High Level Design Specification

For

Electronic Tearsheets

Revision 1.03
February 16, 2004

Prepared by
Jeff Dodd

Table of Contents

Revisions

REVISION	RELEASE DATE	COMMENT
1.00	January 15, 2004	Initial draft.
1.01	January 20, 2004	After initial meeting.
1.02	January 26, 2004	With the first round of feedback
1.03	February 16, 2004	Feedback from users and additional edits.

Document agreement

Project Manager _____ (Jeff Dodd) ..... Date _____

Business Sponsor _____ (Erik Van Vorhees)..... Date _____

Infrastructure Representative _____ (Al Robertson)..... Date _____

Application/Account Manager _____ (Steve Johns)..... Date _____

Developer _____ (Greg Sheilds)..... Date _____

Test Q/A Representative _____ (Liz Barnhart) ..... Date _____

1 Overview

The purpose of this project is to create "billing packets" with images of ads that run in the TV Guide products. The pages will be extracted from PDFs files that are created for page production. The proposed system will create the packets with minimal manual intervention and provide for delivery of the billing packets via an electronic form (e-mail, as the default, FTP or web). This application replaces manual effort by staff in the Finance department. Some of the billing packets will continue to be sent via U.S. Mail (USPS), so this project will need to support hardcopy delivery and electronic delivery.

The application at the center of this project will run in two modes: automatically, starting at the completion of an issue's production and manual "reruns" where different editions are extracted or billing packets are re-delivered. The users of this system are the Billing and Credit staff, who will initiate the batch process and, at the request of advertisers/agencies, create custom packets for special conditions.

1.1 Overview of the system

The pages for a TV Guide product follow two paths to arrive in a bound book. The color pages (national feature section) are created in a desktop publishing application and can be converted to PDF. The newsprint pages (listings section) are created in batch composition systems from database extracts. PDF files are created as a precursor to imposition and printing.

These respective parts of the book must have "bookmarks" added to the PDF file to identify the ad

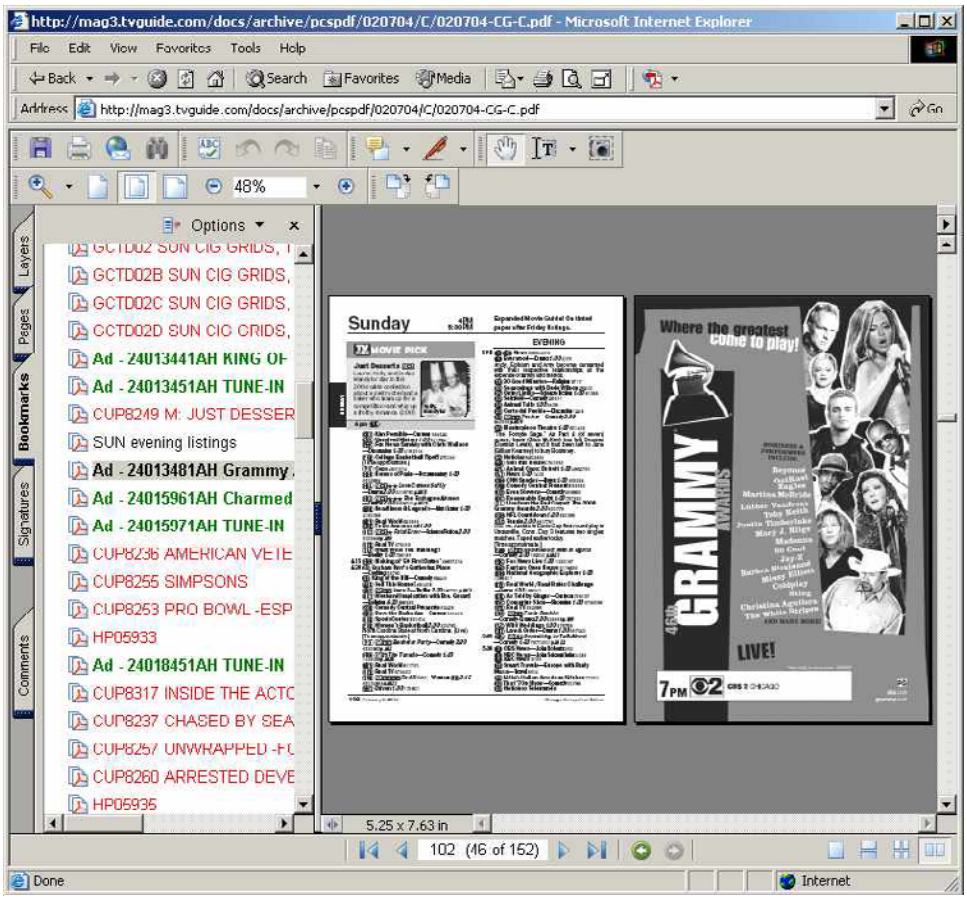


Figure 1 --- PDF bookmarks, displayed on the left panel, mark the insertion order number of the ads, shown as it was inserted in the book on the right.

pages. The bookmarks must include the insertion order number (I/O) for this project to work and the ad description for the convenience of users.

For the newsprint pages, bookmark "operators" are inserted into the PostScript code. A script searches for PostScript keywords in the Digest newsprint pages. The PostScript code is added to the Large Format books when the pages are "built" by the composition system. The Adobe Distiller converts these commands to bookmarks as the pages are converted to PDF. Development of these aspects of the project is complete and will be live shortly.

For the color pages, a preliminary agreement has been reached with the color center (RRD-Prelim) to return all pages to TV Guide as a searchable PDF file[1]. Upon return of the PDF files, the bookmarks are applied to the pages. This process is dependent on two features being developed. The first is a new user interface to create the editorial map. This interface renders a flat file. The second feature uses that flat file to apply the bookmarks to the PDF file. These programs are still under development.

All of the PDF files are stored on a server (test server MAG3) and are available within the company via a web browser at *http://mag3.tvguide.com/docs/archive/pcspdf/*.

In the current ad process, a report is run through MS Access against data stored in an MS SQL Server database (AIS) after an issue is closed. The reports are printed to a laser printer. Tearsheets from a printed book, or complete books, are attached to the bill and mailed to the advertiser or agency booking the ad.

