

## Chapter 4: Game Production

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[New items since 2 June posting are in blue text.](#)

Producing games is a fairly obvious chore. Prepare the original graphic or page layout files, produce or buy the components, assemble them in the packaging, ship them to the customers. The details, however, get complicated.

In this first (June 2006) edition of this book, I am not going to be able to do much more than hit the high points and show you some traps to avoid and give you some ideas. Perhaps a future edition will be much longer and will include more “how to do it” information. I regard this edition as “how to get it done” which isn’t quite the same thing.

### 4A: You and Your Printer

You are never going to be your printer’s biggest customer, but you *can* be his *favorite* customer! Simply....

1. pay your bills on time.
2. get your printer to teach you how to prepare files.
3. learn all you can about how printing is ordered.
4. submit files that require the least work on his part.

Being your printer’s favorite customer can have lots of very good implications. It means you can ask for favors (like getting your job done before you get in the car for GenCon).

Here I refer to “printer” in the sense of “company that does printing”. In a later part of this chapter, the same word will refer to “the big computer-powered thing in your office that spits out printed pages”.

#### Listen to Your Printer

Your printer knows more about printing than you do. Ask him questions. Listen to his answers. Take his advice. By all means, impress upon him that if he ever sees you doing something dumb he is to call it to your attention to this dumbness right away and suggest alternative ways of doing things.

It is important that your relationship with your printer be a true partnership, not an adversarial one where both of you are trying to trick the other guy into something that loses money or costs more or gets screwed up easily. If you and your printer cannot get along and have a nice conversation about last night’s episode of some TV show you both watch, find another printer (or other agent or broker or salesman from the same printer).

#### Standard Printer Terms

Every printer will (sometime early in your relationship) hand you a piece of paper (or print it on the back of his invoice) proclaiming to be the standard terms of the entire printing industry. Two things about this document: first, it’s often very different from printer to printer (there is no single “standard” document that every printer uses, even if every printer wants you to believe that his document *is* the standard one), and second, you have virtually zero negotiating power in getting that document changed. Of course, some printers pretty much ignore their own document while others rigidly enforce it. However, “if push comes to shove” (i.e., you are standing in front of a judge) that document is going to be pretty decisive. The one thing you can try to do is to include your own terms (or

at least a couple of salient points) on your purchase order and get the printer to accept them (probably without any comment by him or any recognition that he accepted them).

One aspect of these terms is the “over and under” clause. Generally speaking, you will order a specific number of copies of whatever you printed. The terms sheet will specify that anything within a certain percentage (often 8% but some printers use other numbers) of that number will be considered good, usually (but not always) with the price adjusted proportionally. Say you order 1,000 copies of a book and you get 920. Under those “standard terms”, you only have to pay 92% of the quoted amount (if the printer wants to charge you full fare, change printers), but you cannot go back to the printer and force him to do a ridiculously uneconomical print run of 80 copies. Usually, however, the deal works the other way. If the printer delivers 1080 books, he expects to be paid 108% of the quoted amount. Many printers routinely max out the “allowed billable overage” on every job, while some printers give you the “overs” for free and some printers offer to sell them to you but don’t force you to buy them. Ask your printer to explain their policy on over/under with their quote and be sure you confirm this (even if just in a memo to yourself you place in that printer’s file).

The part that the printer will probably never mention if you don’t ask is the “allowance for misprints”. Let’s say you order a thousand books and you get a thousand and ten. But seventy of these have the cover on upside down. You need to make sure (in writing) that your printer understands that you will be quality checking the books and will return for credit or refund or replacement (his option) anything defective. The best way to do this is to include the innocuous phrase “Defective copies will be returned for credit proportional to total invoice or at your option replacement.” The “proportional to total invoice” part is important. Say your printer gave you a quote of \$2000 for 1000 books with extras at \$500 per thousand. You order 1,000 and you get 200 defectives. You want to deduct 20% of the bill, not 200 times the 50¢ cost of per-each extra copies, but your printer wants to use the per-each extra copy cost. One way you get \$400 and the other way you get \$100. Get the point?

Some printers will insist on being paid in advance, and these fall into two categories: printers that got burned by game companies that didn’t pay their bills, and printers that do shoddy work and want to be sure you can’t complain and refuse to pay your bill. Get references from other companies as to which kind of printer the one you are thinking of using is. Try to work your way (over a year) to the point he will just bill you, and then never order anything without already having the money in the bank.

#### Always get two quotes

Ask at least two printers to quote on your production needs. Ask other printers who cannot make what you want where they would go to get it. Ask other game companies where they get theirs. (They’re not going to lose a single sale because you use the same printer.)

Getting quotes is an art and a science. You request a quote from your printer and ask them specific questions and provide them with specific information. Ask them “Is there any thing I can do on my next request for a quote to make it easier and more accurate for you?” and also ask them “Is there any way you see to do this job cheaper, faster, or better?”

Avoid parroting words and phrases that you do not understand just because you saw some other printer or some other game company use them once before. Ask what they

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mean, learn how and when to use them. One printer may give you a quote using “100 pound Tarleton cardstock” which is what he happens to stock (and buys by the trainload). If you say on a request for a quote from another printer that you want the job on “100 pound Tarleton cardstock” they will take this as a “specification” and will quote the job that way, even if they have to special order this cardstock at a much higher price and it takes three weeks to get it. One way to do it is to say “use 100 pound Tarleton cardstock or your equivalent, advise us if the stock is a problem”.

Printers use a lot of cool jargon like an M with a horizontal line through it for “thousand” and “4/1” meaning “four color process on the outside, black only on the inside”. Not every printer uses the same codes and jargon and since you are more likely to screw these codes up than get them right, stick to plain English. If you want “four color process on the outside, black only on the inside” just say so.

### Terms Printers Use

**Bleed:** The way you make a picture go right to the edge of the paper is to print a bigger picture on a bigger piece of paper and then trim it down. The part of the picture you throw away is “the bleed”. Check with your particular printer, but most printers want a 1/8” bleed on the outside edge of the sheet. This means you need to tell the artist to make the picture 1/4” bigger in each direction (horizontal and vertical) so that you have extra space to waste.

**Blueline:** A sample copy of your book done by taking the photographic negatives that will later be used to make printing plates and using these negatives to produce a “blue and white” (as opposed to black and white) copy of your book. This is your last chance to spot mistakes (made by you or the printer).

**Book:** Bound printed pages, not necessarily reading material, can include any kind of paper or binding.

**Cardstock:** A heavy paper, thicker than an index card.

**Carton packed:** Packed in corrugated cartons (which can be reused for outbound shipments if not in bad shape).

**Chipboard:** That heavy gray cardboard you find in all kinds of things.

**Coated:** Shiny paper, made by using a clay coating.

**Corrugated:** A heavy “sandwich” shipping carton material consisting of three sheets of paper, the middle one of which is rippled (like Ruffles potato chips) and all three are glued together. (Come on, you’ve all seen this stuff. It’s brown.)

**Four-Up:** Printing four copies of something on a larger piece of paper. The point is that you can save money by doing one of two things, using larger paper or longer print runs. This isn’t always the case; sometimes the larger presses have a minimum print run that is too big for you.

**Gang-Run:** Printing several things, often of various sizes, on a single sheet of paper. In one recent case, the present author printed 1,000 press sheets of 23x35 inch stock. The result were 2,000 copies of one product cover, 1,000 copies of a second product cover, 1,000 posters (8.5x11) for stores, 1,000 shelf talkers for stores, 1,000 book marks to give away to mail order customers, and 1,000 sets of Player Bonus cards for use as prizes in the Organized In-Store Play League.

