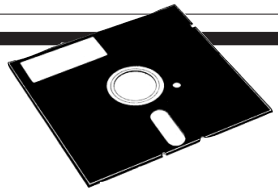
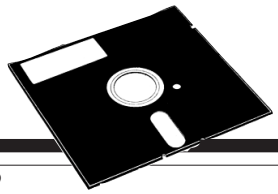


Taking Care of Business

Macintosh Style!

by Bill Smith

With new business software, the Mac's finding a home in the builder's office



"Yeah, the Mac is easy to use and has great graphics, but I don't think it's the right computer to run construction business software." This feeling persists, even among those who already own Macintosh computers.

This article is designed to change that perception. Although there's still no fully integrated, do-everything construction program for the Mac, there are many excellent stand-along programs for construction management.

The Mac's real strength is its ability to create a custom-integrated package. Given enough memory, it allows you to run a word processor, estimator, and drafting program simultaneously. Or you may wish to run project-management and accounting programs. In many cases, the Mac makes it simple to "paste" data from one program to another, giving you some of the power of a fully integrated software system.

Many of the following programs are "templates." A template is a software program that adapts a generic program to a specific use 0 in this case construction management. Templates use a programmable spreadsheet (commonly Microsoft Excel) or a programmable database (like Omnis 3 Plus) as a shell.

With a spreadsheet template, the user enters a series of numbers – for example, material quantities – and the program calculates the estimate. If you change any value, such as the number of 2x4s, the system automatically recalculates the bottom line. You can use the computer to ask questions like: How would adding another bathroom and putting in less expensive siding affect the total cost?

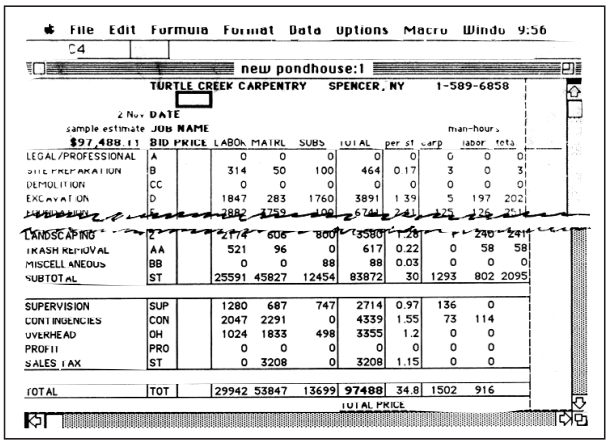
Spreadsheet templates offer great flexibility since you can customize the template for your style of building – if you're willing to learn how to program a spreadsheet. This feature is important, since every estimating system has the designer's bias built in. Unless the system is customizable, you must adapt your estimating style to the programmer's.

Spreadsheet programming is not too difficult, particularly on a Mac. In my opinion, it's much harder to learn how to frame stairs. But, if you're unfamiliar with computers, it will take some getting used to.

All the spreadsheet templates covered in this article are based on the spreadsheet Microsoft Excel. Excel is considered by many to be the best spreadsheet in the world. One of its virtues is its ability to automate any function, using a feature known as a macro (essentially a series of computer commands executed by striking a single key). Not only can you easily create your own macros, but the authors of the following templates have created macros for you.

If you stick with the built-in macros, you won't need to learn a great deal about how a spreadsheet works. However, if you work with custom macros you'll need to learn some basic spreadsheet programming to handle the times when your macro malfunctions and dumps you back into the bare spreadsheet.

These templates allow the user to print out any portion of the spreadsheet onto a compatible dot-matrix, letter-quality, or laser printer. In addition, Excel can create instant graphs of the summary data as a bar chart, column chart, pie chart, or line graph. If the numeric data changes, associated graphs change as well.



MacNail is a template for the spreadsheet Excel. It precalculates materials and labor for 28 categories, based on built-in formulas, which you can customize.

MacNail

MacNail's programmers clearly understand construction problems. Until recently they were both builders and programmers; now they make their living solely as programmers. The result is a set of well-organized, elaborate templates for estimating, scheduling, and job costing. There are different spreadsheets for new construction, small jobs, gut/rehab, and additions.

The manual does an admirable job of teaching the user how to use the basic features of Excel and the MacNail template. You begin the process by measuring and counting about 20 items from the plans, such as length of exterior walls, area to be graded and seeded, and foundation height and perimeter. After entering these items into the spreadsheet, it's a pleasure to have the computer calculate the bottom line in less than a minute – including a breakdown of 28 major components, including overhead and profit. My immediate impression of these spreadsheets was that they were very well thought out.