In the new system, the report generation is moved from MS Access to MS SQL Server. The report data will be used to extract ad pages from the PDF files and build an advertising space invoice that will be included as part of the ad packet. After the ad packet is completed, it will be e-mailed to an agency or advertiser contact, or sent to a laser printer for delivery via USPS.

1.2 Document purpose

This document is written to a high and medium level. Feedback from the developers on better ways of completing tasks is encouraged. The description of the programming is UNIX/KSH, and some interfaces are described as HTML for convenience, but can be created in any mutually agreeable format. Speed and ease of use for the user is essential.

1.3 Document overview

The document is organized from the simple to the detailed. File samples are shown and screen captures of examples are presented as an adjunct to the description.

1.4 Related documents

The developer may find the PDF specification beneficial. User references to the software applications are available.

- **RAD1DC2:Users\jdodd\PDFdocuments\PDFMarkReference.pdf —** Reference from Adobe on the structure of PDF marks in PostScript.
- **RAD1DC2:Users\jdodd\PDFdocuments\APGetBookMarks.PDF —** User documentation on Appligent's APGetBookmarks utility.
- **RAD1DC2:Users\jdodd\PDFdocuments\AppendProGuide.pdf —** User documentation on Appligent's AppendPDF Pro utility.

[1] This will be part of the switch to Adobe InDesign for the layout of the color pages. This is part of the Mac OS X Upgrade project.

- **RAD1DC2:Users\jdodd\PDFdocuments\apcryptguide.pdf —** User documentation on Appligent's APCrypt utility.

2 Design considerations

This section describes issues that need to be addressed or resolved prior to or while completing the design as well as issues that may influence the design process.

2.1 Assumptions/Goals/Constraints

The following are some of the assumptions, goals and considerations for the design and deployment of the electronic tearsheets application.

- Most of the time, the application will be run in **batch mode** on the AIX servers. However, a provision must be made for the users in Finance to request a run or re-run of an ad packet. This will require a user interface to specify the invoice to run and the editions to extract from. An invoice should be created to make a complete, new ad packet.
- The screen designs presented in this document are not mandatory for the new system but represent the preferred type of interface and organization of content. The design of the final forms and document structure should be mutually agreed upon.
- There will likely be no more than eight concurrent users of the system and most likely to be two active at one time.
- On the assumption that the interface will be a browser application, it is acceptable to demand that all users have MSIE 5.0 or greater to run the interface should plugins or browser features be used.
- The PDF files will be stored on a single server (test server MAG3), in a single disk area. All work for a product can be assumed to be running on a single server. As issues age, the references in the directory remain, but the PDF files are moved to "near-line" storage managed by the server.
- The space used for storage of the ad packets will be transient. It is not intended that the packets be kept for more than a few days. "Permanent" storage of the files (PDF invoices and/or ad packets) on CD/DVD is possible, but not as part of this project.
- At this time, the electronic tearsheets application will *not* process inserts. The inserts may not be printed by TV Guide and there may be numerous keyed versions. This makes the process of creating a complete ad packet difficult.
- By default, ads with national distribution will receive pages from a book in each time zone. These editions will likely be NY, CG (Chicago), DV (Denver) and LA. There may be instances where the agency or advertiser requests all editions, other selected editions or wishes to establish other default editions. Large format editions may also be requested.
- Ads run exclusively in the large format products will have ad packets created from those pages. Mixing large format and Digest page sizes is possible in the PDF file.
- The project will be executed in two phases, with initial development taking place using the newsprint pages. After the national feature pages (color) are available in the PDF archive (at this time, targeted to be delivered as part of the Mac OS X upgrade and switch to Adobe InDesign), the page structure will be reviewed to assure it is compatible with the existing system.
- All ad packets will be delivered via e-mail or printed to a laser printer for delivery via USPS. Other delivery methods have been suggested (FTP and web posting), but these will be addressed at a later time after the need, cost and development effort has been assessed.

- An objective of the project is the removal of MS Access from the workflow. IT is tentative on supporting desktop applications in production systems and efforts will be made to move all MS Access functions to MS SQL Server.

2.2 System environment

The AIS database is an MS SQL Server database, running on a Window server. The PDF files are stored on an AIX server (currently test server MAG3). The PDF tools have been licensed for AIX servers and the web server (Apache) is hosted on an AIX server. If the interface is developed as a browser application, the users and application will need access to the web server, which will need to initiate extracts on the MS SQL Server database.

2.3 Security

Since this is an internal system and all users should be knowledgeable about the risks and value of the data, a single user level of login is necessary. The batch users and finance users will have access to the same files and functions. This single user level will need permission to run queries against the AIS database.

Data Services and Finance need to establish an agreement on the backup and fail-over of the hosts of the data and applications.

2.4 Risks and volatile areas

Since this application affects the revenue of the company, the application must assure that all records are processed and delivered. All exceptions are reported to the Finance user. The validation should extend to the delivery of the files via e-mail (reporting those that “bounce” off of the remote mail server). A "receipt" link may need to be included for the receiver to acknowledge the acceptance of the ad packet. Additional checks may be needed to measure the file size before delivery and make adjustments to the file delivered.

3 Architecture

The following section describes the building blocks of the system.

3.1 Overview

The electronic tearsheets development will focus on two platforms, the RS6000 servers, running AIX and Sun workstation, running the Adobe Distiller Server software. Other Sun servers may be used to "compose" the invoices prior to distilling. The queries for the AIS database will be written and run on the MS SQL Server hosts

3.2 Software tools

Three PDF utilities have been purchased to support the creation of the ad packets. These are compiled programs to run on AIX.

- **Appligent’s APGetBookmarks**, to extract the bookmarks and their logical page numbers from the archived PDF files.
- **Appligent’s APAppendPDF Pro**, to extract specified pages from the edition PDF, assembly of the ad packet and generation of TOC.
- **Appligent’s APCrypt**, to set flags in the ad packet PDF to control the printing, copying, manipulation and data extraction of the file. The software vendor provided this package from

the since the AIX version of APAppendPro PDF has not yet been updated to support these features.

The remaining tools for the creation of the ad packets will be UNIX functions.

An MS Windows tool was purchased to support the bookmarking of the national feature PDF pages.

- **Image Solutions Inc's ISIToolbox**, allows the user to edit the bookmarks in MS Excel, export a delimited file and import the new mark content into the PDF file. This will allow some validation to be built into the bookmark entries.