**House Stock:** Every printer has one particular kind of paper in each category of paper which they buy in large quantities and use for jobs of that type if nobody tells them differently. This is always cheaper than special ordering something.

**Index:** A kind of cardstock, usually on the lighter end of the scale.

**One-Up:** Printing one copy of what you are printing (say a cover) on one sheet of paper. See Four-Up and Gang Printing.

**Paper Weight:** Go to [www.paper-paper.com/weight.html](http://www.paper-paper.com/weight.html) which explains this. Lots of kinds of paper use weight, points, and other terms and use them differently. Twenty-pound bond (typing paper) is the same as fifty-pound offset. (Twenty-four equals sixty and twenty-eight equals seventy.) Good paper for printing books is 24# (sixty pound) and good stock for covers is Ten Point (which is 135 pound index). Be careful that you know which is which when ordering paper.

**Paper:** Nothing special, just what it says. But there are a lot of kinds of paper.

**Pounds:** See paper weight.

**Proof:** A sample copy of the planned printing for your approval, usually refers to color work but the term is sometimes used for any printing. Proofs are done by other means than printing so they won’t be exact. After a printing job, ask the printer to let you see the proof again so you can compare it to the job and learn what a proof can and cannot tell you.

**Recycled Paper:** Lots of Eco-aware people insist on using recycled paper, noting that it is available in a wide variety of grades and types. True, it is, but not always in the kind you use, almost always not in stock at the printer (special ordered paper is more expensive than the “house stock”), often won’t work on particular kinds of presses, is often more expensive, and most of the time it is not “post-consumer” recycled paper but recycled printer waste which was never used by the public. Sounds good, and use if it you can, but don’t be fanatic about it or you may have production delays and cost issues.

**Sheet Fed Printing:** This uses individual sheet of paper or other stock. It is slower than web-fed, produced a slightly higher quality image, can be economical for short runs, but for longer print runs is twice the price of Web-Fed printing. See Web-Fed printing.

**Skid Pack:** Loaded on a pallet and wrapped in plastic. Good enough to get it across town on the printers truck but not a great way to ship stuff across the country. Sometimes this term is used to mean better and safer means of packaging.

**Trim Size:** The size that the book, poster, board, or whatever else you are printing needs to be when it’s finished. See Bleed.

**Two-Up:** Printing two copies of something on a larger piece of paper. See Four-Up and Gang Printing.

**Web Fed Printing:** This uses huge rolls of paper. On runs of two thousand or more, it’s half the price of sheet fed, but the quality is a tiny bit lower. Problem is, a million years ago when somebody invented web-fed printing, they used the standard paper that had been in production. The result is that if you order an 8.5x11 book, it is actually going to show up on your freight dock 8.375 x 10.875 inches because the way Web-Fed presses handle paper loses a little bit. Nobody seems to notice the difference. See Sheet-Fed Printing.

### Sending Something (anything, really) to press

1. Think of a game to print. If you have done something of the same format before, do it again. If not, talk to your printer about what you want to do. Ask other game companies about how they do it.

2. Prepare the game in the usual way (design, playtest, page layout, art, whatever). Keep a view toward production. For example, if you are using a traditional book printer you will need to keep your pages in multiples of 16 (or 32, or 8, depending on what your printer wants). If you are using die-cut

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counters and your standard die has 80 tiles per sheet, don't design a game that must use 82 of them.

3. Request a quote from the printer or other vendor for each part. Actually, get two printers/vendors to quote on each part. Be precise in your request for a quote and learn how to write requests for quotes and understand the resulting quotes. You want to request the quote within 30 days of printing (so it will still be valid) but far enough out that you can find a new printer if you don't like the quotes.

4. Prepare the final files in ways ([psp](#), [jpg](#), [pdf](#)) that make your printer happy. Deliver the files to the printers by a way they like (burn a CD, upload to an FTP) and confirm that they got them. When you do, confirm that the quote is still good and that the delivery schedule is still what you want.

5. The next step is up to your printer, who will send you a proof of some type to check. This may be a "blueline" in the case of black and white pages. (See Definitions.) This is usually your last chance to change something you did wrong (or to add updated information from a contributing writer who didn't get his work in on time), but it's a desperate and expensive last chance to fix what you should not have done wrong in the first place. It's also your chance to fix anything that the printer did wrong. Check the corners (where the layout of the negatives is sometimes clipped off) and the illustrations. Look for places that the text jumped to the wrong page (if you didn't give them hard copies in the first place).

6. You might (in the case of extremely expensive printing) want to do a "press check" which means you drive to the printer (or even fly there) and stand next to the press while the first printed copy comes out. [This is really not practical with web-fed printing.] This is, indeed, your very last change to cancel the job and start over (or go back a few steps) due to some horrible error. The error might be theirs (in which case they might argue that it's not their fault and you have to pay to fix it) but is probably yours. Note that saying "stop the presses" when standing at your printer is about as funny as saying "I have a bomb" while standing at the airport. Don't say it. If things are just not workable, turn to your salesman (who will be standing there) and say "We have a problem. Let's discuss it." A few notes about doing press checks. You are a guest in their house, and are in a part of the building that customers are normally not allowed into (due to insurance costs; their policy does cover press checks but they are expected to keep this to a minimum). Do not go wandering off. Do not stick your hand anywhere without asking first. (There are things in printing plants that can chop your hand off.) Do not tell them how to do their jobs (but ask "can we discuss how this is being done?"). Do not help yourself to a sheet of collectable card game cards which the printer is doing for another customer. If you see work for another game company, do not ask for samples or even pay much attention to it. It's literally not your business, and you don't want WOTC going through your card decks, now do you?

7. The printed products are delivered to your warehouse. The great tradition around my company is everybody grabs a copy, heads for the bathroom, and nobody comes out until they find the first typo. (This will take about three minutes.) Ok, seriously, flip through a copy and maybe even read through a copy. If you find a mistake, decide how you are going to deal with it and deal with it like a grownup (i.e., throw things around the room, curse the gods of printing, threaten to kill your printer, call your lawyer, whatever; just don't admit it's really your fault, unless you actually *are* a grownup).

8. Finally, your game is on the market. Take one copy, put it on your desk, and paste to the cover a label (from a whole

sheet of them you printed) that says MASTER ERROR RECORD COPY. Every time somebody calls, Emails, or otherwise tells you about a mistake, open the Master Error Record Copy and mark it. When it's time for the reprint, everything you need to fix will be in one place.

### File Preparation

Talk to your printer extensively about what format they want any computer files in. They may want tif, jpg, pdf, or some other format. Try very hard to do what they want, since the human beings who do the "pre-flight" and "file preparation" are human and if they recognize your name as "that idiot who can't format the files right and it takes me hours of extra work to do them" is going to look further down in the stack and see if there is a job from "that nice guy who gives me perfect files on which I don't have to do any work."

One word of warning. Computers are not the same, not even when they are the same model running the same software. What a file looks like on your computer may not be what it looks like on their computer, *especially* if you give them the original files out of Indesign, Freehand, Illustrator, or Pagemaker.

In one very expensive fiasco, the present author sent a graphics software file to the printer, who said "we don't have that version of the program but it will open in this other version of the program". What happened was that some of the numbers and symbols on the sheet *moved* around and nobody knew that the printer had not used the exact same graphics file and who wanted to check a 23x35 proof that had over a five thousand different numbers (often three digits), letters (often three letters), and symbols on it to see if one of them moved from one line to another line or disappeared or did something else funny. After doing the job over and making sure that the printer used the exact same version of the exact same software, we found out that their copy of the Helvetica font was just a tiny-tiny-tiny bit different from our version, and again, some of those five thousand items (over ten thousand individual digits) had "moved" because the text block was exactly big enough to handle DNG on our computer but on their computer was printed DN on one line, G on the next, the second line on the third, and the third line disappeared entirely. From that point forward, we converted the files to jpps or PDFs which were one flat image and nothing could move around.

