

white paper:

Color-coded Filing Systems in the 21st Century:

New Uses for an Established Tool



In 1967, TAB Products Co. launched CompuColor™ labelling products for application to computer punched cards.

With keyboard interfaces still years away, computer programmers entered code by punching holes in specialized paper. Cards were fed into scanners, and the positions of the holes were converted into logical operations by gigantic mainframe computers. Even the tiniest datum required its own card, and a complete computer program occupied numerous drawers full of cards.

Little wonder, then, that an entire computer program could be disabled by a single missing or out-of-sequence card. TAB's CompuColor product mitigated this risk by labelling each punched card with color tabs, with one standard color for each digit in the card's sequencing number for a respective card. Breaks or errors in the numerical sequence would appear as glitches in the color pattern, helping programmers to identify and fix problems before they could affect system operations.

Forty years later, punched cards are computing science history. But color-coded filing techniques are still an integral part of effective information management. As early as 1971, TAB began incorporating CompuColor into its business document filing systems. Today, products such as Datafile™ manual labels and TABQUIK® labelling software help organizations in such diverse sectors as health care, insurance, legal services, and natural resources.

What is it, then, that allows color coding to transcend its original purpose and remain popular four decades later? Better yet, how can it remain a critical records management tool in the new age of Sarbanes-Oxley, privacy legislation, growing environmental scrutiny, and soaring real estate costs? This discussion answers those questions by returning to the basic principles of color-coded filing and then applying those principles to the everyday realities of managing business information in the 21st century.



What is Color Coding? How does it work?

At its most basic, color coding may be defined as assigning standard colors to different file label elements. Each numerical digit from 0 to 9 corresponds to its own standard color, as does each letter of the alphabet from A to Z. Similar color standards are available for months, years, and other important filing elements. The colors provide users with a visual cue that works faster than text alone. Just as a safe driver responds to a red octagon or traffic light before they even process the word 'STOP', so too does an accustomed user of a color-coded file retrieval system instantly recognize a certain shade of pink as the number 8, or a certain yellow as the letter E.

Most members of the general public will have seen color coding at work in their doctor's office or even as background props for a television medical drama. While health care is not the only application of color-coded filing, it is certainly an effective example of how the system works. Most clinical filing systems use end tab filing solutions. File folders are arranged from left to right with color-coded labels for patient numbers attached to the end of the folders and facing the front of the storage system. This creates blocks of color, as all file numbers beginning with the number 1 (e.g. 1000-1999) start with the same color, and all files beginning with the number 2 start with another color. Any files placed in the wrong block of numbering should be instantly recognizable to staff as a break in the color pattern, averting the inefficiency and risks associated with not being able to find that file later.

Again, this technique is not unique to health care. Here are just some of the more common applications for color-coded filing in today's business environment:

- Case files in a law firm.
- Client files in a banking or other financial services company.
- Policy files in an insurance company.
- Project files in an architectural, engineering and/or consulting setting.
- Natural resource asset files organized by an industry-recognized identification number, such as a Universal Well Identifier (UWI) or Pipeline License Number.
- Employee-specific files held by a Human Resources or Occupational Health and Safety department.

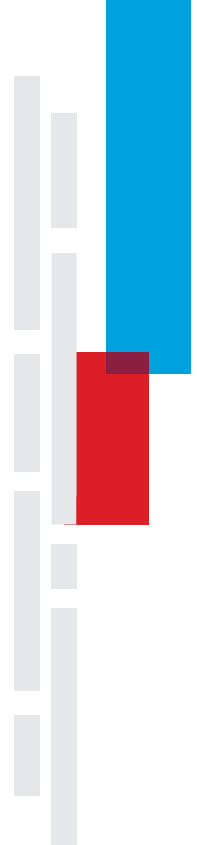


How does it help? The Business Case for Color Coding

Records Retrieval and Decision Making

Color coding improves the reliability of business information by making it easier to locate a given file on the shelf and proactively addressing the risk of misfiles. Those are very simple principles, but the benefits of efficient, accurate information retrieval can extend to a sophisticated array of business needs and situations. Effective records retrieval is as much about risk management and legal compliance as it is about everyday convenience. Records play two roles in business. As a source of information, they directly participate in decision-making, transactions and communications. In the signing of a contract or the issuing of a cheque, there would be no transaction without the making of a record. Secondly, records provide legal evidence of business activities, and may be needed later to account for those activities in a law suit, audit or other sensitive situation. Given the integral role of records in business, slow or unreliable records retrieval can mean dire consequences for an organization. Realistic worst case scenarios include:

- **OPERATIONAL DOWN-TIME:** Accountants cannot do their work without receipts, invoices and other financial records. Engineers cannot do their work without design documents, materials specifications and construction drawings. The list goes on. The cost implications of this scenario are disturbing enough, as expensive professional and technical resources spend hours searching for records or recreating lost information. Even that cost can appear small compared with the profits lost when business comes to a standstill. A penny saved is a penny earned, but every day an oil well goes undrilled or a contract unsigned can be a million dollars lost. Better to spend the pennies on effective records management and save the millions.
- **LOST OPPORTUNITIES:** Recent years have seen a marked increase in acquisition and divestiture activity. Success in many different sectors depends on a company's ability to acquire the right assets at the right time. Asset acquisitions can range from entire corporations to land-based natural resources and joint operating rights. When an asset goes up for sale, the bidding process can be fast and intense. For the company selling the asset, keeping prospective buyers interested means providing all relevant information about the asset and answering questions in a timely manner. The buyers themselves may need to gather their own internal information: Did they ever have any joint or partial interest in the asset? If so, how did it perform? Still other records may need to be produced at the demand of regulators responsible for approving the merger, acquisition or divestiture. With a long line of competing suitors eager to acquire the asset, no buyer wants to tell a regulator or prospective business partner to come back later for records that cannot be found today.
- **LEGAL SANCTIONS:** The laws of virtually every legal jurisdiction in the world contain serious requirements for the creation, submission, and auditing of critical business documents. As just one such example, the Sarbanes-Oxley Act of the United States contains detailed reporting requirements to ensure that publicly traded companies are accountable to securities regulators. Organizations in virtually every line of business must be accountable to legislated authorities and respond to periodic audits around such issues as environmental impact, personal safety, and taxation. Recorded information is critical to demonstrating compliance and/or supporting claims, and the inability to do just that can result in hefty fines, punitive damages or even imprisonment, to say nothing of what the reputation damage can mean for relations with customers, investors and the general public.



Records Retention and Disposition

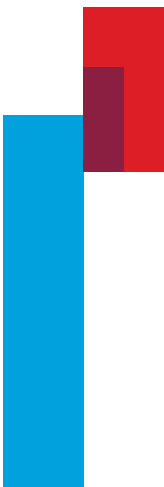
The implications of not having sufficient information takes on a whole new level of risk when we consider the records retention requirements that appear in laws ranging from general civil procedure to industry-specific regulations. At their most direct, laws may specify which documents must be retained and for how long. Other legal requirements are more indirect. Without mentioning records, a law can imply a retention period in the form of limitation periods for law suits, monetary claims, audits, and other legal actions. As long as legal action is possible, records may need to be called upon as evidence.

But as every sector of business also becomes more information-driven, traditional records retention requirements are sharing space in law libraries with entire statutes and regulations concerned primarily with how information is documented, stored and used. A review of two of the most prominent legal developments in the early 21st century shows why many organizations are re-examining their records storage, retrieval and disposal:

- **CORPORATE REPORTING LAWS** such as the Sarbanes Oxley Act of the United States have placed an increased emphasis on records as a source of accountability. Sarbanes-Oxley is especially clear on this point, as any person who “alters, destroys, mutilates, or conceals a record ... with the intent to impair the object’s integrity or availability for use in an official proceeding” may receive a heavy fine, up to 20 years in prison, or both. Similar statutes and regulations are being developed by authorities in other jurisdictions, including provincial securities regulators in Canada.
- **PRIVACY LAW** is an area of growing concern in jurisdictions as diverse as Canada, the United States, the European Union, and Australia. While the details may differ from one place to the next, the basic theme of most privacy laws for records retention is increased responsibility for ensuring that records are kept long enough but not too long. On one hand, individuals now have the express legal right to access recorded information about themselves, with certain exceptions. An organization must therefore take reasonable steps to retain personal information long enough for subject to exercise their right of access. On the other hand, it is a breach of privacy to retain personal information for too long. Many privacy laws directly state that personal information can only be retained for as long as necessary to meet the purposes for which it was originally collected.