My second reaction was to wonder if any major items of the estimate were left out, and how the program could possibly account for a given builder's style of construction. In fact, MacNail provides a quick estimate because it precalculates quantities for many construction items based on formulas for "average" construction. You're then able to fine-tune the estimate by reviewing and modifying items as needed.

It's here that the true value of a spreadsheet shines through if you're

willing to learn how to customize it. If you always use 2x6s with an inch of rigid foam for exterior walls, for example, you can modify the template to reflect this. In addition, it's easy to add any special items or construction methods.

The program's author is wise to recommend that you first try out the program on a job you've already estimated by other means. In this way, you'll quickly learn just how accurately the program reflects your costs. A variety of "fudge" factors let you compensate if the program always tends to over- or underestimate jobs.

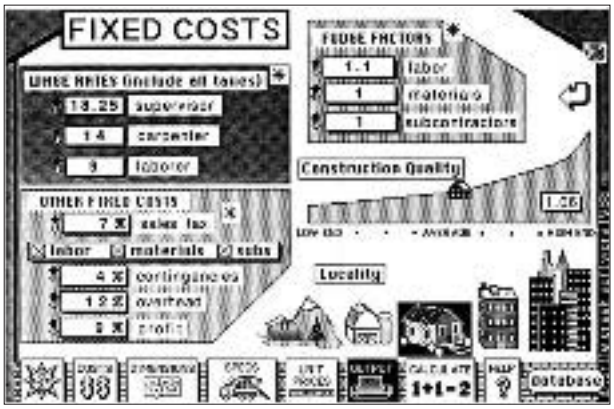
MacNail's great flexibility, however, has its costs. It's not hard to cause serious problems if you don't take the time to understand spreadsheet programming. Naturally, you can recall the original templates from the master disks, but you'll lose any customization in the process. Thoughtfully, MacNail even includes macros to repair damage that you may inflict!

MacNail includes a macro to create project schedules based on job details and crew size. This includes a reminder function to help manage punch lists. A general-ledger section tracks dollars in and out of each project, including payroll, a checkbook, and payments. In addition, the spreadsheet can be used to track actual versus estimated costs for the 28 major categories, and project profit or loss for a particular job.

The program even produces a materials takeoff for an estimate, another feature that will gladden the hart of any contractor. The list includes the item's purpose, the length of each piece (if appropriate), the number of pieces (in purchase quantities), the material name, and even the tools needed!

The major MacNail spreadsheets are very big and take quite a while to recalculate. A hard disk isn't required but is strongly recommended – otherwise you'll be making many annoying disk swaps. You'll also appreciate an accelerator card with a built-in math coprocessor. Once you install one of these speed demons you won't be able to go back to the standard Mac. An accelerator is standard on the Macintosh II, and can be added to the Macintosh SE and (somewhat awkwardly) to a Macintosh Plus.

MacNail
List Price $295 (requires Microsoft Excel)
Turtle Creek Software
651 Halsey Valley Rd.
Spencer, NY 14883
607/589-6858



HyperEstimator does a quick rough estimate using a friendly graphic format. The results can later be transferred to MacNail.

HyperEstimator

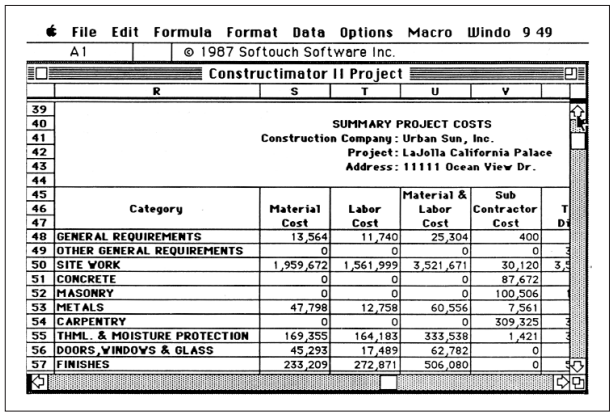
Turtle Creek software has recently crafted an extremely friendly "front end" to MacNail, called HyperEstimator. Based on Hypercard system software included with every new Macintosh, the estimating system is a true joy to use.