Which brings up another funny story. We were printing a book which involved printing the color cover in our home town and shipping it 450 miles to the bookbinder. We used another printer than our normal printing company, a new start-up business that was hungry for customers but had less experience than one might have thought. We gave them a flat jpg of the cover (front cover, back cover, spine, all one big image that they could not possibly screw up). They noticed that it was too narrow, and carefully cut the jpg apart, moved things around, and filled in the gaps. When the covers got to the bookbinder, he threw them out and demanded new ones because they were the wrong size. See the definition of Web-Fed printing for the reason why.

### Overseas Production

The author of this book has never done this, and frankly the entire concept scares the hell out of him and he hopes he never has to. Even so, lots of companies are getting their books, miniatures, card decks, and other things done overseas for incredibly good prices.

There are, however, lots of horror stories, including:

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• Shipments confiscated by the US government after the paperwork was found out of order or drug residue was found in the shipment.

• Publishers who paid up front for products that never arrived or which were defective and hard to get the printer to do over again.

• Shipments arriving months later than promised.

• Shipments soaked in salt water en route.

• Shipments stolen by UFOs.

Remember the prime directive: Assuming nothing and ask people who actually know what they are doing.

I have been told by other publishers I regard as reliable that one need only call Anthony Valterra and the whole process is greatly streamlined and happens without any of these horror stories. Were I going to have something made overseas, I would start with Mr. Valterra and simultaneously ask other companies if they have another recommendation. I would not want to travel the road to China and back without a guide.

Anthony Valterra can be contacted at:

valterra@portaleast.com

206.713.9710

4047 Latona Ave NE

Seattle, WA 98105

Anthony also has an art studio which provides high quality art work at not-unreasonable prices.

## 4B: Components

I will break this down into each individual part. Of course, no game will have *all* of these parts, but if a part is commonly found in games generally available, it is listed here along with thoughts, notes, suggestions, warnings, or other useful information. Listings are alphabetical and where something can be listed two or more ways, duplicate listings refer to the main listing.

A general note about buying any game components. If you have never bought anything like that before, ask friends in other companies, do a Google search, and post an "all hands" note in the GPA and other industry mailing lists asking for other companies to recommend a source. Get samples and multiple quotes. Start early! If your shipping deadline is two weeks away and you are just now looking for someone to make your boxes, then you shouldn't be in this business. Of course, if you had a reliable source for boxes that went out of business two weeks before your ship date, proceed to ask everyone for help.

### Assembly

[This is covered in the Warehouse Chapter, 5D.](#)

### Booklets

This entry refers to "saddle stitched" books (those with no spine, just a folded edge with staples). For perfect-bound (square spine) books see "Books" and for hardback books see "Hardback books".

Booklets can be done one of two ways. One is a "web fed press" which use huge rolls of paper that a special machine folds up into 32-page signatures. These signatures are then stacked into a binder and are bound (either perfect bound or saddle stitched) into books and trimmed. This is an incredibly cheap way to do books but the minimum run is maybe three thousand. (Some printers have higher or lower minimums.) The point is that the set up time on these monster presses (the size of railroad engines) is so high that they cannot afford to turn them on for less than that many. Now, rarely you may run into a printing company which bought a web-fed press but cannot keep it busy. These guys just might be hungry enough to do shorter runs for you. Ask other printers if they know anybody like this. (I only knew one such printer and he eventually went bankrupt trying to pay for that huge press he bought and could not keep busy.)

The other way is "sheet fed" where sheets of paper are printed, each one forming anything from two to 16 pages. These are then folded and bound into booklets. This is more expensive per each but can be used for smaller numbers of books. There are many more sheet-fed printers than web-fed printers in the US. Any halfway decent print shop can do a sheet-fed book, fold the pages, collate them, and saddle staple it for you. It takes a "factory grade" printer to do web-fed books.

Recommended printer: Dallas Offset in Dallas, Texas. They have good prices and a quick turnaround. Before we switched to internal printing, Dallas routinely had books on our freight dock 11 days after we air-expressed the originals to them. (Went finished the book over the weekend, printed the originals on Monday, they got them on Tuesday, and after an exchange of blues we got them back on the second Friday. I mention this schedule only because I have heard other game publishers marvel at how great it is that they found a printer able to do their black and white books in a mere six weeks.)

### Books

This entry refers to "perfect bound" books (those with a

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square spin). For saddle stitch (folded, stapled) books see "Booklets" and for hardback books see "Hardback" books.

Most printers can do this (or know another printer they can farm the job out to). This changes the way the pages lay out, but that is something that the printer does and you'll never see.

The key point is that Perfect Binding (Square Binding) will add a thousand dollars to a typical print run.

See "Print it yourself". The Fastbind machine you can buy to bind your own books (see 8C) does this neatly and efficiently and can (if you do it right) produce a better and stronger book than commercial printing companies.

### Blistercards

This packing system is usually used for miniatures. You might do this yourself (if you have a heat-sealing blistercard machine) or you might have the casting house casting your miniatures do this for you. You need the cards (which are generic, having just a color front about your product line and a black and white or color back with generic information that applies to all of your products) and the blisters. You (or somebody else) will apply a label (printed 80-up on a laser printer; you can get the labels from the office supply store) to show what stock number and name it is. Some retailers will harass you at GTS that they want you to include a bar code for each item on that item, which you can do (use your bar code software to print the things on 80-up labels) but it's a lot of work.

There are some problems with blistercards. One is that once the thing is sealed, you cannot open it without destroying it, so if you have the casting house do this for you, and their quality control is bad, you may not even notice defective miniatures getting into the market (see "upset customers demanding replacements" and no, that's not a real chapter of my book, but you will see these folks) and if you do, you already wasted the card and blister which cannot be recovered. Another problem is that sometimes the things just do not seal and retailers get perturbed if they hear your miniatures falling out of your packaging and landing on the floor of their shop. And the final problem is that you have to buy like 25,000 cards and blisters and that's a lot of money to sink into a new product line. Even with these faults, it's the most common and least expensive packaging.

You can do it yourself (the machine is only a couple of thousand dollars) or maybe your printer or some other businessman you know can tell you somebody who has such a machine and they will rent it to you or do your blister card sealing for you. You will still have to have the special board (plywood with holes and little spring-loaded pins) made for your particular blisters.

See Clamshells for an alternative.

### Boxes

This refers to "game boxes", usually rigid boxes with color wrappers glued onto them, like most "real" games (Monopoly, Stratego, Risk) come packed in.

**Rigid Game Boxes:** There are a lot of companies that make these. They are a "pasteboard box" with a color wrapper glued around them. They are rigid (they don't fold down). They are expensive (not unreasonably so, just a major chunk of any game's production budget). The minimum print run is a couple of thousand. They take a lot of space to store and always seem to be under whatever part of the roof leaks. Here are a few tricks to consider:

- Have a letter or symbol or some other mark printed on

the edge of the wrapper so that it shows on the inside of the bottom of the box at the edge near the "top" of the box. That way, when you put the box lid on the box bottom, you will know without having to check that you have the top and bottom both facing "up".

- Use the "sides" of the box bottom to print color advertising for your other games.

- Make sure that the company making the boxes and the company printing the wrappers are both just absolutely certain that they know the size of the thing that the other guy is making.

