Corbin Russwin ASSA ABLOY

# Designing Master Key Systems

# Cylinders and Keys

## Key Systems

**Step 1**

**Determine the type of locking system**

- Conventional "open & restricted keyways"
  - Not contract controlled
- Patented locking system
  - A notice of acceptance will be required between Corbin Russwin and Owner
  - Factory-based system
  - Key blank distribution restrictions are in place
- Security (secondary locking mechanisms, example; Pyramid Security)
- High security (same as Security plus UL437 – example; Pyramid High Security)
- Standalone access control locking devices (at door wiring, example; Access 800)
  - To facilitate multiple users through common doors
- Integrated locking systems (hard wired into access control systems)

**Step 2**

**Establish the level of the master key system. The higher the level the less secure.**

- Level two – "Simple Master Key system"
  - Change key, and master key only
- Level three – "Grand Master Key system"
  - Change key, master key, and Grand Master Key
- Level four – "Great Grand Master Key system"
  - Change key, master key, Grand Master Key, and Great Grand Master Key
- Levels higher than four are not recommended for security reasons
  - With more levels, additional master pins in each chamber of the cylinder would be required, and with the additional master pins the possibility of unauthorized key interchanges could occur

*See pages 50-52 on How to Establish Key Systems.*

**Step 3**

**Establish key hierarchy, key issuing policies and procedures, and administrative disciplines.**

- Who, if anyone is authorized to carry the top master key?
- Who carries master keys and change keys?
  - Does every employee receive a key?
- What disciplinary action(s) is being put in place for violations?
  - Fines or Deposits
    - > Lost keys
    - > Keys not returned
  - Will there be a key receipt required?
    - > Where will that be kept?
- Who is the systems administrator?
  - Authorized to purchase
  - Responsible for Key Control Administration
- Who is the Key Control Administrator?
  - Maintain key control software & all transactions

**Step 4**

**System Layout**

- Helpful Hints
  - KISS "Keep It Simple System"
    - > Do not use the term sub-master (not unless it's level 6 and higher)
- Lowest level possible
- Key to the building security objectives NOT to the people
  - Determine if the system is to be designed for Security or Convenience
- No cross keying, especially with patented locking systems and higher
- Key alike within master key groups as much as possible
  - Avoid top-heavy systems (example; few change keys used under masters)
- Has the right function of lockset been selected?
  - Storeroom vs. Classroom vs. Entry
  - Single cylinder vs. double cylinder
    - > If double cylinder, how is the inside cylinder to be keyed?
- Provide adequate quantity of keys
  - Top Master keys "limit the number of these to only a few"
  - Master keys "also limit the number these"
  - Change keys per key set and/or per keyed alike sets
  - Special operating keys
    - > Control keys "limit the number of these"

**Separate the internal departments into sectors, example are:**

- Perimeter
  - Including all exterior doors, roof surfaces, gates and fences, and adjacent buildings.
- Operations
  - Sensitive areas crucial to daily operations, such as plant engineering, security and mechanical operations.
- Management
  - Areas that are vital for daily business activities, primarily human resources, administration, executive offices, IT, sales, and accounting.
- Services
  - Areas that provide employees and visitors with services, such as restrooms, medical treatment areas, housekeeping, food service, retail (unless it's a leased outside source).
- Unique Applications
  - Door openings requiring access control hardware where key override is required, or any other special application which would be unique.
- Tenants
  - Any tenants that are not part of the building.

**Step 5**

**Servicing & Maintenance**

- In-house or outside locksmith
  - Ensure proper training
  - Establish key cutting log
  - Establish service request procedures
- Service equipment
  - Key kit
  - Code cutter that complies with systems depths & spacing specifications
  - Locksmithing tools, fixtures & accessories
- Establish stock levels & requirements to avoid misuse of multi-section key blanks
  - Additional cylinders ready for emergencies
  - Additional key blanks (of all keyways)
- Who or where are the key blanks going to be kept?
- Who is authorized to cut keys?
  - What form of work order will be used to authorize cutting of keys?
  - Who will sign the work order?
  - What records will be kept & where?
- What type of reports will be required?
  - Overdue keys
  - Miss-cut keys
    - > Who receives the reports?
- Once a key has been cut, what instructions are given to the recipient?
  - Key receipt recommended
- Ensure that all transactions are recorded by the Key Control Administrator
- ENFORCEMENT FROM THE START! SUPPORT AND BACK THOSE WHO ARE RESPONSIBLE FOR MAINTAINING AND SERVICING THE SYSTEM.



