Form W-4 (2005)

Purpose. Complete Form W-4 so that your employer can withhold the correct federal income tax from your pay. Because your tax situation may change, you may want to refigure your withholding each year.

Exemption from withholding. If you are exempt, complete only lines 1, 2, 3, 4, and 7 and sign the form to validate it. Your exemption for 2005 expires February 16, 2006. See Pub. 505, Tax Withholding and Estimated Tax.

Note. You cannot claim exemption from withholding if (a) your income exceeds $800 and includes more than $250 of unemployment income (for example, interest and dividends) and (b) another person can claim you as a dependent on their tax return.

Basic instructions. If you are not exempt, complete the Personal Allowances Worksheet below. The worksheets on page 2 adjust your withholding allowances based on itemized deductions, certain credits, adjustments to income, or two-earner/two-job situations. Complete all worksheets that apply. However, you may claim fewer (or zero) allowances.

Head of household. Generally, you may claim head of household filing status on your tax return only if you are unmarried and pay more than 50% of the costs of keeping up a home for yourself and your dependent(s) or other qualifying individuals. See line E below.

Tax credits. You can take projected tax credits into account in figuring your allowable number of withholding allowances. Credits for child or dependent care expenses and the child tax credit may be claimed using the Personal Allowances Worksheet below. See Pub. 919, How Do I Adjust My Tax Withholding? for information on converting other credits into withholding allowances.

Nonwage income. If you have a large amount of nonwage income, such as interest or dividends, consider making estimated tax payments using Form 1040-ES, Estimated Tax for Individuals. Otherwise, you may owe additional tax.

Personal Allowances Worksheet. Complete this worksheet only if you are single (including a surviving spouse) or head of household. (Include children under age 19 or any child under age 24, whether or not a full-time student, and any other person you claim as a dependent.)

A Enter “1” for yourself if no one else can claim you as a dependent.
B Enter “1” if:
- You are single and have only one job.
- You are married, have only one job, and your spouse does not work.
C Enter “1” for your spouse. But, you may choose to claim a second job if your spouse works and has either a working spouse or one person claiming him as a dependent.
D Enter number of dependents (other than your spouse or yourself) you will claim on your tax return.
E Enter “1” if you will file as head of household on your tax return.
F Enter “1” if you have at least $1,500 of child or dependent care expenses for which you plan to claim a credit.
(G. Do not include child support payments. See Pub. 505, Child and Dependent Care Expenses, for details.)

Child Tax Credit (including additional child tax credit):
- If your total income will be less than $54,000 ($79,000 if married), enter “2” for each eligible child.
- If your total income will be between $54,000 and $84,000 ($79,000 and $119,000 if married), enter “1” for each eligible child plus “1” additional if you have four or more eligible children.

H Add lines A through G and enter total here. (Note. This may be different from the number of exemptions you claim on your tax return.)

For accuracy, complete all worksheets that apply.

---

Employee’s Withholding Allowance Certificate

Whether you are entitled to claim a certain number of allowances or exemption from withholding is subject to review by the IRS. Your employer may be required to send a copy of this form to the IRS.

1 Type or print your first name and middle initial

2 Your social security number __________

3 [ ] Single [ ] Married [ ] Married, but withheld at higher Single rate.

4 [ ] If your last name differs from that shown on your social security card, check here. You must call 1-800-772-1213 for a new card.

5 Total number of allowances you are claiming (from line H above or from the applicable worksheet on page 2)

6 Additional amount, if any, you want withheld from each paycheck

7 I claim exemption from withholding for 2005, and I certify that I meet both of the following conditions for exemption:
   a. Last year I had a right to a refund of all federal income tax withheld because I had no tax liability and
   b. This year I expect a refund of all federal income tax withheld because I expect to have no tax liability.

Under penalties of perjury, I declare that I have examined this certificate and to the best of my knowledge and belief, it is true, correct, and complete.

Employee’s signature ____________________________

Date __________

8 Employer’s name and address (Employer: Complete lines 8 and 10 only if sending to the IRS.)

9 Office code (optional) __________

10 Employer identification number [EIN] __________

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For Privacy Act and Paperwork Reduction Act Notice, see page 2.

Cat. No. 10320Q Form W-4 (2005)
Form W-4 (2005)

**Purpose:** Complete Form W-4 so that your employer can withhold the correct federal income tax from your pay. Because your tax situation may change, you may want to refigure your withholding each year.

**Exemption from withholding:** If you are exempt, complete only lines 1, 2, 3, 4, and 7 and sign the form to validate it. Your exemption for 2005 expires February 16, 2006. See Pub. 505, Tax Withholding and Estimated Tax.

**Note:** You cannot claim exemption from withholding if (a) your income exceeds $800 and includes more than $250 of unearned income (for example, interest and dividends) and (b) another person can claim you as a dependent on their tax return.