- Sometimes (just rarely) you may find a box company that has a whole bunch of boxes it made for some customer who never paid for them. In such cases, just maybe, you can get a really good deal by having the company put your wrapper on those boxes. One problem is that you may find yourself with an odd-size box that won't hold your components. (The author once took an Avalon Hill box to a box company and said "do this" and the company did it but the rulebooks were then half an inch too wide to fit inside it.)

**Rigid Boxes, Plain with Wrappers:** A more efficient idea for rigid boxes (with one tiny drawback I will mention in a moment) is to have these made in plain white to a standard size and then have your printer produce a color cardstock wrapper (note "cardstock" as paper wrappers are so flimsy that they become impossible to use) which folds around the box and seals with a piece of double-sided tape that the printer conveniently included for you. This means that you can use the same white box for many games, the color wrappers stack flat and take up less space, you get your money back out of any given production run of boxes faster, if one game doesn't sell you only have to dumpster the wrappers not the boxes, you can store a couple of thousand boxes (total) for all of your games not a couple of thousand for *each* game.

**Cake/Doughnut Boxes:** One upon a time in the 1970s a few intrepid game companies tried to make game boxes out of the easily-purchased flat/fold-up boxes that the bakery department uses when you buy a few doughnuts or a cake. The results were not pretty. These boxes are flimsy and cannot stand being on a store shelf or even shipping inside another cart. Just forget it.

**Pop-Up Boxes:** These are color covers printed directly on a sheet of cardstock which is then "scored" and "die cut" into a shape which neatly folds up into something about the size and shape of a rigid box. The advantage is that they take less storage room but the disadvantage is paying somebody to pop these together into boxes. They may or may not be cheaper but they are something that could be done by a greater number of printing companies.

**Shipping Cartons** are not boxes, they are cartons. See "Shipping Cartons".

**Videotape boxes** (the kind that VHS tapes come in) can be used for game boxes. Do a Google search for vendors who can supply these. Be sure to get the kind without a spindle and with a clear plastic full-size "cover sleeve" that you can slip a printed cover into. These can be used for card games, sets of miniatures, and so forth.

**Alternatives to Boxes:** See Clamshells.

### Cards, Play Aid

Think combat results table or player reference card.

This is fairly standard printing done on index stock or cardstock and perforated or trimmed into individual cards. These can be laminated both to keep them intact and to allow

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them to be written on by grease pencils or wipe-off markers.

### Cards, Playing

Much more expensive than play aide cards, these are on better stock (usually specialized playing card stock that is 10.5 points rather than 10 point cardstock, often laminated with a colored core), done in print runs of at least two or three thousand, coated with a special covering, and with rounded corners. You need good quality if people are going to “shuffle, deal, and draw” such cards.

There are several places to get these made. Carta Mundi in Belgium is highly regarded. Yaquinto in Dallas does excellent work. Anthony Valterra can get your cards made in China. Lots of printers from India and China are always emailing game companies with offers to print card decks. [Recent data indicates that the following “real card printers” are based in the US:](#)

Carta Mundi USA: [www.cartamundiusa.com](http://www.cartamundiusa.com)

Delano: [www.delanoservice.com](http://www.delanoservice.com)

Rehtmeyer: [www.toysngames.com](http://www.toysngames.com)

Ricowell: [www.ricowell.com](http://www.ricowell.com)

Yaquinto: [www.yaquinto.com](http://www.yaquinto.com)

Get a recommendation from another publisher, and samples from the printer. Seriously (really really seriously) think about how many you can sell.

I have seen Ken Whitman with a company called Rapid POD advertise the ability to print small runs of cards “on demand”. I have no idea how good these cards are or what they cost.

[The single greatest source of useful information on producing playing cards](#) is an article in the Sept 06 issue of *Comic & Games Retailer* by Lee Valentine. In limited space, I will try to summarize some of the knowledge of that article but suggest that you track down the original before spending money. The salient points are:

- Real playing cards are a specialty production situation. If you just want some card stock play aides, any printer can do them. If you want real playing cards that shuffle, go to a real playing card printer. Only a real playing card printer can deliver print jobs years apart that will all shuffle together because only they can cut the cards to the exact same size consistently.

- Real playing card stock is different than card stock and only available from specialty card printers. It has a dark core layer in between two white layers. It has special finishes to protect the printing and allow shuffling. It has “memory” which snaps back into shape after being bent during shuffling. It is also thicker (around 12 point).

- The color on your screen is not necessarily the color you will get. Get samples from the printer who will be doing the job. [Note from personal experience, I have had cards printed at Yaquinto and they turn out much darker than expected, which reduces the impact of the art.]

- The number of cards per sheet depends on a number of factors. Most printing is done with 110 cards, but many printers can print 121 (11 columns of 11 cards) without much trouble. [Personal experience: Yaquinto can print a single sheet of 132 cards but ONLY if you have a “common color border” because printed this way all they can do is “split” the sheet between the cards.] If you will full bleed of the art going off the edge, you have to leave space between cards for this bleed.

- There are a lot of different coatings for cards and you want to review the information carefully in picking one.

- Collating cards that are all on a single press sheet is easy; the machinery is designed to do this. [Personal

[experience, it doesn't cost much more to have the printing company station a minimum wage worker to hand divide the deck into two decks if your packaging requires it.\] Talk to your printer if you are trying to control the frequency by which rare and ultra rare cards show up. It requires printing multiple sheets and hand-feeding machines that auto-collate.](#)

### Character Figures

See Miniatures.

### Clamshells

These are clear plastic things that lay flat when you buy them in lots of 250 or 500 or something like that. They fold in half and snap into a peg-hanging little plastic box. You can get small ones suitable for holding single character figures or you can get bigger ones able to hold card games, sets of six miniatures, or other products.

The advantage is that you can have a color cover printed cheaper than a box, you can use the same clamshell for many different products, the color covers are easier to store than a whole bunch of rigid boxes, you can do small production runs of special assortments (using color copier work for covers) which is impossible with unique rigid boxes, and you can get the things in small quantities in two or three days.

The small ones are a workable alternative to using blister cards for individual miniatures, especially if you don't want to invest money in buying 25,000 cards and blisters, or if you can't get 100% good castings out of the casting house that does the blister cards for you, or if you want to market low production run special items, or if whoever is doing your blistercards cannot do them right and they keep coming unglued. These will be more expensive than blistercards.

These come in many stock sizes and you can have custom sizes made for a reasonable fee. Your custom box size then becomes a standard stock item. You will need to buy a pair of “electric pliers” to heat seal the clamshells and keep gamers from taking the figures out of the box without buying it.

A moment with Google will turn up sources including:

Aikpack: [www.clam-shells.com](http://www.clam-shells.com)

National Plastics: [www.clamshell-packaging.com](http://www.clamshell-packaging.com)

Placon: [www.placon.com](http://www.placon.com)

### Dice

Any gamer knows that dice come in many sizes and numbers of faces and types. For “off the shelf” dice you can simply contact Koplou and they'll fix you right up.

If you want custom dice (perhaps with a symbol replacing the “one” face) you can do a Google search for custom dice, or ask other game companies.

You can also get dice from:

[www.gameparts.net](http://www.gameparts.net)

[www.boardgamedesign.com](http://www.boardgamedesign.com)

### Die-Cut Counters

These are used in some games, although many game designers and players of the 2000s think these belong in the belly of a dinosaur. Basically, you print the counters on standard paper, then ship the sheets of paper to a far-away company that glues them down to a sheet of fifty-point chipboard, and die-cuts them into playing pieces.

Sounds simple, but it's not.

