Keys.</p> <p><i>This Master key will operate a group of 64 change keys.</i></p>
Construction Key	<p>(n)A key designed for short term use with the intention of being locked out upon completion of a project.</p> <p><i>Construction keys can be created using a variety of methods depending on the locking system used. Common methods include, "Half Cut" and "Lost Ball". These terms are not defined in this glossary.</i></p>
Control Key	<p>(n)A key used to remove Interchangeable Cores.</p> <p><i>Control keys are used in a range of locking systems and are not further defined in this glossary.</i></p> <p><i>This term should not be used for a Master key.</i></p>
Designated Master Key	<p>(n)A Master key which contains Main Perm cuts in chambers not used to produce any other type of key.</p> <p><i>"Standard" Master keys. To avoid confusion, this term should only be used when differentiating between designed master keys and Incidental Master keys.</i></p>
Grand Master Key GMK	<p>(n)A Master key which has one level of designated Master keys below it in the hierarchy.</p> <p><i>Top level key in a three tier system.</i></p> <p><i>This term should not be used for Incidental keys.</i></p>
Great-Grand Master Key GGMK	<p>(n) A Master key which has two levels of designated Master keys below it in the hierarchy.</p> <p><i>Top level key in a four tier system.</i></p> <p><i>This term should not be used for Incidental keys.</i></p>

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Masterkeying Acronyms	
MP	Main Permutation
MK	Master Key <i>Context should be used to ensure that the intended definition is clear.</i>
GMK	Grand Master Key
GGMK	Great Grand Master Key
CK	Change Key
IK	Level 1 Selective Key <i>(PM7 Term) Selective Key operating below a single MK.</i>
XK	Level 2 Selective Key <i>(PM7 Term) Selective Key operating below a single GMK.</i>
NMC	Non- Mastered Cylinder <i>A cylinder within a system which the TMK does not operate. This type of lock should be considered special and only used in certain situations.</i>
MTA	Maison to Accept <i>Notation stored against a cylinder to indicate that it is to be Maison Keyed.</i>
SOP	Sequence Of Progression <i>Progress Order – the order in which chambers are progressed.</i>
CON	Construction Key
CTRL	Control Key

Terms which are now actively discouraged:

The following terms are actively discouraged on the grounds that they may cause confusion due to their varied definitions in the past.

Interchange

Interchange Key

Cross Key

SMK -as Sub Master Keying.

CK -as Construction Key.

IK -as anything but Level 1 Selective Key.

[3] Level System –as a description of the structure of a system. Preferred term for describing levels is “Tiers” so as to not get confused with the term “Level 1 System”.

Ghost KEYS – Ghost now only refers to uncut bittings.

Phantom CODES – Phantom now only refers to cut keys.

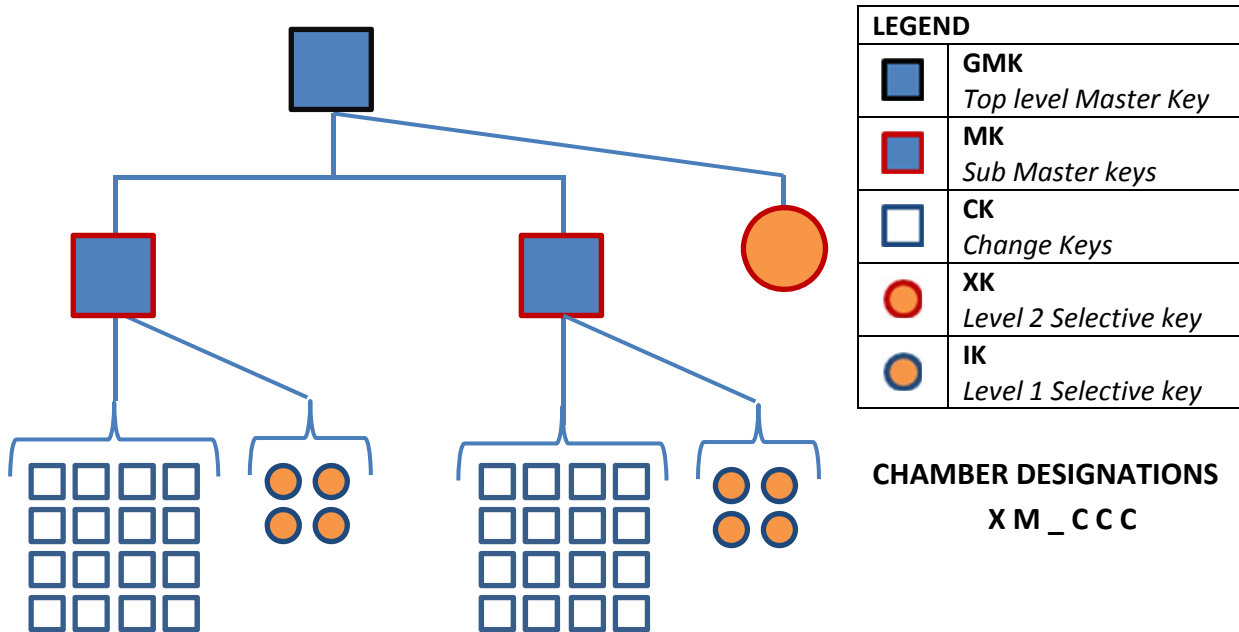
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Example Diagrams:

The following diagrams may be useful in further clarification of the definitions as specified in the Glossary.

Fig 1: Hierarchy of a System (KEYS)



This system is a 3 tiered system. It is a Level 5 system because 5 chambers have been progressed.

There are 4 potential MKs below the GMK. (only two shown)

There are 4 potential XKs below the GMK. (only one shown)

Each MK has 64 potential CKs and 4 potential IKs.

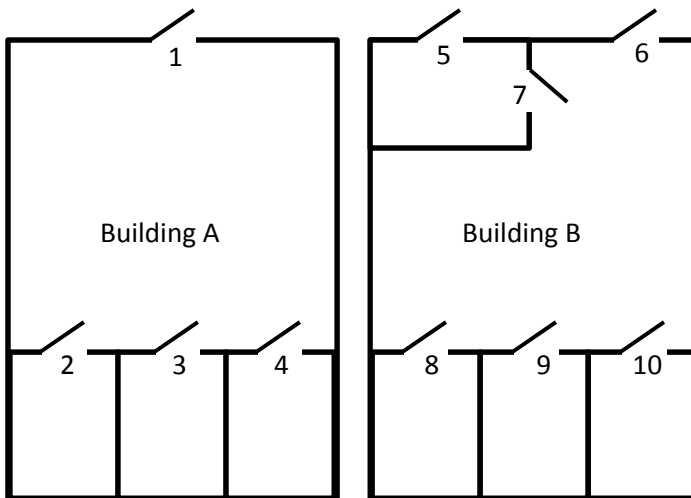
Incidental Keys exist but are not shown.

Based on the Chamber Designations shown, the GMK has been generated by cutting the Main Perm.

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Fig 2: Selective Keys



KEYS LIST		
G	All locks	Master
A	All locks in Building A	Master
A1	Door 1	Change
A2	Door 2	Change
A3	Door 3	Change
A4	Door 4	Change
B	All locks in Building B	Master
B1	Door 5	Change
B2	Door 6	Change
B3	Door 7	Change
B4	Door 8	Change
B5	Door 9	Change
B6	Door 10	Change
AX1	Doors 1 & 3	Selective
AX2	Doors 2, 3 & 4	Selective
BX1	Doors 5 & 7	Selective
BX2	Doors 6 & 10	Selective
GX1	Doors 1 & 6	Selective
GX2	Doors 2 & 8	Selective

AX1 and AX2 are Level 1 Selective keys (IKs).
They are able to work a selection of locks which are already operated by the **A** Master.

BX1 and BX2 are also Level 1 Selective keys (IKs).
They are able to work a selection of locks which are already operated by the **B** Master.

GX1 and GX2 are Level 2 Selective keys (XKs). They are able to work a selection of locks which are already operated by the **G** Grand Master.

