Product documentation for the end user

By Robert D. Grossman

A professional-looking "owner's manual" is certainly beneficial to your customer, but it can also dramatically affect your company's image, reputation and bottom line.

As contractors, project managers or other technical professionals, we are trained in the fine art of designing, installing, troubleshooting and turning over large electronics systems to proud and anxious customers. The feeling is much like a doctor delivering a baby:
Something wonderful has been given to its parents. However, the most frequent complaint also parallels that of the new Mom and Dad: "Doesn't this thing come with an owner's manual?"

Project documentation is arguably the most important part of an installation. When done properly, it can reap enormous benefits for your company, the customer and the people hired to operate and maintain the system. If you simply hook everything up, hand over the owner's manuals provided by the manufacturer, and send a salesperson around to sell a service contract in a few weeks, you do all of these people a disservice. And you hurt your business far more than you imagine.

Putting the proper items into your system's "owner's manual" is certainly beneficial to your customer, but properly prepared documentation is also beneficial to the contractor. It can dramatically affect your company's image, reputation and bottom line.

Myths

First, let's explode a few myths. The most common myth: "We don't have time to prepare all of that material." Nonsense. By carefully planning this "owner's manual" from the start as another part of the project, you'll save time (and money) on installation and you'll eliminate the time and expense of warranty service calls that are merely "hand holding."

The second myth: "We'll give our secrets away to our competition." Again, this belief is foolish. Your competition probably knows all of your secrets they care to know. Don't you know quite a bit about them? And even if they were interested in copying the way you do things, that puts them a step behind you — not a bad place for them to be.

The final myth: "We don't know how. We're contractors, not publishing companies." This one takes a little more work. With the advent of the personal computer and the laser printer, anyone can turn out professional-looking work. There are plenty of good books and articles on desktop publishing that can quickly get you up to speed in the appearance department. As for content, that part is all in your head. After all, that's why you were hired.

A selling tool

An "owner's manual" on a system can be a valuable resource for the customer and an ongoing sales tool for the contractor or installer. It should be attractive and thorough, answering any question the customer might have on the use and repair of the system, and it should be in a format the customer would be proud to pull off the shelf and show to colleagues. An impressive binder, pretty drawings and complete charts and tables are perhaps more important after the sale than before. The initial proposal can, at best, sell one system; a well-written and produced "owner's manual" can sell many jobs down the road.

It doesn't need to be a major project to produce this book. You had to do most of the work to design, bid and install the project. Such information as specifications, warranty statements and service procedures can be produced as "boilerplate," with minor customization on a word processor to reflect a particular job.

A word about the format. Although custom binding (spiral-bound or other publishing formats) might at first blush appear the most professional, I believe a 3-ring binder can be the most practical. It allows for frequent changes, it can easily be updated as the job progresses, and it permits the use of many different page sizes —just fold larger sheets to fit into the book. The binder can progress as the job moves along and you add documents as they are created. When the project is complete, so is

Sell it with tables

When you include the charts, tables and schedules needed for the job, you're doing more than presenting valuable information. You're also showing the time and effort you put into the job. Here's some examples of tables that can be included in a system "owner's manual":

• Input schedule: Where do the signals come from? Make sure you include the following information:
Video systems: input number, location, type (tape, color camera, quad), model number, type of lens, type of housing, and any comments.
—Audio systems: source (microphone, tape, VCR, telephone), location, model, and other criteria.
• Output schedule: Where do the signals go? List monitors, recorders, amplifiers, speaker locations, etc.
• Control devices: Where are they and to what are they connected?
List keypads, control panels, volume controls, dimmers, etc.
• H VAC requirements: All systems throw off heat, and we all get upset when we must complete warranty repairs out of our pockets because the room got too hot. If you specify ideal operating temperatures and the amount of heat dissipation required, you can avoid many problems down the road.
• Cable requirements: What type of wire will you be using or providing? Most customers prefer that you specify the type and a Manufacturers part number – most can be crossed to another manufacturer, but the added clarification can prevent mistakes. List each type of wire, "to "and "from "locations, the type of signal (data, video, line-level, power, etc.), and the number of runs. A table can also be provided to show your numbering system.

the binder.

Appearance is important, but it should not be cost-prohibitive. Inexpensive 3-ring binders that allow a cover page to be slipped behind a clear plastic pocket allow a world of customization. Include your logo, the customer's logo and the job name. Make it look like something special. Use different color paper for different sections, along with colored, numbered or labeled index tabs. Get to know the people at your local print shop, or browse the office supply store for ideas.

The same manual can be completed in three phases: proposal, installation and as-built. When the job is specified, much of the documentation outlined in this article must already be prepared. An appropriate cover makes it a neat and attractive bid package.

As installation begins, more material is generated and can be included and passed out to the technicians and installers as an "installation manual," encouraging them to document adds and changes by writing them in their books. At the close of the project, collect the books, make your as-built documentation reflect the changes that have been marked in them, and print your final documentation.

Elements of the manual

Although the format for such a book varies for each job, including personal taste, I'll outline a format that I have used successfully. Feel free to embellish, change or enhance to suit your application and business style, but beware of too much of a good thing. Try to avoid turning this into "library shelf" material, where everyone wants it on the shelf to admire the spine but nobody looks inside. Remember, if it isn't shown off, it's not doing its entire job. More about that later.