Talk to your main local color printer. He can probably find a die-cutter to deal with. You will, now and then, have to speak personally to the die cutter but make it a point to him and your

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printer that you are not trying to cut your printer out of the loop.

Be warned that many printers will try to convince you that they can do spiffy counters die-cut on something the thickness of the posterboard you used in high school for various projects. This is just not thick enough for the standard gaming piece but sometimes is useful for certain larger-size gaming elements (business card size or larger).

You will have to pay to have a die built. This should be a one-time charge (under \$500) as the die will last for years. Make sure that you discuss this point with the printer and that he knows you expect to use the same die for different counters in future without being charged for it again. One trick, have notches cut in the die blade so that the counters stick together until the player punches them out. Trying to run an assembly line with counters that fall apart is a nightmare.

When doing graphics for counters, leave plenty of margin inside the half-inch or one-inch square counter (four or five points, meaning of a half-inch counter that is 36 points wide, you only get to use the middle 26 points) because the die-cutting machine runs at a pretty good speed and will not always hit the mounted sheet at exactly the same spot. This is a place where you need to talk to your printer about the acceptable error rate, and tell them that if too many sheets are defective they will be deducted from the bill. (Note, the printer will just raise the next bill to cover the defect rate.)

Counters almost always have a blank sheet of white paper on the back since the gray chipboard is ugly. If you use back-printed counters (say, a starship on one side and the crippled version of the starship on the other side) leave even more margin on the back side and print "Die cutter, die cut from this side" on the "front" since players will complain that a counter cut from the back is "defective" and want it replaced.

Place guide marks where the die-cutting blades are supposed to fall (tiny little marks 1/8 inch long and one point wide) at the corners of each block. Leave "bars" (uncut areas) between every two rows.

Talk to your printer about the graphics program to use and the file format they want. Even if the printer insists that they use exactly the same computer and software that you use and that you should give them the raw graphics file, try to give them a jpg or some other "locked" version that they cannot mess with. See File Preparation.

### Figure

See Miniatures.

### Folio Covers

Some games and expansions are printed in Folio format, which means that there is a loose color cover wrapped around (but not fastened to) a number of non-connected components, such as a booklet or two, a sheet of die-cut pieces, a separate play aide, or some other element. The whole package is held together by the shrinkwrap. Most of these are 11x17 plus the spine thickness. It's important to have a spine as most stores will display the product spine out, not face out, as this takes less room.

The standard paper for this is called 10c1s which means ten-point thick cardstock, coated on one side. The four-color cover is on the outside, and you can either leave the inside blank or you can print something (perhaps a play aide chart or advertising for another product) on the inside.

### Game Boards

This entry refers to mounted game boards; for "paper"

(unmounted) game boards see "Maps".

These are expensive and require specialized production machinery. Not that many printers can do these. Ask your printer, and try Google and Thomas Register and by all means try asking your mentor and other game companies on the GPA list or other industry lists.

Most non-GAMA "family" boardgames use 20x20 inch boards that have a hinge one way and are "kiss cut" (cut almost all the way through) the other way so they will fold into a "standard" 10x10 game box (standard referring to the "boardgame" industry not to boardgames done by the "adventure game industry").

These are usually printed paper (often called a "label" even though you never saw a label that big in the grocery store) mounted to 80-point chipboard (which may be wrapped in some kind of paper to give it a nice finish on the unlabeled edges and back). Get samples if you can.

If you are doing anything strange, make sure you discuss it with your printer. The author of this book once talked a printing company famous for its excellent mounted game boards into doing maps a certain way they had never done before, assuming that they would naturally be able to perfectly register the front and back labels (since other printers who did not do game boards but did other things were able to do this). Turns out, they had never tried to get the front and back labels to line up and did not know how to do that, nor were they interested in figuring it out. Result, over a third of the maps were defective, and the printer refused to refund any of the money paid in advance.

### Hardback Books

This entry refers to "hardback" books (those bound with thick cardboard covers). For saddle stitch (folded, stapled) books see "Booklets" and for perfect-bound (square spine) books see "Books".

Hardback books are a premium product for the adventure game industry, and doing one either means you have reached really high status as a publisher or that you're about to go broke when the books don't sell.

The problem with these things is that you have to print a few thousand, they cost several dollars per book, you can only really afford to have them made overseas so they will take months to get, and they may not sell and that leaves you with a lot of lost money.

Exact Bind (see the 4C below) makes a machine that can produce hard bound books of very high quality, but you're talking five minutes of intensive hand labor per book and every book you screw up costs you a buck or two.

### Magazines

See "Booklets" and "Books".

### Maps

This entry refers to unmounted game boards; for "mounted" playing boards see "Game Boards".

Printed on 10 point cardstock, usually but not always in color, and folded to fit into your box or folio or whatever, these are the way most traditional boardgame maps are done. The printer who prints you covers can easily do this.

### Miniatures, Pewter

These can be anything: people, aliens, creatures, monsters, vehicles, starships, world war one battleships, airplanes, weapons, coins, collectibles, whatever.

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The advantages of doing miniatures are:

1. They can be produced in the numbers needed.
2. They are a prestige item.
3. They get more money out of customers.

To release a line of miniatures, you need to start with three or four packages, which is a bunch of up-front cost for sculpting and mold making. Let's walk through the process.

1. Have a long talk with your partners, wholesalers, customers, and others about this. Is this a direction you want the company to go in?

2. Decide if you are going to cast them yourself or have them cast. Casting them yourself means buying thousands of dollars worth of equipment, and you're not going to learn how to use it out of a book. I recommend you find a casting house. Ask other companies for a recommendation. I recommend Reaper. Contact Al Pare at 940-484-6464 or by Email at [al@reapermini.com](mailto:al@reapermini.com) and nicely ask him to walk you through the whole process. I can also suggest Bruce Graw at 4G Enterprises; Email him at: [agent1@agentsofgaming.com](mailto:agent1@agentsofgaming.com)

3. For any given figure, start with a sketch or drawing or maybe just an idea of what you want to produce.

4. Find a sculptor. You can ask other companies for recommendations or you can just call you casting house and ask them. Talk to the sculptor about what he does, how he does it, and how to proceed. Expect to pay him \$300-\$500 for each "people" figure in 28mm scale.

5. The sculptor does the miniature and sends you an original, often called a "green". If you don't like it, talk to him about where to go. If you do, he will want to be paid (if he didn't want to be paid in advance) and send it to the casting house.

6. The casting house will put the original into a "master mold" and send the original back to the sculptor. The master mold will hold a dozen people-sized figures but will cost you about \$150. Most casting houses will want to do one master mold for one customer meaning if you aren't doing a bunch at one time you are wasting a lot of the mold.

7. The casting house will cast a few masters and send you one for approval. If you don't approve, talk to them about which way to go. If you do, they will make a production mold (one such mold per figure, more than one mold for some larger figures). Figure on about \$50 for each production mold.

8. With a production mold, the casting house will produce a few items and send them to you for approval. (You might roll the dice and skip this step if you're in a hurry.) If you don't approve, talk to them about which way to go. If you do, they will make a whole bunch of them at 25¢ to \$1 each (depending on size).

9. Somebody (your company, the casting house, others) will then have to put the miniatures into some kind of packaging (clamshells, blister cards, boxes with inserts).

10. Ship to the wholesalers and think of the next figure.

## Miniatures, Plastic

As above, except that:

1. The molds are much more expensive (I have heard five thousand dollars but others have told me it's now much cheaper), but never wear out, being made of stainless steel.

2. Minimum production runs are in the thousands, but the pieces cost pennies each.

3. They are usually cast on trees or sprues with several figures on one sprue.

4. The sculpting may involve special steps I am not aware of. As in all things, follow the Prime Directive: "Assume nothing. Ask somebody who knows."