For any records manager attempting to schedule retention periods for different categories of records, these relatively new legal developments make it more important than ever that they do their job right. Records need to be disposed of once their retention has lapsed, but good luck to any organization that develops a pattern of destroying files too early or by accident. A carefully researched Records Classification and Retention Schedule is critical to identifying those retention periods in the first place. But such a tool is useless as long as it sits idle on a shelf or is applied carelessly. Practical tools are necessary to regularly identify records whose retention periods have lapsed (and only those records), making them eligible for secure disposal.

As a reliable means of identifying file content, color-coded systems can play a central role in regular application of records retention periods. By identifying files more clearly, color coding reduces the risk of the wrong file being pulled from the shelf and destroyed during an annual purge. If a file is mistakenly shelved with a batch of older files, the break in the color pattern will help staff to catch it, either before the older files are removed or even once they have been packed into cartons for pick-up by a secure disposal service provider.



Beyond mere prevention of disposal errors, color coding can also play a direct role in making the retention process itself easier and more efficient. This is especially true for any chronologically arranged file series whose retention period is based on the end of the year in which the files were created. If records retention is applied annually, an entire year's worth of files may be eligible either for destruction or transfer to a more cost-efficient offsite storage facility at the same time. Color coding helps users to quickly identify the block of eligible files to be pulled from active storage. Easier application of retention periods means less likelihood that the whole process will get put off for yet another year, as is unfortunately the case in some instances. Records retention periods are applied accurately and on time, mitigating the compliance risks associated with both insufficient and excessive retention.

Privacy and Information Security

Effective application of records retention periods is just one way in which color-coded filing can help an organization comply with new privacy laws. Privacy also depends on confidentiality. Organizations must safeguard sensitive information against security breaches, and even authorized personnel should only access information as needed to perform legitimate business tasks and transactions. Again, color coding can help, by providing:

- **CONTROLLED RETRIEVAL:** For files related to specific individuals or companies, maintaining security means making it difficult for unauthorized parties to find sensitive information about a co-worker, relative or business rival. It may not make sense, then, to label and arrange files by the name of the person or company. By labelling and arranging files by an internal numbering scheme, an organization limits access to those authorized users who also have access to the indexes necessary to link names with numbers. Admittedly, this can add a step to the retrieval process, but that's where color coding comes in. In most cases, it takes less time to look up a number and then find that number in a color-coded system than it would to leaf through and read many rows of black-and-white text labels.
- **ANONYMITY:** The contents of a file can be damaging enough. In some organizations, the mere fact that a file exists for a given subject is itself a piece of highly sensitive information. Consider the example of health care clinics, which commonly use color-coded numeric sequences for patient files. File labels with patient names can provide a virtual list of individuals who have used the clinic's services. What if the labels are visible to waiting room visitors, cleaning staff or any other non-medical staff who glances in the direction of an open filing cabinet? For a clinic that focuses on a particular health complaint or condition, the mere fact that a person is a patient is enough to give clues about diagnosis and treatment details. Nor is this scenario relevant only to the health care field. Legal firms, law enforcement authorities, and debt collection agencies are just some examples of organizations that could benefit from replacing text-based file labels with a color-coded system.
- **MISFILE PREVENTION (REVISITED):** Throughout this discussion, we've seen repeated examples of how color coding can improve business efficiency and legal compliance by helping staff to detect misfiles. Privacy is no exception. When an individual's personal information ends up in someone else's file, or their file ends up in the wrong location, there is an increased likelihood that staff will access and view that information in error. Similarly, when they cannot find a given file or document, staff may need to skim through any number of files to locate what they need. Accessing personal information unnecessarily is a compliance risk in its own right, and the more information an employee accesses, the greater the risk that they may use or disclose it illegally. The fast retrieval of a color-coded system mitigates this risk, as employees find exactly what they need and only what they need to perform authorized job duties.