True to most Hypercard applications, HyperEstimator relies heavily on graphics to help the estimator enter data. After entering known costs, such as labor rates, sales tax, and overhead and profit percentages, the user clicks a graphic display of the type and quality of construction. The program then graphically prompts the user to enter the square footage of various components, the type of construction, window and door counts, and the type of heating system. In addition, the user can click on the specifications and costs for each of 18 different construction categories, from foundations and framing to landscaping and special systems. Each screen is beautifully laid out: a visual feast of information, but not overwhelming.

After entering this information, the user merely presses the "calculate" button, and the system provides a breakdown of the 18 categories for labor, material, and subs. Although my pre-release version had some minor bugs, they should be worked out by the time you read this. I highly recommend this system for quick estimates. HyperEstimator could, alone, provide justification for many contractors to buy a Macintosh.

Keep in mind, however, that HyperEstimator only estimates the total cost of a building project and is not appropriate for unconventional jobs. It doesn't provide all the ancillary functions of MacNail, such as job-cost tracking and materials takeoffs. It doesn't even allow you to keep track of previous estimates, except for the most recent estimate. HyperEstimator's icing on the cake, however, is its ability to export its results directly into MacNail. This makes it ideal for generating quick estimates on routine residential construction. Once a job was landed you wold export the data into MacNail.

HyperEstimator
List Price $95 (requires HyperCard)
Turtle Creek Software
651 Halsey Valley Rd.
Spencer, NY 14883
607/589-6858



Constructimator keeps track of materials and labor on any type of construction work, based on the 16 CSI divisions. But the user must calculate quantities off-screen.

Constructimator II and CPMS II

Softouch Software offers two sets of spreadsheet templates, Constructimator II and CPMS II (for construction management system). All of Softouch's spreadsheets are simpler, more understandable, and easier to customize than any of the templates reviewed here.

Constructimator II is an estimating system for material, labor, and supplies. Like most estimators reviewed here, profit and overhead are applied to the total estimate, not to each line item. Cost breakdowns are calculated via the 16 Construction Specification Institute (CSI) divisions or calculated with "unit pricing," which allows users to create their own categories. This is particularly handy for specialty projects that don't fit into the light-construction norm.

The program starts by asking the user to enter the number of items in the bid (which seems like an odd question at the start of an estimate). For the number of items selected, the system automatically builds a summary price list, a breakdown of each unit price, and a request-for-payment worksheet. Material, labor, supplies, subcontractors, company fees, overhead, and profit are calculated at the detail level. In the job-costing section, the computer calculates variations between the estimate and the actual costs.

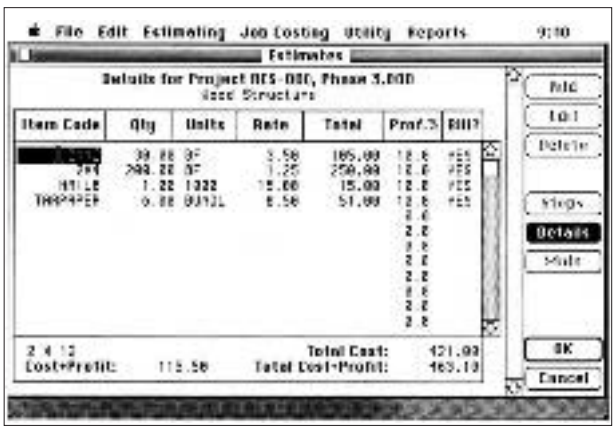
Unlike MacNail, Constructimator II can't automatically calculate quantities (such as sheets of drywall, based on wall length). Rather, Constructimator requires the user to calculate quantities of each item manually. This makes it, in essence, a large, automatically recalculating list of items. Furthermore, Constructimator uses macros only sparingly, which is unfortunate considering what Excel can do with macros. Any contractor whose work fits into MacNail's "averages" will find Constructimator tedious by comparison.

On the plus side, Constructimator is much smaller than MacNail, starts up more quickly, uses less memory, and recalculates more quickly. Also, the summaries are laid out very nicely.

Anyone needing a straightforward estimator that provides a handy materials checklist should find the program useful. It's also useful for projects that don't fit the mold of standard residential new construction – remodeling, for instance.

A companion product to Constructimator is CPMS II. I did not have a chance to try this component, but according to company literature, it helps you track estimate items, subcontractor bids, variation of bids to estimate, the start date, the end date, the percent complete, the percent of bid invoiced, and the percent of bid paid.