## Packaging

A general comment. Packaging can add a dollar or so to an expensive board game costing you ten dollars to produce. It can also double the cost of a small item such as a miniature. In our experience at ADB, we found we could sell a set of 24 pewter starships (normally costing \$8 each) in a video box for \$99.95 (about half price) because we didn't have to pay for the clamshells and backer cards.

Your packaging needs to include:

- Game title on front cover and spine.
- Company name (on back) and logo (front) initials (spine)
- Product line/universe logo (optional)
- Stock number, on front, back, and spine
- ISBN (not strictly required but commonly used)
- "Revised Edition" (if it is one)
- Bar Code (almost but not quite required).
- Full page ad (back cover) explaining why game is fun.
- MSRP (a few daring companies stopped doing this).

## Plastic Parts

Perhaps your game needs some kind of plastic part. This might be a "counting token" or a "damage marker" or it could be some kind of "toy soldier" or it could be some kind of building block. One of the marvels of the 21st century is that you can have these things made.

Before you have them made, however, see if somebody is already making them. Walk around major game conventions and see if any other game company is using a part that you could use. (You can also try the various forums, newsgroups, chat rooms, and mailing lists of the game industry to see if anybody knows where to get a part.) Ask them straight out if they would connect you with a source. If it's a generic part, the original supplier will probably provide it to you. If it's done specifically for them, you would need the other company's permission (which might cost money). In either case, just maybe you could combine your orders and get a better price.

Another way to get small generic parts is to go to a hobby store and look around at the beads and any other small bits of plastic. Find a bead you can use, then buy a package (for a dollar or so) and look up the company (on Google or Thomas Register). Contact the company, describe the part, maybe even mail them a sample, and get them to quote you on selling you a few hundred (or a few thousand) bags of these parts. They will probably be somewhat perplexed that you don't want any labeling, fold over cardboard headers, or packaging, since you're just going to include them in your game box.

There may be cases in which the part you need is not that easy to find. Make a drawing (if you have a sample, that's even better) ask for help at hardware stores, building supply stores, electronics parts stores, and so forth. If nothing else, show your drawing or sample to everybody in your church, club, military reserve unit, boy scout troop, or whatever, and see if somebody knows where to get it.

If that fails, try Thomas Register (ThomasRegister.com) and Google and look for a company able to make custom parts. Another good source is Anthony Valterra who has a reputation of finding such parts (or having them made) in countries like China or Indonesia where labor is cheap. See overseas production (near the start of this chapter).

Other possible sources include:

- [www.gameparts.net](http://www.gameparts.net)
- [www.boardgamedesign.com](http://www.boardgamedesign.com)

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These have a wide variety of “common game parts”, although they are more geared toward a game like Monopoly that anything produced by GAMA or GPA members.

### Play Money

You can probably print this yourself but generic packs of play money are available from:

[www.mygamemoney.com/default.aspx](http://www.mygamemoney.com/default.aspx)

[www.gameparts.net](http://www.gameparts.net)

[www.boardgamedesign.com](http://www.boardgamedesign.com)

### Posters

These are just color printing on paper so your local color printer can do them. However, be warned that not a lot of people buy posters, stores expect you to send them posters for free (sometimes they will even use the poster to promote your games), and they're difficult to package and sell to individuals.

One solution if you really want to sell posters is to go to CafePress.com which can make and sell posters for you one at a time basis. Customers can order from them, pay them, and have their poster printed and shipped by them. Your only involvement is cashing the check.

### Rulebooks

See “Books” and “Booklets”.

### Shipping Cartons

These are corrugated cardboard boxes used to transport your products to the wholesalers or other customers.

You can probably find a source for cartons locally, but you will find better prices from Uline, Papermart, Centralpack, or others. You can get traditional cartons, or smaller boxes that fold up from a flat die-cut piece of corrugated cardboard.

Shop around, look for specials, check the price of shipping, buy in bulk if you can afford it, and always find the best deal you can. Google and Thomas Register will provide even more sources for shipping cartons.

One possibility is to get to know your neighbors and if any of them use cartons see if you can combine your orders and get a better price.

You can get shipping boxes from the US Post Office but these can only be used to ship things via the Post Office. If you use Post Office boxes to ship UPS the Post Office is going to get upset and, well, it's actually a criminal act to do that. UPS makes boxes for their customers but only in smaller sizes and only for use in overnight and second day shipments.

### Things Not Listed

I forgot them. Or maybe I never needed them. Just ask me and I'll see if I can find out. Better yet, tell me how to do them and I'll include them in the next edition.

## 4C: Be Your Own Printer

This is not as scary as it sounds, and if you're selling \$100,000 a year it is almost an absolute necessity. What we're talking about is setting up your own Print On Demand (POD) system inside your own office, becoming Print It Yourself System (PIYS). You can of course continue to deal with contractual off-site POD agencies, but if you're doing that much printing, you're better off with your own PIYS. You can control your own work flow, do things on our own schedule, and since the cost of a POD agency includes the cost of their machines, you might as well be investing that money into *your own* machines.

An in-house POD plant will cost some money, at least \$10,000 for a minimal system, double or triple that as your production grows. The basic idea is to buy some kind of printer and some kind of binder and maybe some other equipment and print your own books in your own house. This is both complicated and simple at the same time.

Why do it? Because the old-school game publisher business model is a suicide pact. That business model is something like this.

1. Write a book.
2. Print the minimum print run, often 3,000.
3. Sell some much smaller amount that (maybe) at least maybe pays the printing cost of the minimum run.
4. Stack the rest of the books in your warehouse. Pay storage costs, insurance, and (in some states) inventory tax on them.
5. For the first couple of months, sell a hundred books off of that stack. Then sales drop to 50, then 10, then a book or two every other month. Meanwhile, the stack continues to use up space and cost money.
6. Eventually, you throw out most of the unsold books or sell them to Titan Games or Crazy Igor or somebody else. At this point, you get a tax write-off, which basically means that your “cost of goods sold” (for what you actually did sell) was actually a lot higher than you thought it was and your company was actually a lot less profitable than you thought it was.

Now, if your product line continues to sell well, every stack of books in the warehouse is generating profit every month. On the other hand, the “product cycle” is such that sooner or later everything that was selling great starts selling slowly and everything that was selling slowly stops selling at all. More than likely, that will happen with a lot of unsold books still in your warehouse.

While it is a whole separate subject, if you have a pallet after a pallet of unsold books in your warehouse and you can suddenly think of a really cool way to make more people want those books and buy them, you can turn dead inventory into money. Say an outside writer did four books of a popular series, then quit writing books (for any number of reasons). Without more new books coming out, the existing books quickly become a “dead product line” and stop selling. If you can find somebody who can write the fifth book, the first four will start selling again.

### Why Print It Yourself is so darn Kewell

Because you don't have to keep thousands of unsold books in the warehouse and throw them away when you give up the thought of selling the last thousand. Because you don't have to tie up cash in books you haven't sold yet (and might never sell). Because if you find a typo in the book, you can fix it right away. Because if you want to do a revision, update, or

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new edition, you can do this with the next copy you sell, not when you sell out or dumpster the existing stock. Because (assuming you print everything including the cover yourself) you can make money on print runs of one copy. (Got an old out of print book you were thinking of selling as a PDF? Why not sell hard copies? Are there customers who want a compilation of all of the fiction in all of your products? Print them a copy!) If you have existing products that are selling steadily but not fast enough to justify a reprint by a printing company, you can now keep them in stock easily by reprinting copies as needed.