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# Key Wizard®

## Key Systems

### Key Management Software

**Advantages**

A key management software program is essential for any type of organization. Keeping track of the key holders in a master key system is critical for maintaining key control and ensuring the security and integrity of the system. *Key Wizard* by Corbin Russwin was designed to provide a user-friendly tool for facility end users to track detailed information concerning their keying system. It offers improvements over existing key management software by utilizing clutter-free and easily navigated screens. This system uses a Microsoft® Outlook® type of layout.

Key control for a facility is maintained by adopting a complete system of policies, procedures, record keeping and specialized products. A comprehensive key management software program is one aspect of a complete key control system.

*Key Wizard* by Corbin Russwin provides the facility with accurate information concerning keys, key holders, hardware locations, master key systems, overdue keys and maintenance service schedules, all of which can be customized.

**Features:**

- Free technical support and free software upgrades for one year
- Customized query, report and search capability
- Comprehensive hardware listings for door locations
- Displays key holder photos and signatures for verification
- Clear, easy to read screens
- Automatic reminders for maintenance, back-ups and overdue keys
- Network and standalone versions available
- Accurate key symbol sorting
- Audit trail tracks changes made to keyholders
- Printing of door number labels to ensure proper cylinder installation
- Key authorization tracking
- Customized key receipts and authorization forms
- Tracking of loaned keys and key deposits
- Stores maintenance service history records
- Can manage multiple end users and multiple key systems for most manufacturers
- Importing of key systems, keyholders and locations
- Exporting of key systems and locations
- Global key search across multiple master key systems
- Multi-level password protection
- Download of key bittings to ITL9700 Code machine
- Pinning Calculators

### Computer System Requirements:

- 500 MHz processor or greater
- Windows 98, 2000, ME, NT, XP, Vista, 7, or 10
- 64 MB RAM
- 70 MB hard disk space

**Demo Version**

Demo versions are available. Demos can be downloaded from the Corbin Russwin website at **http://www.corbinrusswin.com or www.keywizard.net**

**How to Order:**

All *Key Wizard* programs are licensed specifically to each facility end user. Special online ordering procedures apply. The following information is required for each system:

End User Facility Name
End User Contact Individual
Mailing Address
Phone Number

**Key Wizard Technical Support:**
1-800-610-1706



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# How to Order Cylinders — Numbering Scheme Overview

## Key Systems

| 10 | 0 | 0 | – | 118 | – | A01 | – | 6 | – | L4 | – | Finish x Options* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

### Cylinder Type

| | |
|---|---|
| 10 | Mortise |
| 11 | Flex Head Mortise |
| 12 | Concealed Shell Mortise |
| 13 | Thumbturn Mortise |
| 14 | Dummy Mortise |
| 15 | Access 3 Mortise - AP |
| 16 | Access 3 Mortise - AS |
| 17 | Access 3 Mortise - AHS |
| 20 | Knob/Lever |
| 21 | Continental Knob |
| 22 | Competitor Knob/Lever |
| 23 | Access 3 Competitor Knob/Lever |
| 24 | Competitor Keyways |
| 25 | Access 3 KIK/KIL - AP |
| 26 | Access 3 KIK/KIL - AS |
| 27 | Access 3 KIK/KIL - AHS |
| 28 | Access 3 Competitor KIL - AS |
| 29 | Access 3 Competitor KIL - AHS |
| 30 | Rim |
| 33 | Thumbturn Rim |
| 35 | Access 3 Rim - AP |
| 36 | Access 3 Rim - AS |
| 37 | Access 3 Rim - AHS |
| 42 | Special Application |
| 44 | DL2200, DL3200 |
| 45 | Access 3 DL2200/ DL3200 - AP |
| 46 | Access 3 DL2200/ DL3200 - AS |
| 47 | Access 3 DL2200/ DL3200 - AHS |
| 80 | IC-Core Only (LFIC) |
| 85 | Access 3 IC Core - AP |
| 86 | Access 3 IC Core - AS |
| 87 | Access 3 IC Core - AHS |
| 2300 | RFC Padlock |

### Mechanism

| | |
|---|---|
| 0 | Standard |
| 1 | Security |
| 2 | Pyramid |
| 3 | IC Pyramid Cylinder (LFIC) |
| 4 | SFIC Housing |
| 6 | Master Ring |
| 7 | LFIC Housing |
| 8 | IC Complete Cylinder (LFIC) |
| 9 | IC Security Cylinder (LFIC) |

### Function

| | |
|---|---|
| 0 | Standard |
| 1 | Hotel |
| 2 | Blockout |
| 3 | Classroom |
| 4 | Brink CW |
| 5 | Brink CCW |
| 6 | Obsolete Crossbar ED6200 |
| 7 | Pyramid Security |
| 8 | UL IC Housing Access 3 |