• *The specification:* The first section of this opus is generally the first document created for the job — the specification. This part may have been written by your company if it was a "design and install" job, or it might be a published list of requirements provided by the customer to solicit bids. In any case, the specification should be updated as the job progresses to reflect changes, enhancements or additions to the job.

As a part of the specification, state what the system will do and how it will do it, and clearly spell out how the system can be enhanced and expanded. What features can be added, what capabilities are not being used to their best advantage, and what opportunities are available for integration with other systems? By spelling these things out, you create a "silent salesperson,' one who is always there when needed and never asks for a commission check.

• *Tables and lists:* The second section should be all of the charts, tables and schedules needed for the job, plus a complete equipment list. Actually, these first two sections could comprise the original bid for the job. These pages must be roughed out to bid the job in the first place. Why not show the customer all of that time and effort? Include any additional tables you generated along the way — HVAC requirements for the rack room, wire substitution charts, whatever. Put it in. The more, the merrier.

• *Drawings:* Third, and most important, comes the drawings. This is the section your customers will turn to first, examine under a magnifying glass, and show to their friends, associates and coworkers — your future customers. If your field drawings are usually done on a legal pad or the back of a napkin and thrown in a file (manila or circular), it's time to clean up your act. Have them drawn up and make them attractive; you're creating more of the famed "silent salesperson."

For these drawings to fit into the notebook format, they should be plotted or copied onto 11" x 17' paper, punched and folded to fit the binder. Unless a contract calls for larger sizes, in which case I just plot them again (see the sidebar, "Always use CAD?"), I plan for my drawings to be that size, splitting more complex drawings into smaller ones if needed.

Many drawings on larger sheets are not easier to read. They're just harder to unfold and keep track of in the field. Technicians performing the actual installation want to pull a drawing out of their back pockets or tape it inside the racks they're wiring for easy reference. If your customers have to clear a desk and unfold a drawing that looks like a New Jersey road map, you can bet they won't do it often.

• *Equipment list:* The next section should be an equipment list of all items used on the job. In addition to the major equipment, this list should also include wire, connectors and cable ties — all of the miscellaneous hardware items you can track. Pricing doesn't need to be included;

Always use CAD?

If you are not already using a CAD system for all of your drawings, you could be wasting a lot of time and money. Although it might be simpler to draw a neat sketch of a circuit and photocopy it with a title block, a CAD investment is the gift that keeps on giving, outside of the technical reasons we all know.

First, you might need to plot these drawings in several sizes. Some jobs require C- and D-sized prints, but smaller ones are easier to work with, fax, mail and include in the "owner's manual." You can always reduce a large drawing, but it is simpler to print a quick copy on your office printer in the size you need. A good 24-pin, dot-matrix, wide-carriage printer can produce 11" x 17" sheets that can be easily duplicated on standard copiers.

It is also much easier (and neater) to revise a CAD drawing than a sketch or hand drawing, which means you're more likely to note the changes and understand them later. Often a brilliant revision or enhancement is thrown by the wayside because it was too much trouble to mark it down.

The biggest cost savings are future paybacks. Once your drawings are computerized and neatly stored as magnetic pulses, they're yours for the plucking. Have another job that needs that nifty power distribution panel you dreamed up over fried chicken last year? Need a rack elevation for a distributed sound system amp rack? Pull it up on the screen, change the customer's name, make a few revisions to protect the innocent, and presto! Your customer will marvel at your speedy, efficient service and will figure that you pulled an all-nighter. Only your pillowcase will know for sure.

just list the manufacturer, model number, part number, a brief description, and the quantity used on the job.

The reason is simple: You are giving your customers a catalog to use when placing additional orders, enhancing, modifying or adding to the system. If you make it that convenient for them to find this information, it's a safe bet that they'll also call the phone number on the bottom of that page for first crack at the next order, and that's all we can ask.

On a smaller job, this section could also include equipment cutsheets and manuals, but beware of overfilling the notebook. If you have a lot of operator and service manuals, create as many additional binders as needed, with matching covers, and use them. The project "owner's manual" is for the installation, not the hardware, and the client will never refer to it if he can't lift it off the desk!

• *Put it on disk:* The final section is all of the above on disk. On a pocket page, include diskettes of all material in its native file format. Include copies of any software that came with the equipment. (Check with the equipment manufacturer before duplicating, but in most cases the software is worthless without the equipment, and the customer has already bought the equipment.)

The disks allow your customers to update their own tables, charts and drawings as they make changes, saving you the aggravation. In reality, most customers will never even look at the disks, but they will like having them available. Including them in the package adds value by showing your customers your concern for their future, without really costing much more than a few dollars for blank diskettes. Be sure to use name-brand floppies; nobody trusts a "no-name" disk with such valuable information.

When it's finished, this "owner's manual" should look significant — it should look the many hours of work that went into it. But, after preparing it, don't just drop it in the mail. You should present it. Review the material in detail with your customers and whatever personnel they think is appropriate. Show them where to look for part numbers, what the signal-flow diagrams are for, what future opportunities you have left open, and where your phone number is located. When revisions are made, deliver and update each of the customer's copies of the notebook.

Give your customers the sense of pride you put into the design and installation of the system, and the knowledge they need to pass it on to others. They're as proud as you are — they paid the bill. By handling this part of the job with the care and attention you gave the rest of the project, you will generate a book that will turn your customers into your best salespeople.

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