### Can you make this pay?

The only bad part of PIYS is that you have to pay for the equipment up front. Add up your book-printing bill for the last year (which includes thousands of unsold books in your warehouse), then compare this to the cost of the minimum machinery to a PIYS running, and then to that equipment cost you must add 1.5 cents for each numbered page of each book that you actually sold. If you are using POD, add up your POD costs and then add up the cost of PIYS and see how many years it would take to pay for your equipment.

### Warnings on Print It Yourself

There are a lot of things that can and will go wrong with Print It Yourself, and the learning curve can resemble a brick wall. It's a whole new way of thinking, a whole new way of running your business.

**Getting Started:** Do not (even for a second) think that you can get your equipment delivered on Tuesday and be shipping books on Wednesday. It will take you time to get it the thing to work and to learn how to use it. You will be entering a world of software, hard disks, print drivers, post script languages, and other quirks that you probably have no familiarity with. Things are supposed to work correctly on the first try — but won't.

- First, you have to find a chain of software that will actually get the document to print. (Turn the document into a high definition PDF first. That way, no matter how you created it, it will run on the same software combination. Except when it won't.)

- Then, you have to find all of the quirks and settings and special switches buried in the print drivers, some of which will work backwards from what is the obvious way they should work.

- The printers will only work in a certain range of humidity and temperature which you will have to figure out, and then keep them in that zone.

- The printers will work better with certain kinds of paper, and you want to do serious testing before you buy serious quantities of paper. (We bought a few sheets of coated 11x17 paper and ran 20 of them through the Kyocera. No problem! We then bought 20,000 sheets and found out that on the 23rd copy that the machine overheated and suffered serious damage when printing on coated paper. Fortunately, we got the guy with the service contract to sign off on using that paper so *he* had to repair the printers — not us! Of course, he is now much less willing to sign off on experiments.)

**Running a PIYS:** Your dealer will be providing toner under your service contract. You want to get him trained to stock as much toner as you are going to use. This will take time. Not every dealer stocks a lot of toner (at least for your specific model of machine) and it can take days to get more. You will be buying paper by the cubic yard and you need to store it in a place that is heated and air conditioned the same as the printer. Remember that you will be running your printer

on weekends when your service technician is not available. If you ship wholesaler orders on Monday-Tuesday-Wednesday then you probably want to have enough finished by the time the repairman goes home on Friday night as you will need for Monday shipments. If things go well, by Monday morning you will have all of the books printed. If things go wrong, you will have all day Monday to get it fixed so you can print the Tuesday shipments Monday night. One thing you want to keep track of is the maximum usage rate on your machine. Just because it will print 25,000 copies in 24 hours does not mean that it is a good idea to do that. If the machine is good for 300,000 copies a month, then figure that it should not do more than 1/25 of that (allowing for Sundays) in any given 24-hour period. (We have found that a Kyocera 9520 needs a heck of a lot more maintenance when doing 14,000 copies a day than it needs when run at 13,000 copies per day.)

**Inventory Management:** As you build a product line consisting of books printed on your own equipment, you will find (hopefully!) that you are spending more and more time reprinting books done months or years earlier. You can fall into a trap here, by scheduling all the time you have to print the new book and not expecting the wholesalers to order more of the older books than you have on hand. Experience will tell you if keeping 20, 50, 100, 250, or 500 of each older book on hand is the right number. It wouldn't hurt to keep a month of sales on hand just in case your equipment breaks down at the most unfortunate time.

### A Side Trip to Explain a Concept

The modern military no longer “buys anti-aircraft guns” but instead “acquires anti-aircraft capabilities”. There are a lot of ways to make the problem of enemy airplanes go away, including guns, missiles, lasers, commandoes who raid their airbases, a Madison Avenue propaganda campaign about how their airplanes are killing civilians, finding ways to make them bomb the wrong targets, or (most expensive of all) buying your own really cool fighter planes. You need to understand the concept that “acquiring a capability” is vastly more effective and usually much less expensive than “buying” a specific machine. Do not think in terms of “the best deal on that machine I heard about” but “the best way to print my books” which very often is not the same thing.

### Black and White Page Printers

There are a lot of printers that will do the job, but we're not talking about your standard laser printer (and certainly not about any inkjet printer). You need something massive. There are basically three options:

1. **Document technology machine**, the epitome of which is the Xerox Docutech. This thing will cost about \$90,000 up front, but they'll be happy to sell it to you on a lease-purchase deal over five years (just don't add up the total cost, it will make you sick). The problem is you're buying a heck of a lot of capability and paying a *lot* of money for it. Docutechs are designed either for commercial printers, or huge corporations which have their own in-house printing plant. You can acquire the capability you need for a lot less money, since a Docutech would fill the needs of any ten mid-sized game companies. The Xerox boys have a great sales team and they will give you a dog and pony show like you would not believe. After they are done, you might be absolutely convinced that paying them \$90,000 is not just the smartest thing you could do, but the only logical thing you can do. The other thing about their sales team is that once they decide (by their own calculations) that

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you need to buy a Docutech, they very often just won't talk to you about any less expensive options.

**2. Document Center:** These are smaller versions of the Docutech, usually costing \$25,000-\$50,000 (and available on lease-purchase deals which have the advantage of charging you what amounts to an absurd amount of interest). You can acquire the capability you need for much less money.

**3. Network printers:** These are designed to be the one big printer in a building full of architects or engineers or insurance salesmen, the one big network printer to which everyone sends all of their documents. You're looking for something that will print 300,000 numbered pages (called "clicks") per month at a rated speed of 50 pages per minute and will cost you about \$7,000. Now, you can get into this gradually by buying "just the copier" for about \$4,000 and then adding options like the "finisher" (which stacks collated pages and punches holes) and a hard disk (which will hold copies of many products allowing you to select any one of them for printing) at a later time.

**Note on the real cost:** All of these options will include a "per click" charge in a monthly service contract. This sounds like a bad thing, but it is a good thing. With a service contract, you control your costs because ALL you pay is the cost of the machine and paper and the "per click" charge (usually a penny a page or less). You don't pay for toner, repairs, cleaning, or expensive replacement parts. These machines print a lot of stuff (we hit a million copies on one of our machines in less than a year and now have three of them) and, well, when you run a machine hard and fast and long things tend to wear out, break, get dirty, or have other things go wrong.

### Recommended Printer

There are a lot of network printers out there, and you should do serious research into which one is right for you. Just what are your needs, and what capabilities are offered? Where might your company go and what might it need then? Ask the salesmen to give you the names and phone numbers of other people in your town who have such machines. Ask on the GPA list or other mailing lists of people in the game industry if any of them own such machines and what they do with them and if they are happy with them.

The author of this book is seriously in favor of the Kyocera 9520. When you consult various salesmen about their respective machines, be sure to talk to Kyocera. (Note: These words were written in June 2006. If you are reading them six months or a year later, there may well be a more advanced and more capable model of the Kyocera available. That might mean you could buy one of the last 9520s cheap or it might mean that you should take a serious look at the new models and see what extra capabilities they offer.) [Note: As of June 06, the author of this book is still happy with his Kyoceras but is getting a little unhappy with the fact that they break down a lot. The service guys fix them the same day, and this reliability issue is more an annoyance than a problem, but this is what happens when you buy three \$7,000 machines to do the same work as one \$90,000 machine. It does make it dangerous to schedule major releases on Monday and try to start printing on a Friday. With no weekend repairman, you just won't make it to Monday.]

### Bookbinders

If you have the pages of a book you printed, you need a binding machine to bind it. There are basically two choices, and you may want both (each for its own purposes). You are

welcome to hunt for other choices but there aren't many.