### Length

**(Mortise Cylinder) Non-IC**

| | |
|---|---|
| 100 | 1" (25mm) |
| 118 | 1-1/8" (29 mm) |
| 114 | 1-1/4" (32 mm) |
| 138 | 1-3/8" (35 mm) |
| 112 | 1-1/2" (38 mm) |
| 134 | 1-3/4" (44mm) |
| 200 | 2" (51 mm) |
| 214 | 2-1/4" (57 mm) |
| 212 | 2-1/2" (64 mm) |
| 234 | 2-3/4" (70 mm) |
| 300 | 3" (76 mm) |
| 314 | 3-1/4" (83 mm) |
| 312 | 3-1/2" (89 mm) |
| 334 | 3-3/4" (95 mm) |

**(Mortise Cylinders) IC**

| | |
|---|---|
| 114 | 1-1/4" (32 mm) |
| 138 | 1-3/8" (35 mm) |
| 112 | 1-1/2" (38 mm) |
| 134 | 1-3/4" (44mm) |
| 200 | 2" (51 mm) |
| 214 | 2-1/4" (57 mm) |
| 212 | 2-1/2" (64 mm) |

**(Rim Tailpiece)**

| | |
|---|---|
| 058 | 5/8" (16 mm) |
| 114 | 1-1/4" (32 mm) IC |
| 138 | 1-3/8" (35 mm) |
| 178 | 1-7/8" (48 mm) IC |
| 178V | 1-7/8" (48 mm) vertical IC |
| 200 | 2" (51 mm) |
| 200V | 2" (51 mm) vertical |
| 318 | 3-1/8" (78 mm) IC |
| 312 | 3-1/2" (89 mm) |
| 312V | 3-1/2" (89 mm) vertical |

### Cam

| | |
|---|---|
| A01 | Cloverleaf |
| A02 | Straight |
| A03 | Adams Rite® MS |
| A04 | DL4000 Series |
| A05 | *Adams Rite* 4070 |
| A06 | Schlage® Cloverleaf |
| A07 | DL4100 Series |
| A61 | **New** MR Cloverleaf-locks made after 5/93 |
| A62 | MR Straight |
| A63 | Large MR Short |
| A64 | Large MR Long |
| A65 | **Old** MR Cloverleaf - locks made prior to 5/93 |
| A92 | Exit Grip Trim 01, 02 |
| A93 | Obsolete Deadlocks: Corbin® 610 Series and Russwin® 1403 Series |

### Pins

| | |
|---|---|
| 6 | Standard |
| 7 | |

### Keyway

| |
|---|
| 752 |
| 852 |
| 981 |
| A |
| DH |
| N |
| X |
| Z |
| Access 3 Pyramid |

*For cylinder options, see pages 43-44

### Finish

| Description | Specify |
|---|---|
| Bright Brass | 605 |
| Satin Brass | 606 |
| Bright Bronze | 611 |
| Satin Bronze | 612 |
| Dark Oxidized Satin Bronze, Oil Rubbed | 613 |
| Dark Oxidized Satin Bronze, Equivalent | 613E |
| Bright Nickel Plated | 618 |
| Satin Nickel Plated | 619 |
| Flat Black Coated | 622 |
| Bright Chromium Plated | 625 |
| Satin Chromium Plated | 626 |
| Bright Stainless Steel | 629 |
| Satin Stainless Steel | 630 |
| Black Oxidized Bronze, Oil Rubbed | 722 |



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# Conventional

# Mortise

## Key Systems

### Mortise Cylinders

For use with all mortise locks and DL3000 Deadlocks. IC: page 15. Security: page 17. Master Ring: page 20. Pyramid: page 24.

| Type | Length | Cam | Pins | Keyway | Finish |
|---|---|---|---|---|---|
| 1000 | 100 1" (5 pin only) | (see page 40) | 5 (1" length only) | (see pages 31-39) | 605 |
| | 118 1-1/8" (standard) | A01 Cloverleaf | 6 (standard) | | 606 |
| | 114 1-1/4" | A02 Straight | 7 (available for 1-1/4"-3") | | 611 |
| | 138 1-3/8" | A03 Adams Rite® MS and | | | 612 |
| | 112 1-1/2" | DL3000 Deadlock | | | 613 |
| | 134 1-3/4" | A04 DL4000 Deadlock | | | 622 |
| | 200 2" | A05 *Adams Rite* 4070 | | | 625 |
| | 214 2-1/4" | A06 Schlage® Cloverleaf | | | 626 |
| | 212 1-1/2" | A07 DL4100 | | | 629 |
| | 234 2-3/4" | A62 MR Straight / 900 Series Mullion | | | 630 |
| | 300 3" | A92 Exit Grip Trim 01 & 02 | | | 722 |
| | 314 3-1/4" | A93 Obsolete deadlocks: Corbin® 610 Series and Russwin® 1403 Series | | | |
| | 312 3-1/2" | | | | |
| | 334 3-3/4" | | | | |