The tentative workflow design presumes the use of MS Excel to "author" the bookmarks and macros in the Excel spreadsheet to set bookmark attributes (color and font) of the PDF bookmarks. The workflow design for the capture of the editorial map (as a source for the bookmark descriptions) of the national feature section is still under examination.

An application needs to be written to allow the Finance users to request the creation of specific ad packets for invoices. It is presumed the developer of the GUI will have MS Interdev Studio available to develop the interface that is also presumed to be a browser application.

4 Scope of work involved

The following describes the work required to complete this project.

- **AIS database addition, e-mail address** – To support the delivery of the electronic tearsheets, the e-mail addresses need to be associated with the agency and advertiser records. It is recommended that this field be added or linked to the agency table in the AIS database. The change should allow for multiple addresses to be associated with each. Addresses should be identified as "primary" (deliver the ad packet with the invoice) and "secondary' (deliver the ad packet without the invoice).
- **AIS database addition, tearsheet editions** – To support the creation of the electronic tearsheets, the database will store the default editions associated with the agency or advertiser records. This should allow the selection of all editions to be the default. For agencies dealing with national ads, the default will be to select one book from each time zone. The default editions must be validated against the editions where the ad has run. This can be a new table in the AIS database or a new database maintained on the processing host.
- **AIS database addition, delivery method** – This will allow us to designate how to deliver the ad packets to the agency or advertiser. We will wish to identify ad packets that must continue to be printed and mailed and I/Os that will not be printed, such as those in the large format custom sections or inserts. We may also wish to take advantage of other delivery methods, such as FTP or posting to a web location. It is assumed the delivery methods are exclusive, i.e., all ad packets for an invoice will be sent by a single method. Therefore, a field is suggested that will identify the means of ad packet delivery to the agency/advertiser. It is recommended that this field be added or linked to the agency table in the AIS database.
- **AIS interface for entry of delivery data** – An interface to the AIS database will need to be created to allow the users to enter the above information to the AIS database.
- **Conversion of MS Access query** – There is currently an MS Access query and report used to extract data from AIS for construction of the ad invoices. The query should be converted from MS Access to MS SQL Server, including the new fields of e-mail addresses, tearsheet editions and delivery method. The structure of the returned file will be in a mutually agreeable format between developers.

- **Construction of the invoices** – It is currently the responsibility of MS Access application to create a printable image of the invoice and deliver these files to the printer. With the project removing MS Access from the workflow, the new system must create invoices to be distilled and attached to the electronic ad packet. The electronic files will be printed to a laser printer as needed for delivery via USPS.
- **Compilation of national feature pages in archive** – Currently the national feature pages (color pages) for the digest product and the large format project are not in the PDF archive, therefore available for the generation of electronic tearsheets. The storage of these files was factored in to the initial PDF Archive project. (Estimated at an average ~4gb per issue.)
- **Create editorial map interface for national feature section** – The editorial map, or plan for the layout of the color section for the digest and large format products, is current created in an MS Excel file. It is extremely difficult to create a program to extract the information from the file based on keywords in the file. Consequently, another user interface is needed. The new editorial map interface must provide a file that can be:
  - processed by print production planning (as part of the AMOS project);
  - in bookmarking the color PDF files; and
  - conveying the assembly of the color section to the designers and production departments.
- **Bookmark the national feature pages** – Once the national feature pages are available for the archive, the pages need to be bookmarked with I/O numbers and ad descriptions. This will have a workflow project supporting the process.
- **Building the ad packet** – The extraction of the ad pages, along with the pages preceding and following is the core of the project. Once extracted from the editions, the pages are assembled into a larger document. This process must accommodate regional ads, A/B splits, multi-page ads and maintain page spreads. The default editions should be compared against the list of editions where the ad has been run. If the ad has *not* run in one of the default editions, the finance user should be notified.
- **E-mail delivery** – This project requires the creation of an email delivery system to deliver the ad packets as an attachment to e-mail. The module should also track undeliverable mail.
- **File printing** – This project requires the creation of a mechanism to automate the printing of the ad packets for delivery via USPS.
- **Exception report** – Any I/O or file that does not process correctly needs to be reported to Finance users. Examples of I/Os that will not process are:
  - advertising inserts;
  - multi-folds (may come at a later time);
  - color ads (will come at a later time); and
  - color regional ads (will come at a later time).

  The exception report of these ads will be e-mailed to the appropriate users.
- **Interface for on-demand generation of ad packets** – An interface is needed for Finance users to request re-runs or variations of ad packets. Requests will be driven by entry of the invoice number. This should retrieve the appropriate records from AIS and present them to the user for confirmation before assembling the new ad packet. A browser-based application as a complement to the access of the PDF book archives is recommended.

5 High-level design – ad packet batch process

The core modules for all ad packet processing are based on the code developed for the batch process.

5.1 AIS data extract

To start the creation of the ad packets, an extract of records is needed from AIS. The "raw" SQL command that feeds the current reports is listed below.

```
SELECT DISTINCT
                dbo.INVOICE.*,
                dbo.INVOICE_INORD.*,
                dbo.AGYLC.*,
                dbo.ADACT.CONTACT_NAME
FROM ((dbo.INVOICE INNER JOIN dbo.INVOICE_INORD ON dbo.INVOICE.INVOICE_NUM =
                dbo.INVOICE_INORD.INVOICE_NUM) INNER JOIN dbo.AGYLC ON
                (dbo.AGYLC.AGYLC_NUM = dbo.INVOICE.AGYLC_NUM) AND (dbo.INVOICE.ADAGY_NUM
                = dbo.AGYLC.ADAGY_NUM)) INNER JOIN dbo.ADACT ON dbo.INVOICE.ADACT_NUM =
                dbo.ADACT.ADACT_NUM

SELECT DISTINCT
                dbo.INVOICE_INORD.INORD_NUM,
                dbo.EDTN.EDTN_CD,
                dbo.EDTN.EDTN_NUM,
                dbo.EDTN.EDTN_DESC,
                dbo.EDTN.TTL_NUM
FROM (dbo.INVOICE_INORD INNER JOIN dbo.IOISE ON dbo.INVOICE_INORD.INORD_NUM =
                dbo.IOISE.INORD_NUM) INNER JOIN dbo.EDTN ON dbo.IOISE.EDTN_NUM =
                dbo.EDTN.EDTN_NUM

SELECT DISTINCT
                dbo.INVOICE_INORD.INORD_NUM,
                Count(dbo.IOISE.IOISE_LINE_NUM) AS NUM_EDTN
FROM dbo.INVOICE_INORD INNER JOIN dbo.IOISE ON dbo.INVOICE_INORD.INORD_NUM =
                dbo.IOISE.INORD_NUM
GROUP BY dbo.INVOICE_INORD.INORD_NUM
```

This generates a file of approximately 40 columns. INORD_NUM is the field that will be used to extract the ad pages.