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Fig 3: Anatomy of a Code Matrix

SAMPLE CODING MATRIX																								
2	1	MP:	4	1	6	3	0	5					4	1	6	3	0	5						
	Depths:	0	0	0	2	2	2					1	2	1										
	SOP:	0	0	0	3	2	1					5	4	3										
	Desig:				C	C	C					7	6	7										
													3	9	8	9								
4 1 6 1 2 1			4 1 6 1 4 1			4 1 6 1 6 1			4 1 6 1 8 1															
4 1 6 1 2 3			4 1 6 1 4 3			4 1 6 1 6 3			4 1 6 1 8 3															
4 1 6 1 2 7			4 1 6 1 4 7			4 1 6 1 6 7			4 1 6 1 8 7															
4 1 6 1 2 9			4 1 6 1 4 9			4 1 6 1 6 9			4 1 6 1 8 9															
4 1 6 5 2 1			4 1 6 5 4 1			4 1 6 5 6 1			4 1 6 5 8 1															
4 1 6 5 2 3			4 1 6 5 4 3			4 1 6 5 6 3			4 1 6 5 8 3															
4 1 6 5 2 7			4 1 6 5 4 7			4 1 6 5 6 7			4 1 6 5 8 7															
4 1 6 5 2 9			4 1 6 5 4 9			4 1 6 5 6 9			4 1 6 5 8 9															
4 1 6 7 2 1			4 1 6 7 4 1			4 1 6 7 6 1			4 1 6 7 8 1															
4 1 6 7 2 3			4 1 6 7 4 3			4 1 6 7 6 3			4 1 6 7 8 3															
4 1 6 7 2 7			4 1 6 7 4 7			4 1 6 7 6 7			4 1 6 7 8 7															
4 1 6 7 2 9			4 1 6 7 4 9			4 1 6 7 6 9			4 1 6 7 8 9															
4 1 6 9 2 1			4 1 6 9 4 1			4 1 6 9 6 1			4 1 6 9 8 1															
4 1 6 9 2 3			4 1 6 9 4 3			4 1 6 9 6 3			4 1 6 9 8 3															
4 1 6 9 2 7			4 1 6 9 4 7			4 1 6 9 6 7			4 1 6 9 8 7															
4 1 6 9 2 9			4 1 6 9 4 9			4 1 6 9 6 9			4 1 6 9 8 9															

1 Main Perm – The biting the whole system is derived from. If cut, this will become the TMK.

2 Progression Chart – This indicates that only the last three chambers are to be progressed.

-The cuts will be progressed in steps of 2.

-The order in which the chambers are to be progressed. This will not affect the codes displayed in the Matrix, but will affect WHERE they appear. The recommended method of writing the codes out is shown in this figure.

- The last three chambers are all designated for the production of Change Keys. The first three chambers are being held constant.

3 Bitting Array – All possible cuts are displayed in the chambers marked for progression. This table has been drawn up based on the parameters set by the Progression Chart.

4 Change Keys – As specified in the Progression Chart, only the last three chambers are different to the MP. There must be NO Main Perm cuts contained in these positions.

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Fig 4: Incidental Keys

The following Table shows all the Incidental keys that operate within the system drawn up in Fig 3. With three chambers designated for generating Change keys there are going to be 48 Incidental Master Keys created automatically.

Level 1 Incidental Masters	
48 keys each with one Main Perm cut, each operating a group of 4 Change keys.	
416125 – 416145 – 416165 – 416185 416525 – 416545 – 416565 – 416585 416725 – 416745 – 416765 – 416785 416925 – 416945 – 416965 – 416985	Example: 416125 Operates the following change keys: 416121 – 416123 – 416127 – 416129
416101 – 416103 – 416107 – 416109 416501 – 416503 – 416507 – 416509 416701 – 416703 – 416707 – 416709 416901 – 416903 – 416907 – 416909	Example: 416101 Operates the following change keys: 416121 – 416141 – 416161 – 416181
416321 – 416341 – 416361 – 416381 416323 – 416343 – 416363 – 416383 416327 – 416347 – 416367 – 416387 416329 – 416349 – 416369 – 416389	Example: 416321 Operates the following change keys: 416121 – 416521 – 416721 – 416921
Level 2 Incidental Masters	
12 keys each with two Main Perm cuts, each operating a group of 16 Change keys.	
416105 416505 416705 416905	Example: 416105 Operates the following Change keys: 416121 416141 416161 416181 416123 416143 416163 416183 416127 416147 416167 416187 416129 416149 416169 416189
416325 416345 416365 416385	Example: 416325 Operates the following Change keys: 416121 416521 416721 416921 416123 416523 416723 416923 416127 416527 416727 416927 416129 416529 416729 416929
416301 416303 416307 416309	Example: 416301 Operates the following Change keys: 416121 416141 416161 416181 416521 416541 416561 416581 416721 416741 416761 416781 416921 416941 416961 416981