### Flexible Head Mortise Cylinders

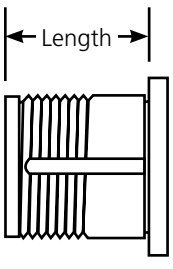
Use Flexible Head mortise cylinders only with sectional trim mortise locks. The head is spring-loaded to adjust for minor variations in door thickness. See page 20 for Master Ring

| Type | Length | Cam | Pins | Keyway | Finish |
|---|---|---|---|---|---|
| 1100 | 100 1" (6-pin std.) | (see page 40) | 6 (standard) | (see pages 31-39) | 605 |
| | 118 1-1/8" | A01 Cloverleaf | 7 (available for 1-1/4"- 1-1/2") | | 606 |
| | 114 1-1/4" | A02 Straight | | | 611 |
| | | | | | 612 |
| | | | | | 613 |
| | | | | | 618 |
| | | | | | 619 |
| | | | | | 625 |
| | | | | | 626 |
| | | | | | 722 |

### Concealed Shell Mortise Cylinders

Concealed shell cylinders are for mortise locks using "Plug Only to Show" escutcheon trim.

| Type | Length | Cam | Pins | Keyway | Finish |
|---|---|---|---|---|---|
| 1200 | 100 1" (6-pin std.) | (see page 40) | 5 (1" length only) | (see pages 31-39) | 606 |
| | 118 1-1/8" | A01 Cloverleaf | 6 (standard) | | 626 |
| | 114 1-1/4" | A02 Straight | 7 (available only for 1-1/4"- 1-1/2") | | |
| | 138 1-3/8" | | | | |
| | 112 1-1/2" | | | | |




Length is measured from behind the cylinder head to the end of the cam.
For cam illustrations and applications, see page 40.



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## 981 Series

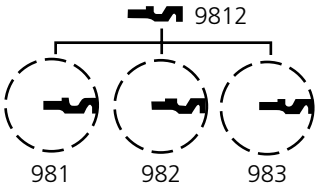
3 keyway multiplex system.
Available 5-, 6- and 7-pin.
981 Class bitting.

Security

Not Available

All-Section Key

Cylinder Keyway and Single Section Key




| | | | |
|---|---|---|---|
| Former 6-pin Designations | 961 | 962 | 963 |
| Former 7-pin Designations | 971 | 972 | 973 |

## N Series (Obverse)

14 keyways total: N1- N14.
Available 5-, 6- and 7-pin.
N Class bitting.

Former Designations

6-pin: 1N-14N
5- and 7-pin: 1K-14K

Security

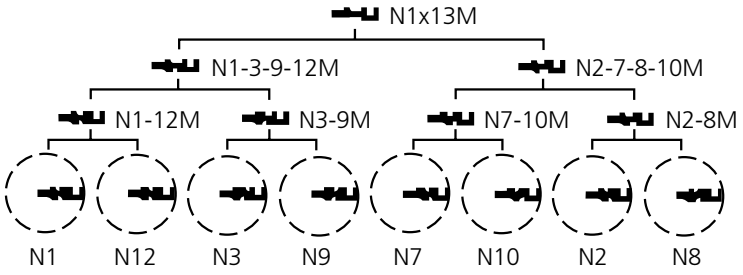
Not Available

All-Section Key

Multi-Section Key

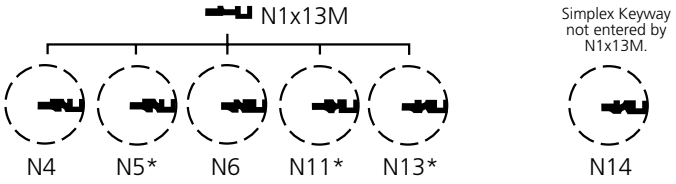
Multi-Section Key

Cylinder Keyway and Single Section Key




All-Section Key

Cylinder Keyway and Single Section Key




*NOTE: Do not use these pairs in the same keying system with each other: N1 with N13; N3 with N5; N7 with N11

## N Series (Reverse)

14 keyways total: N15- N28.
Available 5-, 6- and 7-pin.
N Class bitting.