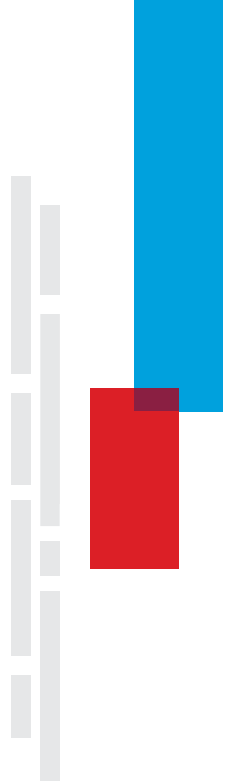
Managing Space

With real estate costs rising in pace with business growth, many organizations are forced to house more people, operations and equipment in less space. The problem is especially acute for records management professionals, as growing business means growth in business records. Today more than ever before, effective records management must play a central role in the cost-efficient design and use of available floor space.

The records management industry has responded to this growing trend with filing equipment and supplies which can store more records using less total floor space. Here are just some of the filing solutions that can help an organization make more efficient use of storage space:

- **LATERAL FILING:** More traditional vertical filing arranges files from front to back in a pull out drawer. A four foot deep vertical file cabinet requires an additional four feet of floor space at the front to accommodate the pull out. Lateral filing avoids this problem by arranging files from left to right, reducing the necessary clearance space to the length of one file folder. When lateral filing is combined with an end tab folder design, the clearance space drops to zero, as file labels can be read and folders removed without a pull-out drawer or shelf.
- **MOBILE VS. STATIONARY SHELVING:** Mobile shelving systems are equipped with rollers which sit on tracks in the floor. Instead of one aisle for every two rows of stationary shelving, a mobile solution can function with as little as one aisle, which users move to access files in a given row. Less aisles means either less total floor space needed to store the same volume of files, or more storage potential in the same space.
- **END TAB FOLDERS:** End tab file folders are designed to hold labels on the side rather than the protruding top tab of more traditional folders. File can sit upright in either open faced cabinets or shelving, eliminating the need for pull out drawers and bulky hanging folders. Also, without the protruding top tab, end tab folders are shorter (in height), allowing the filing system to stack more usable rows of shelving on the same square footage of floor space. Finally, because it is not necessary to have the top of the folder at eye level, end tab labels allow files to be stored at a higher position while still keeping label information readable.

Lateral filing, mobile shelving, and end tab folder solutions can have a dramatic impact on space utilization, but their full potential is realized once they are combined with a color-coded filing solution. Color coding can certainly be useful for top tab filing and vertical storage, but its design is especially well suited to end tab solutions, helping users to read retrieval information without removing files from the shelves. While end tabs alone increase the number of filing rows readable from a normal standing position, that visibility range is increased further still by color coding. A color-coded end tab solution can allow as many as seven easily usable filing rows. As a key component of an integrated storage solution, color coding can help improve overall space utilization by more than 330%.



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Conclusion

Business organizations today face a range of new challenges, from increased merger and acquisition activity to exploding real estate costs to a renewed emphasis on legal compliance. But the introduction of new challenges does not always mean the end of more established tools and techniques. Established principles of space management, records retention scheduling and file classification are more important than ever, as success in records management demands innovative use of every physical and digital tool at the professional's disposal.

Color-coded filing systems are one of the main tools that can help an organization manage and use records with optimal legal compliance, risk management, and return-on-investment. What began as a simple visual aid for machine readable computing cards can also ensure the smooth operation of the increasingly complex machine that is human business activity. Just as a single out-of-sequence punch card could render a computer program useless, lost or misfiled business records can wreak havoc in the form of operational downtime, lost deals, or legal troubles. At the other end of the spectrum, an organization whose records are arranged and retrieved as reliably as possible can avoid risk, save costs and better achieve its business goals. Color-coded file systems can serve as a catalyst for meeting this challenge, proving as so often before the role which established inventions can play in new business realities.



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