5.2 PDF ad index

Building an external index of the bookmarks makes the process of locating the ads in the PDF files easier. This is created by the utility **APGetBookmarks**. It is a command-line application that examines PDF files and reports a list of bookmarks contained within the PDF documents.

The following illustration shows a sample Digest index[2].

```
Title : Flat 012404-JP-C                                    < Title is extracted from the header
 1: OUT7 ZERO DAY COVER / CIGS : 1
 1: SOG SOAP OPERA GUIDE : 2
 1: OUT9 LOGAN ON SOAPS / CIG : 3
 1: TWJ HITS AND MISSES -AKA JARVIS- : 4
 1: Ad - 24002711AH SEE WHAT YOUR MISS : 5                  < The syntax for an ad mark should be
                                                               consistent within a product
 1: SPG SPORTS GUIDE PAGE 1 : 6
 1: Ad - 24002721AH SURF THE WEB FAST : 7
 1: CABB MAC CABLE CONVERSION CHART / PAGE 1 -PERM- : 8
 1: CABB02 MAC CABLE CONVERSION CHART / PAGE 2 -PERM- : 9
 1: CABB03 MAC CABLE CONVERSION CHART/ PAGE 3 -PERM- : 10
 1: CHRH 10H HEADER/1ST PAGE SATURDAY CHRONOLOG -PERM- : 11
 1: PLUG116 1/2H new CUSTOMER SERVICE W/ VCR+ AND SYMBOLS  / CIGS only : 11
 1: SAT morning listings : 11
 1: SAT afternoon listings : 14
 1: Saturday Prime Time Grids Spread 1 : 18
 1: Saturday Prime Time Grids Spread 1 : 19
 1: BST SAT BEST PICKS COMPILED / CIG : 19
 1: Saturday Prime Time Grids Spread 2 : 20
 1: Saturday Prime Time Grids Spread 2 : 21
 1: SAT evening listings : 21
 1: Saturday Prime Time Grids Spread 3 : 22
 1: Saturday Prime Time Grids Spread 3 : 23
 1: Ad - 23242381AH COLLECTIBLES : 24
```

The first number on the line is the bookmark level. (Bookmarks can be nested under each other, but are not nested in the structure established for the newsprint pages.) The second field contains the bookmark description. This is where the I/O number is found. The third field is the logical page number of the bookmark within the PDF file.

An index of each edition should be generated in a work directory for each edition.

5.3 Ad packet building

Building the ad packet involves two processes, searching for the bookmark and page where the ad is located, then executing APAppendPro to extract the pages from the edition file and assembling them in the ad packet. In the examples below, the first process builds a batch file for the second process. This is for illustration purposes and the developer may choose to develop as a single script.

5.3.1 Ad location

For each of the ad insertion order numbers, the I/O string is **grep'ped** against the ad index for the editions. The string is cut for the logical page variable. A page is subtracted from this number and added to this number to get the preceding and following page numbers.

```
IONUM=2324813
EDITION=`011004-NY-C`
LOGICALPAGE=`grep $IONUM $EDITION.pdf | cut –f3 -d":"`
STARTPAGE=`expr $LOGICALPAGE – 1`
ENDPAGE=`expr $LOGICALPAGE + 1`
echo "$EDITION.pdf,$STARTPAGE,$ENDPAGE,(From the $EDITION, on page
        $LOGICALPAGE)" >> $IONUM.batch
```

[2] This display was generated with the command line `/usr/local/appligent/APGetBookmarks_18/apgetbookmarks -page editionfile.pdf`. The options to APGetBookmarks are shown in **Appendix D — APGetBookmarks functions**

The last line is constructed for APAppendPro. It defines the input file, the starting page of the extract, the ending page of the extract and the content of the PDF bookmark in the output file. If possible, the description of the edition code should be included in the bookmark. For example, "From the CG (Chicago) edition, on page…"

5.3.2 Assembling the ad packet

There is additional syntax that needs to be added to the batch file for APAppendPro to function properly. The output file must be defined. It is recommended that the name be built from the issue, the invoice number of the ad packet and the "revision" of the packet.

```
2312293.pdf                                    < Output file name, same as invoice number
begin_source                                   < start data extraction
011004-NY-C.pdf,44,46,(As published in NY (New York Metro), on page 45)
PDF_DIV.pdf, , ,( )                            ^ Calling page before and after target page
011004-CG-C.pdf,38,40,(As published in CG (Chicago), on page 39)
PDF_DIV.pdf, , ,( )                            < A "divider" page
011004-DV-C.pdf,44,46,(As published in DV (Denver), on page 45)
PDF_DIV.pdf, , ,( )
011004-LA-C.pdf,56,58,(As published in LA (Los Angeles), on page 57)
end_source                                     < Complete data extraction

begin_TOC                                      < Start TOC definition
TOCPage (PDF_TOC.pdf)                          < Define a "template page."
HeaderHeight (324)
FooterHeight (72)
LeftMargin (108)
RightMargin (72)
FontName (Helvetica)                           < Set font for TOC rendering
FontSize (18)                                  < Set font size for TOC rendering
LineSpace (1.5)
Leader (.)                                     < Character for leader in TOC
end_TOC                                        < complete TOC definition
```

For example 021404-205866-2.pdf would identify an ad packet for the invoice 205866, whose insertion orders ran in the February 14, 2004 issues. This would be the second ad packet assembled for this invoice.

The divider page between the different editions is optional, but it may be useful to assure the ads are displayed in the correct left-right orientation. It is also possible to "round" the page selection to make sure page spreads are extracted.

The table of contents page is also optional, but it also serves as a manifest of the ad proofs provided.