Constructimator II
List Price $195
(requires Microsoft Excel)
CPMS II
List Price $95
(requires Microsoft Excel)
Softouch Software Inc.
2066 NW Irving St. Suite 2
Portland, OR 97209
503/241-1841



Written in the programmable database Omnis 3 Plus, Construction Contractor Management combines estimating and job costing, and links with accounting modules.

Construction Contractor Management

Construction Contractor Management is designed to be a comprehensive system for general contracting. By itself, Construction Contractor Management handles estimating, job-costing, and expense tracking.

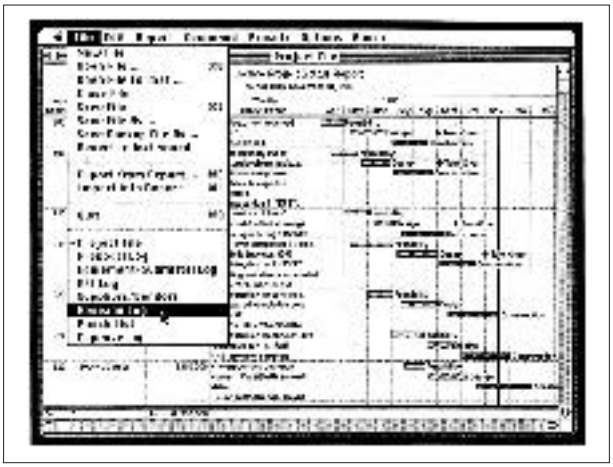
To use this system you must first develop a database of component parts, and assign a code number, description, cost, and profit percentage to each item. After entering the name and address of each estimate, you then define the phases necessary for that project. Each phase is then broken down into details, where you enter specific items. You have to enter the item code and quantity of each item (calculated manually!). The computer merely organizes and adds up the estimate. After the bottom line is calculated, you can convert the estimate into a job by pressing the screen button "Approve." Since the program makes no assumptions about what or how you build, this type of program could be useful for remodeling or unusual new construction.

Written in the programmable database (Omnis 3 Plus), the program has a different "look and feel" than spreadsheet-based estimators. Although Omnis 3 Plus can be programmed to do almost anything, with this program you cannot make any changes (Excevier Corp. will customize it for you, however). The manual offers the bare minimum: There are no installation instruction, no tutorial, and no index. It really helps to know how to use Omnis 3 Plus to use this program.

One of the primary advantages of this system is its ability to link with Excevier Corp.'s stand-alone accounting modules: general ledger, accounts-payable, accounts-receivable, and payroll. These standard accounting modules appear to work well with data from Construction Contractor Management, but the integration among modules is not seamless as in programs like Simply Accounting.

Cost entries or change orders are linked to a particular job, so the program can track revenues and expenses by job. Bills can be produced onto the AIA G702 "Application for Payment" form or other invoice styles. A variety of reports round out the module, including one report that compares the estimated cost and profit for material, labor, equipment, and overhead to the actual percentage-complete figures. Other reports list all estimates, all bids, costs for any job, change histories, subcontractors, and all material, labor, and equipment used for any job.

Construction Contractor Management
List Price $1050
$295 each for General Ledger, Receivables, Payables, Payroll
(Requires Omnis 3 Plus program or runtime version by Blyth Software, Foster City, Calif.)
Excevier Corporation
PO Box 671
Hopkins, MN 55343
612/938-3361



AEC Information Manager is a specialized database designed to help you schedule and track multiple projects.

AEC Information Manager

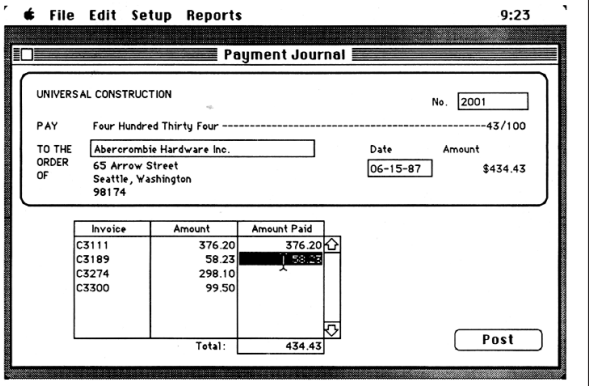
AEC Information Manager is a specialized database that excels at keeping track of people, projects, equipment, and time. Suitable for the contractor trying to manage many projects and people, this program can help organize the ongoing mess and display great looking reports that summarize any project in a multitude of ways.