**Low End:** The low-end is an M2 Booklet maker, which makes saddle-stitched books. This will cost about \$2,300. You insert stacks of 11x17 paper (one book at a time) and the machine punches in two staples and folds the book. It will handle books up to 64 pages easily and can be coaxed to do a bit more. It is fairly slow (maybe three books a minute, faster if you have somebody helping the operator by pulling the finished books out) but amazingly reliable. The only tricky part (after you set the size gauge, which won't take more than three tries) is that it does run out of staples without warning and you will notice this only if you check each book for staples as they come out (which isn't that hard to do if you can just remember it). It will easily handle sheets smaller than 11x17. The resulting booklets will be a little "fluffy" (much thicker near the staples than at the outside end) and you'll need to flatten them some by running something (a full but unopened can of tomato soup works) over the spine. You might want to trim the outside edges of the book even with your trimmer (if you have one) but you don't have to and this is tricky because the books don't want to lay flat.

**High End:** This little known machine, the Exact Fastbinder, is made in Finland of all places. It is imported by Exact Bind USA <http://www.exactbind.com/>. This uses hot acrylic glue to turn 8.5x11 (or smaller) pages into Perfect-Bound (square spine) books. If you do it right, the pages are all but impossible to rip out of the book; if you do it wrong, you'll have loose pages all over the place. As with any equipment, read the instructions and watch the video. After you have used the bookbinder for a few days, go read the instructions and watch the video again. We found out that the reason we were so dang slow with it was that we had missed a step that didn't affect the quality of the books but did slow the machine down a lot. A skilled operator can do two books a minute, assuming a well-set-up working area where he can easily reach the stacks of pages and stacks of covers without having to take a step or turn around. There are several versions of this machine, with the more expensive ones having more automation and a higher cost. A mid-range machine can be had for about \$7,000, but check what is available at the time you read this.

Do not let the machine run out of glue! We had a new operator who ran the thing for two hours before noticing it didn't have enough glue in it. (The glue is in small pellets and you add them a handful at a time, say every 10-20 minutes.) Not only did we have over a hundred ruined books (which had cost over a dollar apiece to print) but this damaged the glue pot which required expensive and time-consuming repairs with spare parts airlifted from Finland by an ex-Soviet cargo plane.

The company will try to sell you a "creaser" which is needed to crease the covers for the books. Frankly, these things are tedious and awkward to use and it is incredibly easy to get them just a tiny bit crooked, ruining a cover. They are also slow since they do one cover at a time. You're better off to have the printer crease the covers on much more expensive machinery which is uniformly accurate.

**Warning:** Local print shops will offer to do your binding for you on their equipment. What they won't tell you (and they won't even realize that this is an issue for you) is that they will destroy about 1/10 (or up to 1/3 if your paper is not something their machine can eat) of your printed books in the process of binding the rest. That's how *they* bind books that *they* print. They always factor in a destroyed books percentage. With your own binders this can be kept under one percent (and you can give those away free to playtesters).

# RUNNING A GAME PUBLISHING COMPANY

## Covers For Your Books

Black and white covers can be printed (on colored card stock if you like) on the industrial laser printers you selected (e.g., the Kyocera 9520). Have the printer cut the stock 11x17.5 inches and crease it 8.5 inches from one end (that side of the crease being one cover, the other side being the other cover and the spine).

Color covers are harder to do, but you have some options.

**Printed Covers:** Call up your printing company for a quote, Email him a piece of art, and have him print the covers the same old way you would have these done for your previous printing method. One warning: your old bookprinter probably gave you 8.375 x 10.875 inch books, and your new equipment is going to do 8.5 x 11, which means you will need to make your cover graphics a little bigger. Be sure that your color printing company knows this, or they might assume that you made a mistake and helpfully resize your covers for you.

**Color Laser Printing (Outsource):** These new machines, such as the Indigo, came into the industry during 2005, producing quality 11x17 color covers for about a dollar each. Some of these machines produce great prints of "full art" and some are really designed for "business color" which means blocks of solid colors and some color lettering or color logos to jazz up a report. Find somebody locally who has one of these, get a price quote, and have them print a few test pieces. Judge the results for yourself. For short runs of books intended for retail, this may be a practical solution. While a dollar a cover is twice what you'd pay for real printing, the minimum print runs for real four-color printing may be several times your sales potential.

**Color Laser Printing (In House):** This is something to look into after you get your PIYS up and running. Color printers are very expensive, and their "per click" charge is considerable, and the contracts are based on 30% coverage (typical full art game covers are 300% coverage) so they may "decide" to charge you ten times as much for toner supplies. Even so, this might work, but probably won't. If you insist on buying one these things, exercise a whole bunch of due diligence first. Give the salesman a copy of one of your cover jpg files and have him bring you a printout. If you don't like the result, don't buy the machine. The second thing is to get something it writing about the toner cost. The sales people will tell you that "The clause in the contract about us raising the toner price any time we want to is just to make sure you aren't selling free toner out the back door. We won't really raise your maintenance contract if you use ten times the amount of toner we expect you to us." Tell them that when they give this to you in writing, you'll buy their printer. Otherwise, don't buy it.

**Inkjet (In House):** You can produce acceptable full color covers with an inkjet printer, but the cost of ink will be very high (higher than you ever dreamed) and refilling the ink tanks will be a constant chore (and if they run out in the middle of a cover, that cover may well be ruined). There are stories told in dark Gamer Bars about people who jerry-rigged a warranty-voiding system to feed ink into the machine from fifty-gallon barrels. Go watch their system in action before deciding to go this route. If you really want to talk to the people doing this, Email me and I'll forward your email to you and maybe, after an FBI background check, they might talk to you if you promise not to tell the company that holds their warranties.

## Other Equipment You Might Need

If your business proceeds with success (and we wish you

all of that!), you will start acquiring more and more equipment, including for example:

**Hole Puncher:** Perhaps some of your rulebooks have to be hole punched. If so, you need a way to do this. A heavy duty manual puncher will be fine and should cost you a couple of hundred dollars. Obviously, get one that will punch all three holes (or whatever number of holes you punch) at the same time. Warning: these things have some kind of bin or tray that holds the little circles of punched paper. That tray or bin eventually gets full, and when it does, that punched paper has to go somewhere. If you're lucky, your model of puncher will just spill it on the floor. If you're not, the bits of paper will go somewhere inside the puncher itself, eventually requiring that you dismantle the machine to remove them. Make it a part of your weekly schedule to empty this bin no matter how many holes are or are not in it, and whenever you are doing a major production run of something that gets punched, be sure that you empty the bin every day.

**Page Trimmer:** This is a big guillotine cutter which will trim off the edges of your books to give them a professional appearance. You can get a hand-cranked one for two thousand bucks and an electric-powered one for five thousand and a computerized one that "remembers" where to cut the pages for maybe eight thousand bucks. You might also get your printing company (maybe your color cover printer, who never did do your black and white inside pages) to trim them for you for a fee.

**Jogger:** This is a little machine the size of a toaster or sometimes even smaller. The one you need has a deck about 6x10 inches and a vibrating motor. Set it beside the bookbinder so that the guy operating it can use that vibrating plate to line the pages up more quickly. For a couple of hundred dollars, you can increase the speed of the Fastbinder by 10% and reduce the defective book rate by 30%.

**Quad Carts:** These are small carts about 18 inches square which have some sheet metal plates standing up, creating four pockets able to hold stacks of 8.5x11 books. These are used to hold pages that come out of the printers and carry them safely to the binder, then hold bound books and carry them safely to the trimmer or hole puncher, and then hold the finished books and wheel them to the assembly line.

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