5.4 Invoice composition

The invoice for the ads must be created and provided as a PDF to accompany the tearsheets.

5.4.1 Considerations for invoice layout

As the layout for the new invoice is developed, the placement of the following components should be considered since some packets will continue to be printed and mailed. This has a set of contraints that will affect the layout of the invoice.

- The invoice can be one or many pages in length.
- When printed and mailed, the packets are folded in half. It is suggested some ticks marks be placed at the center of the page to guide folding.

- The agency's address must be displayed in a cellophane window in the mail delivery envelope. The window is 1-1/4" tall by 3-5/8", centered on the width of the page and 7/8" up from the bottom of the 6" tall envelope. See the illustration in Appendix B — Envelopes**.**
- The bottom 3-1/2" of the first page is the "payment stub" of the invoice. This area should be delineated with a dashed line. The payer will return this with payment to TV Guide.
- The PostNET ZIP code can be added below the delivery address at the bottom of the page.

After the invoice is assembled (presumably in PostScript), it should be converted to PDF to be prepended to the ad page packet.

5.5 Ad packet delivery

The completed ad packet is to be e-mailed as an attachment to an address maintained in the database. The address may be part of the AIS database or be part of external database used by the electronic tearsheets application. Provisions should be made to allow a Finance user to update the address and for multiple delivery points as needed.

If an ad packet is regenerated, a notation should be placed on the invoice to alert the receiver that a second invoice has been presented. The last digit of the file name will be incremented by 1 to indicate the revision of the ad packet.

6 High level design – ad packet interactive request

When the advertiser or agency demands a different selection of editions, a user interface is needed to initiate the creation of a new ad packet.

6.1 Overview

The Finance users will have access to AIS as well as JD Edwards. All data used to build and deliver the ad packets, such as e-mail addresses, should be stored in AIS. Permanent changes will be committed to AIS. When "once-off" requests are received, the user enters the invoice number as the search criteria. The application retrieves the appropriate records from AIS, setting defaults, then allow the user to override specific settings of editions to process, delivery processes and delivery addresses.

6.2 Electronic tearsheets generator user interface

The PDF editions that the ads are being extracted from are hosted on an AIX server and available to users via a web interface. It is suggested the user interface for the electronic tearsheets generator be created as a browser application as well.

6.2.1 Considerations for user interface

The following are considerations for the layout of the user interface. An illustration is provided in **Appendix A — Electronic Tearsheet Request Generator**.

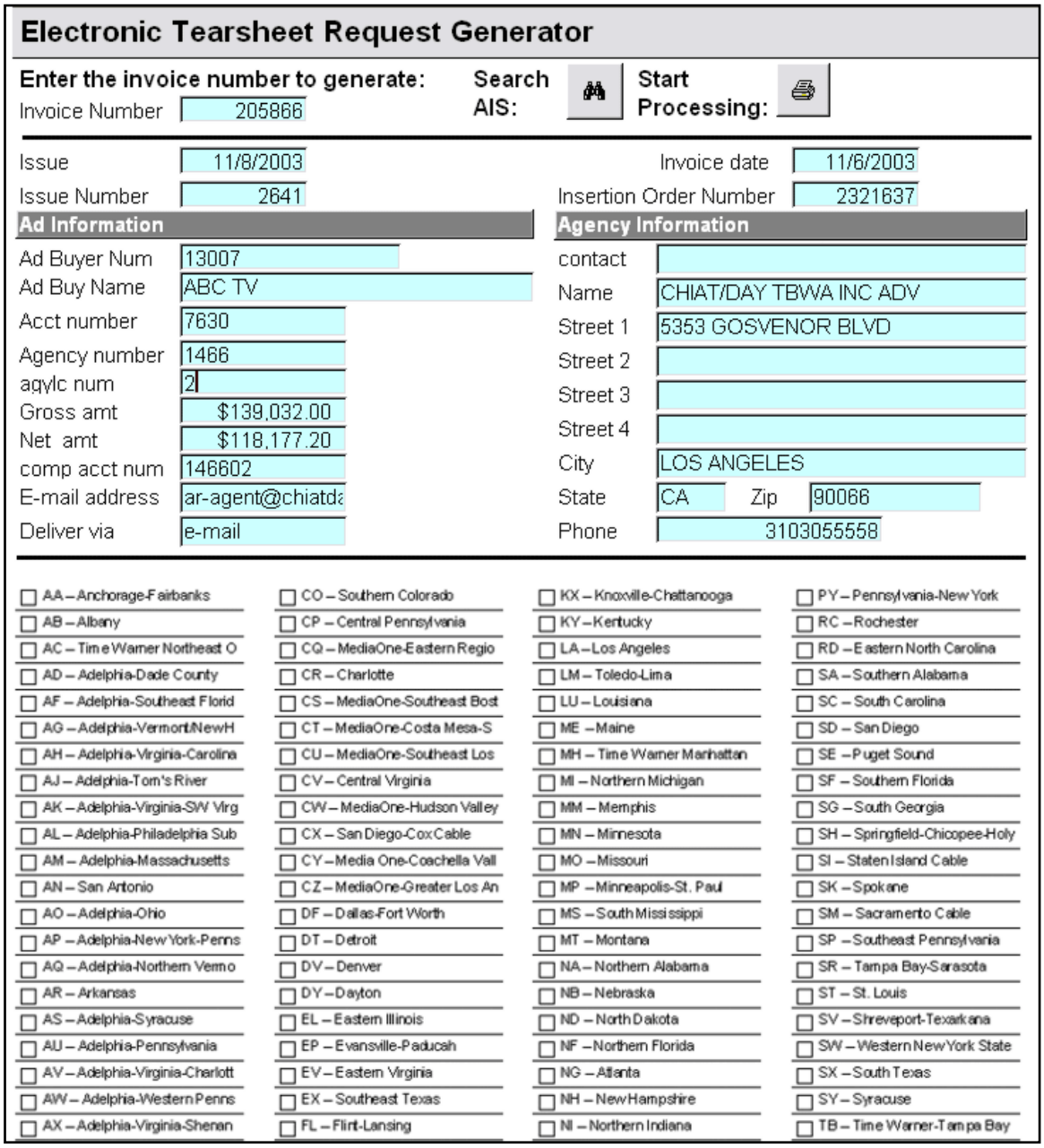
- The request for a new ad packet is initiated with an invoice number. The application searches the AIS database for a matching invoice number and displays the address and billing figures associated with that invoice.
- The editions where the ad has run should be displayed below the billing address. Depending on the skill of the developer, the booked editions could be highlighted with color text and the check boxes used to direct which editions to extract the ad proofs from.
- Selections that are made via the interface are temporary. It will allow different editions, delivery addresses or delivery methods to be used strictly for the ad packet being created. If permanent changes are required, they should be made in the AIS database.