Former Designations

6-pin: 15N-28N
5- and 7-pin: 15K-28K

Security

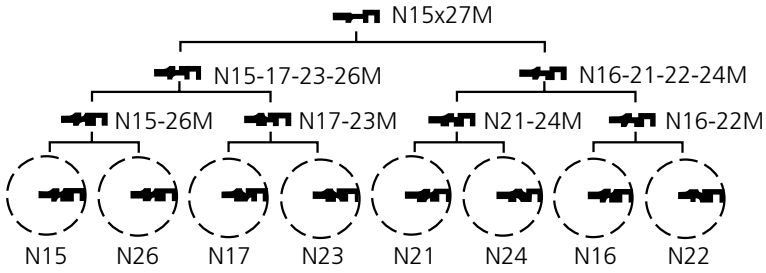
Not Available

All-Section Key

Multi-Section Key

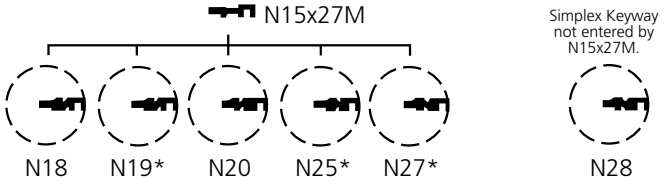
Multi-Section Key

Cylinder Keyway and Single Section Key




All-Section Key

Cylinder Keyway and Single Section Key




***NOTE: Do not use these pairs in the same keying system with each other: N15 with N27; N17 with N19; N21 with N25**



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# Quick Codes/How to Order

## Key Systems

### Stamping Options*

| Description | Quick Code |
|---|---|
| Keys stamped with bitting number | (standard) |
| No keyset or bitting stamping on keys | VKC0 |
| Keys only stamped with keyset (standard for HS, CHS, PS, PHS, PCS, PCHS) | VKC1 |
| Keys stamped with keyset, cylinders stamped with keyset on face of plug - not available for HS, CHS, PS, PHS, PCS, PCHS | VKC2 |
| Keys stamped with bitting, cylinders stamped with keyset on face of plug - not available for HS, CHS, PS, PHS, PCS, PCHS | VKC3 |
| Keys stamped with keyset, cylinders stamped with keyset in concealed location | CKC2 |
| Keys stamped with bitting, cylinders stamped with keyset in concealed location- not available for HS, CHS, PS, PHS, PCS, PCHS | CKC3 |
| Less Trade Mark (No Corbin Russwin logo on cylinders) | LTM |

*see page 6 for detailed descriptions

### KeyBow Options

| Description | Quick Code |
|---|---|
| Corbin Russwin logo | (standard) |
| Plain both sides | KB11 |
| Do Not Duplicate | KB12 |
| US Property Do Not Duplicate | KB13 |
| Protected Do Not Duplicate (only for protected keyways) | KB19 |
| Restricted Do Not Duplicate (only for restricted keyways) | KB19 |
| Pyramid (only for Pyramid keys) | KB28 |
| Large bow, plain both sides | KB51 |
| Large bow, Do Not Duplicate | KB52 |
| Large bow, US Property Do Not Duplicate | KB53 |
| Large bow, protected Do Not Duplicate (only for protected keyways) | KB19 |
| Large bow, Restricted Do Not Duplicate (only for restricted keyways) | KB59 |
| Security bow Corbin Russwin logo (only for security keys) | KB90 |
| Security bow plain both sides (only for security keys) | KB91 |
| Security bow, Do Not Duplicate (only for security keys) | KB92 |
| Security bow, US Property Do Not Duplicate (only for security keys) | KB93 |
| Security bow, protected Do Not Duplicate (only for security keys, protected keyways) | KB99 |
| Security bow, Restricted Do Not Duplicate (only for security, restricted keyways) | KB99 |

# How to Order Cylinders

### Mortise Separately

| Keyset | Cylinder | Length | Cam | Pins | Keyway | Finish |
|---|---|---|---|---|---|---|
| AA1 | 1000 | 118 | A01 | 7 | L4 | 626 |

### Rim Separately

| Keyset | Cylinder | Length | Pins | Keyway | Finish |
|---|---|---|---|---|---|
| AA1 | 3000 | 058 | 7 | L4 | 626 |

### Key-in-Lever/Knob Separately

| Keyset | Cylinder | Lockset Series | Pins | Keyway | Finish |
|---|---|---|---|---|---|
| AA1 | 2000 | 033 | 7 | L4 | 626 |

### IC Cores Separately

| Keyset | Cylinder | Pins | Keyway | Finish |
|---|---|---|---|---|
| AA1 | 8000 | 7 | L4 | 626 |



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