Set up like most other databases, you define the "fields" necessary to define information, which can be text, numbers, dates, times, addresses, project logs, or submittal logs. The last two fields have special features that calculate either the start, finish, or duration of a project if the other two are given.

The program's major strength is the quality and variety of reports. Reports can be displayed as text organized by project and can include a Gantt time line for work in progress (derived from project and submittal log data). You can double-click on details of a report to receive specific information on a project.

AEC Information Manager doesn't calculate estimates, handle accounting, or do critical-path scheduling. However, for general-purpose project management, it's a facile tool worth your consideration.

AEC Information Manager
List Price $695
AEC Management Systems, Inc.
20524 Amethyst Lane
Germantown, MD 20874
301/428-3694



Simply Accounting has a familiar look and feel to anyone familiar with bookkeeping. For example, pick the payment symbol from the main menu, and you get the checkbook, shown above.

Simply Accounting

Simply Accounting is an accounting system that integrates a general ledger, accounts payable, accounts receivable, payroll, inventory, and significantly, job costing. Unlike high-end accounting systems that provide separate modules for each of the above systems, often costing up to $700 each, Simply Accounting is an affordable $349 for the entire package. It's not designed for large businesses, nor will it provide every type of financial report. As the name implies, it's simple accounting – solid and dependable with few bells and whistles.

The system works quite well for a construction business, perhaps due to the fact that the original program designer spent eight years as a building contractor. But it isn't specifically designed for construction: There's no accommodation for subcontractors, estimating, or scheduling.

The program takes full advantage of the Macintosh interface: The user is presented with a series of ledger book symbols representing General, Payable, Receivable, Payroll, Inventory, and Projects, and a series of journal book symbols representing General Ledger, Purchases, Sales, Payroll, Transfers, Payments, Receipts, and Adjustments. The user merely clicks twice on the appropriate ledger or journal to create a new entry.

The program is unintimidating, straightforward and almost pleasant to use. Much of the operation is similar to manual methods, so there should be minimal learning necessary. The manual does a great job of explaining the programs' operation; it even has a short tutorial on accounting basics.

To record a lumber purchase, you merely double-click on the purchase journal symbol. You then type the first two letters of a yard's name and press "Enter," which displays a list of vendors and the program's best guess of the correct vendor. You confirm the correct vendor by pressing "Return."

For each line item you enter a code. If the incorrect item is entered, a handy list pops up to remind you of the appropriate code. The program then automatically displays the item description, the unit price, and the appropriate account number. You then enter the quantity of the item and the program calculates the total price. You can also attach the name of a particular project to each line item.

To produce your check to that lumberyard, you merely double-click on the payment symbol – a graphic representation of a check. Here, as with purchases, just the first few letters of the vendor will do. The screen even displays the vendor's previous invoices and any outstanding balances.

The main value of the program is to link any revenues and expenses to a particular project. At any time you can produce a list of aged receivables for any customer and the revenues and expenses for any part of any project.

Simply Accounting
List Price $349
Bedford Software Corp.
15311 N.E. 90th St.
Redmond, WA 98052
206/883-0074

Summary

The crux of an estimating system is how easily it gets you to the bottom line. Many systems discussed here require that you calculate quantities of most items. They are, in effect, glorified hand calculators. MacNail, on the other hand, eliminates much manual labor since the computer calculates quantities of common items based on built-in formulas for "average" construction components (that you can customize). In particular, I am impressed with Turtle Creek's HyperEstimator, which can generate quick preliminary estimates.

Although MacNail does a good job of keeping track of expenses and payments received, it only does so for one project at a time. To track a company's big financial picture, you'll need a program like Construction Contractor Management, which integrates estimating with job cost. This is just the ticket if you don't mind having to calculate quantities of building components manually.

If you like MacNail's features and style but still need a good general accounting system, you could use HyperEstimator and MacNail to estimate and produce a bill of materials, and then use Simply Accounting to track all revenues and expenses. What the builder really needs for his Macintosh is a system that integrates the power of both these programs. ■

Bill Smith, of Coastal Computer Center, in Portland, Maine, specializes in sales of Macintosh computer systems to contractors, architects, and engineers. He reviewed several low-cost CAD programs in the July 1987 issue.