7 Quality assurance/Evaluation

After the interfaces are completed, quality assurance tests will be performed to evaluate the accuracy of the queries and other code. These tests are detailed in TEST_ET_v1-##.doc.

Appendix A — Electronic Tearsheet Request Generator

Below is an example of the user interface suggested for the electronic tearsheet request generator.



Electronic Tearsheet Request Generator

Enter the invoice number to generate: **Search AIS:** **Start Processing:**

Invoice Number: 205866

Issue	11/8/2003	Invoice date	11/6/2003
Issue Number	2641	Insertion Order Number	2321637

Ad Information

Ad Buyer Num	13007
Ad Buy Name	ABC TV
Acct number	7630
Agency number	1466
agylc num	2
Gross amt	$139,032.00
Net amt	$118,177.20
comp acct num	146602
E-mail address	ar-agent@chiatda
Deliver via	e-mail

Agency Information

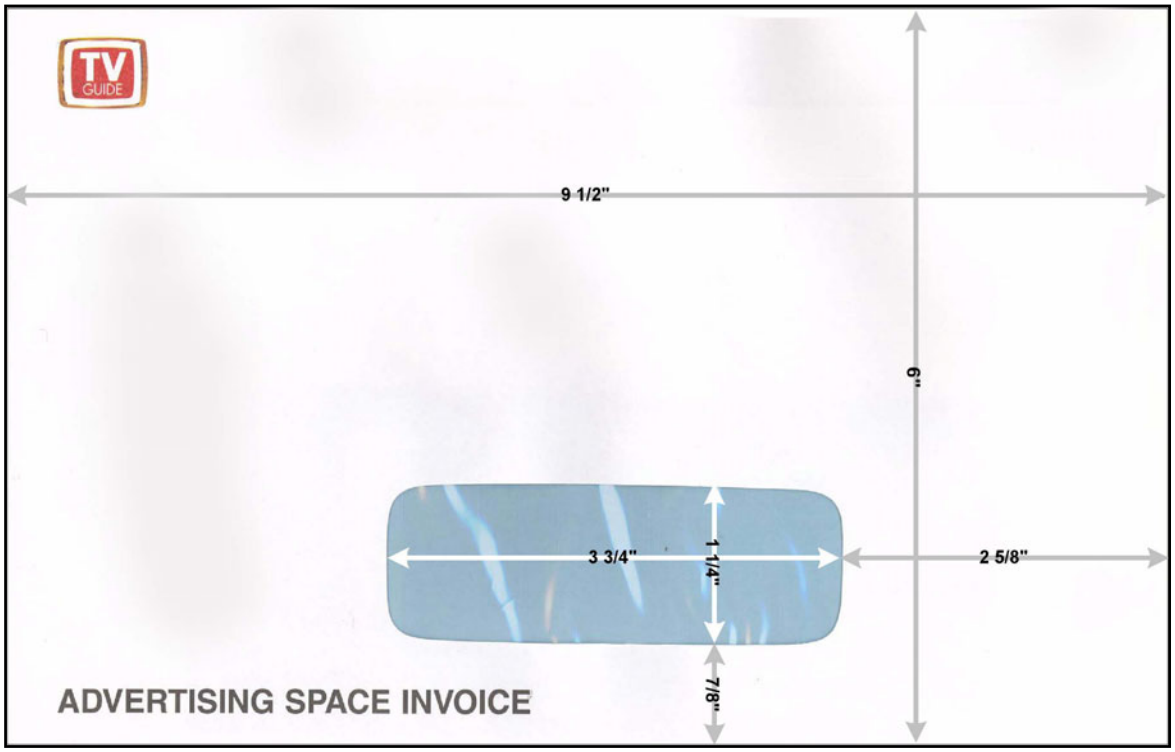
contact	
Name	CHIAT/DAY TBWA INC ADV
Street 1	5353 GOSVENOR BLVD
Street 2	
Street 3	
Street 4	
City	LOS ANGELES
State	CA Zip 90066
Phone	3103055558

AA – Anchorage-Fairbanks	CO – Southern Colorado	KX – Knoxville-Chattanooga	PY – Pennsylvania-New York
AB – Albany	CP – Central Pennsylvania	KY – Kentucky	RC – Rochester
AC – Time Warner Northeast O	CQ – MediaOne-Eastern Regio	LA – Los Angeles	RD – Eastern North Carolina
AD – Adelphia-Dade County	CR – Charlotte	LM – Toledo-Lima	SA – Southern Alabama
AF – Adelphia-Southeast Florid	CS – MediaOne-Southeast Bost	LU – Louisiana	SC – South Carolina
AG – Adelphia-Vermont/NewH	CT – MediaOne-Costa Mesa-S	ME – Maine	SD – San Diego
AH – Adelphia-Virginia-Carolina	CU – MediaOne-Southeast Los	MH – Time Warner Manhattan	SE – Puget Sound
AJ – Adelphia-Tom's River	CV – Central Virginia	MI – Northern Michigan	SF – Southern Florida
AK – Adelphia-Virginia-SW Virg	CW – MediaOne-Hudson Valley	MM – Memphis	SG – South Georgia
AL – Adelphia-Philadelphia Sub	CX – San Diego-Cox Cable	MN – Minnesota	SH – Springfield-Chicopee-Holy
AM – Adelphia-Massachusetts	CY – Media One-Coachella Vall	MO – Missouri	SI – Staten Island Cable
AN – San Antonio	CZ – MediaOne-Greater Los An	MP – Minneapolis-St. Paul	SK – Spokane
AO – Adelphia-Ohio	DF – Dallas-Fort Worth	MS – South Mississippi	SM – Sacramento Cable
AP – Adelphia-New York-Penns	DT – Detroit	MT – Montana	SP – Southeast Pennsylvania
AQ – Adelphia-Northern Vermo	DV – Denver	NA – Northern Alabama	SR – Tampa Bay-Sarasota
AR – Arkansas	DY – Dayton	NB – Nebraska	ST – St. Louis
AS – Adelphia-Syracuse	EL – Eastern Illinois	ND – North Dakota	SV – Shreveport-Texarkana
AU – Adelphia-Pennsylvania	EP – Evansville-Paducah	NF – Northern Florida	SW – Western New York State
AV – Adelphia-Virginia-Charlott	EV – Eastern Virginia	NG – Atlanta	SX – South Texas
AW – Adelphia-Western Penns	EX – Southeast Texas	NH – New Hampshire	SY – Syracuse
AX – Adelphia-Virginia-Shenan	FL – Flint-Lansing	NI – Northern Indiana	TB – Time Warner-Tampa Bay

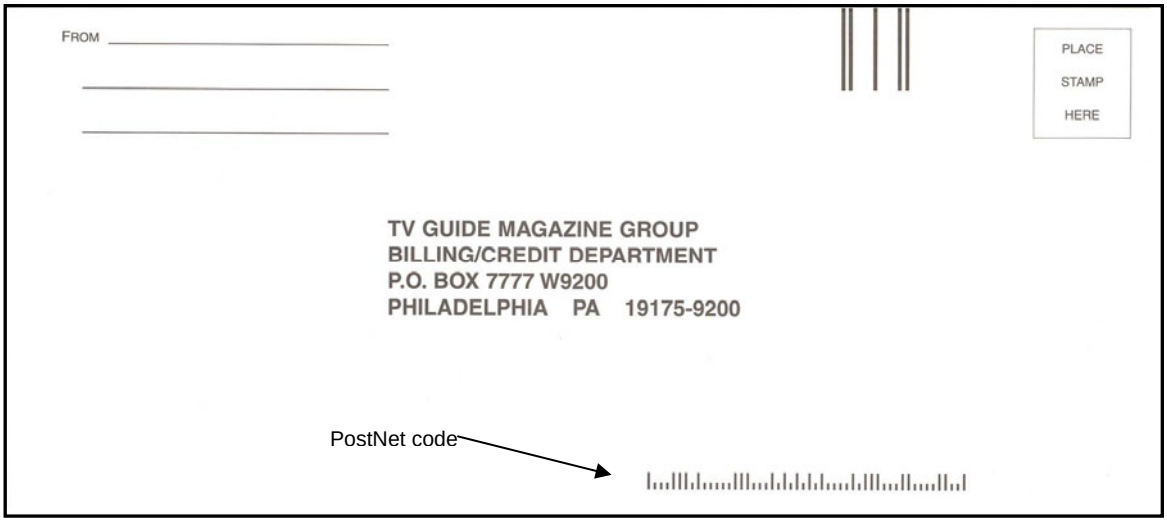
During design, the distinct purpose of some fields was not clear. The fields above can be replaced with others that are of greater interest to the user.

Appendix B — Envelopes

The envelope displayed below is a scaled version of the ad invoice envelope.

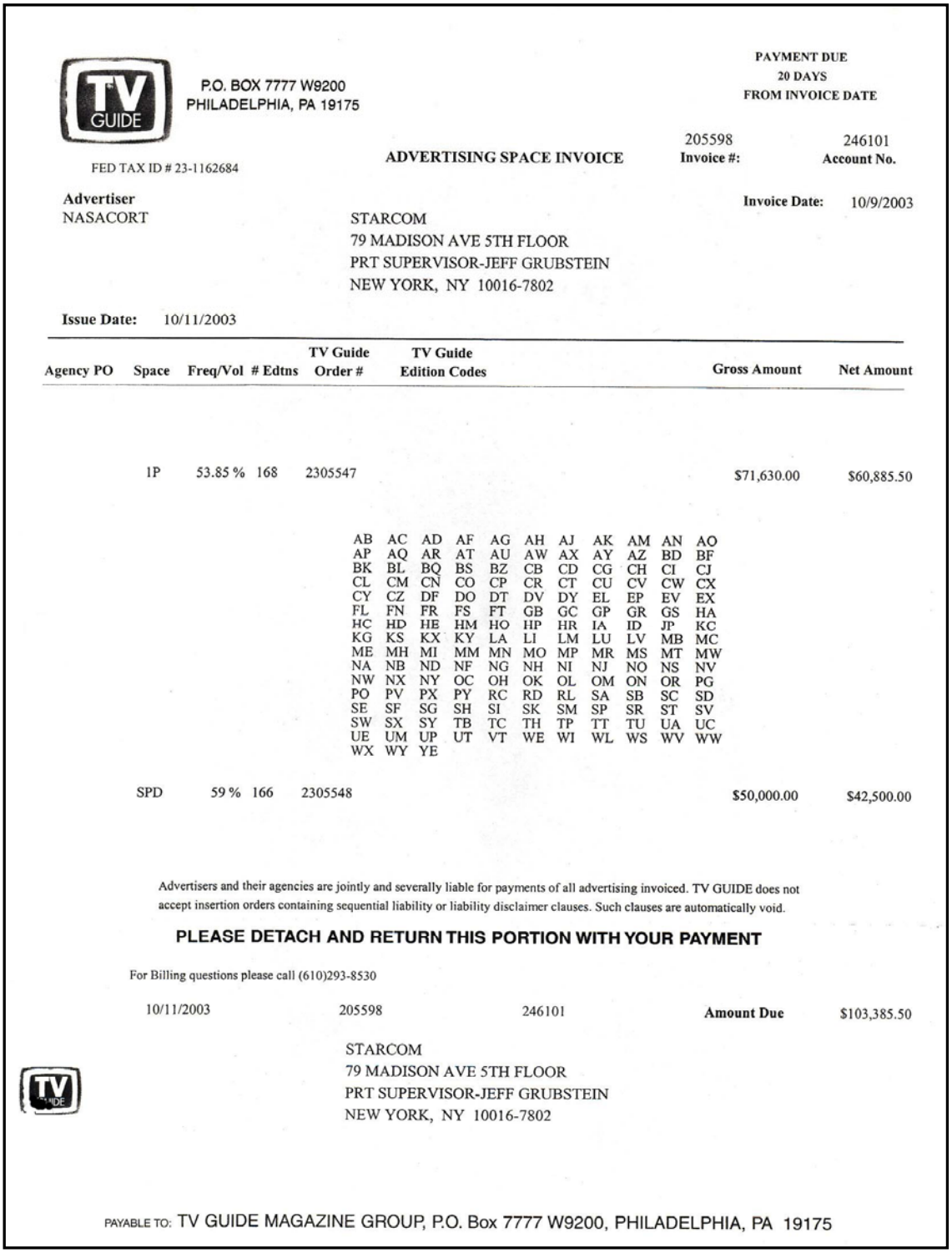


The #10 envelope below is the payment return envelope. It also has been scaled to fit.



Appendix C — Sample invoice

A sample invoice (from the MS Access system) is shown below.



P.O. BOX 7777 W9200
PHILADELPHIA, PA 19175

PAYMENT DUE
20 DAYS
FROM INVOICE DATE

FED TAX ID # 23-1162684

ADVERTISING SPACE INVOICE

205598 **Invoice #:** 246101 **Account No.**

Advertiser
NASACORT

Invoice Date: 10/9/2003

STARCOM
79 MADISON AVE 5TH FLOOR
PRT SUPERVISOR-JEFF GRUBSTEIN
NEW YORK, NY 10016-7802

Issue Date: 10/11/2003

Agency PO	Space	Freq/Vol	# Edtns	TV Guide Order #	TV Guide Edition Codes	Gross Amount	Net Amount
	1P	53.85 %	168	2305547		$71,630.00	$60,885.50
					AB AC AD AF AG AH AJ AK AM AN AO AP AQ AR AT AU AW AX AY AZ BD BF BK BL BQ BS BZ CB CD CG CH CI CJ CL CM CN CO CP CR CT CU CV CW CX CY CZ DF DO DT DV DY EL EP EV EX FL FN FR FS FT GB GC GP GR GS HA HC HD HE HM HO HP HR IA ID JP KC KG KS KX KY LA LI LM LU LV MB MC ME MH MI MM MN MO MP MR MS MT MW NA NB ND NF NG NH NI NJ NO NS NV NW NX NY OC OH OK OL OM ON OR PG PO PV PX PY RC RD RL SA SB SC SD SE SF SG SH SI SK SM SP SR ST SV SW SX SY TB TC TH TP TT TU UA UC UE UM UP UT VT WE WI WL WS WV WW WX WY YE		
	SPD	59 %	166	2305548		$50,000.00	$42,500.00

Advertisers and their agencies are jointly and severally liable for payments of all advertising invoiced. TV GUIDE does not accept insertion orders containing sequential liability or liability disclaimer clauses. Such clauses are automatically void.

PLEASE DETACH AND RETURN THIS PORTION WITH YOUR PAYMENT

For Billing questions please call (610)293-8530

10/11/2003 205598 246101 **Amount Due** $103,385.50

STARCOM
79 MADISON AVE 5TH FLOOR
PRT SUPERVISOR-JEFF GRUBSTEIN
NEW YORK, NY 10016-7802

PAYABLE TO: TV GUIDE MAGAZINE GROUP, P.O. Box 7777 W9200, PHILADELPHIA, PA 19175

Appendix D — APGetBookmarks functions

The following are the options to APGetBookmarks. This utility will extract the bookmarks from the editions in the PDF archive and write them to an "ad index." The index will be searched for IO numbers and logical page numbers to be used in building the ad packets.

```
Usage: apgetbookmarks [options] inPDFFile1 [inPDFFile2 ...]

  -page         : Output to include page numbers
  -path         : Output to include full bookmark path
  -dest         : Output to include named destinations if they exist
  -n            : Include file's name in output
  -u <string>   : User password to open this document
  -o <string>   : Output file instead of stdout
  -l <string>   : Write progress to the given log file name
  -p            : Write progress information to diagnostics
  -v            : Print version information
  -r <string>   : Register APGetBookmarks ( only needed during
          installation )
  -h            : Show help
  -help         : Show help
```

Appendix E — APCrypt functions

The following are the options to APCrypt. This utility will be used to set the permissions of the PDF ad packet to only allow printing of the pages. No copies, modification, notations or assembly will be allowed. It is suggested the password be simple, long and variable. For example, to lock the February 7, 2004 issue of the JP edition, that the password be 020704JP020704JP020704JP (the issue and edition are repeated three times.)

```
Usage: apcrypt [options] [-o outFilePath] inPDFFile

  -ownerpass <string> : New Owner Password (Required)
  -userpass <string>  : New User Password
  -keylength <int>    : Key Length.  Valid options are 40 and 128.
           Default is 128.

  -noprint            : Do Not Allow Printing
  -nomodify           : Do Not Allow Modifying the Document
  -nocopy             : Do Not Allow Copying text or graphics
  -nonotes            : Do Not Allow Adding or changing notes or form
           fields

  -nofill             : Do Not Allow Fill or Sign of Form Fields
  -noaccess           : Do Not Allow Accessibility
  -noassembly         : Do Not Allow Document Assembly
  -nohighres          : Do Not Allow High Resolution Printing

  -w                  : Linearize saved file
  -d <string>         : Old Owner Password to Decrypt the file
  -o <string>         : New output file name, for multiple inputs, a path
           to an output directory
  -l <string>         : Write progress to the given log file name
  -p                  : Log progress information
  -v                  : Print version information
  -h                  : Show help
  -help               : Show help
  inPDFFile           : Input PDF file
# If the -o option is not specified, APCrypt will save to the input PDF
           file.
```

Appendix F — APAppendPro functions

The following are the options to APAppendPro. This utility will be used to extract the pages from the PDF archive, inserting them in an ad packet file that should consist of the issue and invoice number. For example, the invoice 234567 in the February 7, 2004 issue would be named *020704-234567.PDF.*

```
Usage: appendpro [-b|-2] [-f] [-v] [-p] [-n] [-l logFile] paramFile1
           [paramFile2 ...]
# Each parameter file passed to AppendPro results in a separate PDF file.
-b          # Include bookmarks
-2          # Two-up printing (incompatible with -b)
-f          # Number from First page in output document
-v          # Version information
-p          # Show progress information
-n          # Show no information on screen
-l logFile  # Log to the file logFile
```