**Basic instructions:** If you are not exempt, complete the Personal Allowances Worksheet below. The worksheets on page 2 adjust your withholding allowances based on itemized deductions, certain credits, adjustments to income, or two-earner/two-job situations. Complete all worksheets that apply. However, you may claim fewer (or zero) allowances.

**Head of household:** Generally, you may claim head of household filing status on your tax return only if you are unmarried and pay more than 50% of the costs of keeping up a home for yourself and your dependents or other qualifying individuals. See line E below.

**Tax credits:** You can take projected tax credits into account in figuring your allowable number of withholding allowances. Credits for child or dependent care expenses and the child tax credit may be claimed using the Personal Allowances Worksheet below. See Pub. 919, How Do I Adjust My Tax Withholding? for information on converting your other credits into withholding allowances.

**Nonwage income:** If you have a large amount of nonwage income, such as interest or dividends, consider making estimated tax payments using Form 1040-ES, Estimated Tax for Individuals. Otherwise, you may owe additional tax.

---

**Personal Allowances Worksheet**

| A | Enter “1” if you are single. | | | A |
| --- | --- | --- | --- |
| B | Enter “1” if you are married, have only one job, and your spouse does not work; or if you have a large amount of nonwage income (including additional child tax credit). | | | B |
| C | Enter “1” for your spouse. But, you may claim another allowance if your spouse has a second job or if you have either a working spouse or a dependent (other than your spouse or yourself) you will claim on your tax return. | | | C |
| D | Enter number of dependents (other than your spouse or yourself) you will claim on your tax return. | | | D |
| E | Enter “1” if you will file as head of household on your tax return (see instructions under Head of household above). | | | E |
| F | Enter “1” if you have at least $1,500 of child or dependent care expenses for which you plan to claim a credit. (Note: Do not include child support payments. See Pub. 505, Child and Dependent Care Expenses, for details.) | | | F |

**Child Tax Credit** (including additional child tax credit):

- If your total income will be less than $54,000 ($79,000 if married), enter “2” for each eligible child.
- If your total income will be between $54,000 and $84,000 ($79,000 and $119,000 if married), enter “1” for each eligible child plus “1” additional if you have four or more eligible children.

Add lines A through G and enter total here. (Note: This may differ from the number of exemptions you claim on your tax return.)

---

**Employee’s Withholding Allowance Certificate**

<table>
<thead>
<tr>
<th>1</th>
<th>Type or print your first name and middle initial</th>
<th></th>
<th>2</th>
<th>Your social security number</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Single</td>
<td>Married</td>
<td>Married, but withheld at higher Single rate. Notes: If married, but legally separated, or spouse is a nonresident alien, check the &quot;Single&quot; box.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>If your last name differs from that shown on your social security card, check here. You must call 1-800-772-1213 to initiate a name change and obtain a social security card showing your correct name.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Total number of allowances you are claiming (from line H above or from the applicable worksheet on page 2)</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Additional amount, if any, you want withheld from each paycheck</td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>I claim exemption from withholding for 2005, and I certify that I meet both of the following conditions for exemption.</td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>Employer’s name and address (Employer: Complete lines 8 and 10 only if sending to the IRS)</td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>Office code (optional)</td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>Employer identification number (EIN)</td>
<td></td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

---

**For Privacy Act and Paperwork Reduction Act Notice, see page 2.**

Cat. No. 10220Q Form W-4 (2005)
Deductions and Adjustments Worksheet

Note. Use this worksheet only if you plan to itemize deductions, claim certain credits, or claim adjustments to income on your 2005 tax return.

1. Enter an estimate of your 2005 itemized deductions. These include qualifying home mortgage interest, charitable contributions, state and local taxes, medical expenses in excess of 7.5% of your income, and miscellaneous deductions. (For 2005, you may have to reduce your itemized deductions if your income is over $145,950 ($72,975 if married filing separately). See Worksheet 3 in Pub. 919 for details.) $ 1

2. Enter:
   - $10,000 if married filing jointly or qualifying widow(er) $ 10,000
   - $ 7,300 if head of household $ 7,300
   - $ 5,000 if single or married filing separately $ 5,000

3. Subtract line 2 from line 1. If line 2 is greater than line 1, enter "-0-". $ 3

4. Enter an estimate of your 2005 adjustments to income, including alimony, deductible IRA contributions, and student loan interest $ 4

5. Add lines 3 and 4 and enter the total. (Include any amount for credits from Worksheet 7 in Pub. 919) $ 5

6. Enter an estimate of your 2005 nonwage income (such as dividends or interest) $ 6

7. Subtract line 6 from line 5. Enter the result, but not less than "-0-" $ 7

8. Divide the amount on line 7 by $3,200 and enter the result here. Drop any fraction $ 8

9. Enter the number from the Personal Allowances Worksheet, page 1. $ 9

10. Add lines 8 and 9 and enter the total here. If you plan to use the Personal/Two-Job Worksheet, enter this total on line 1 below. Otherwise, stop. $ 10

Two-Earner/Two-Job Worksheet (for two jobs on page 1.)

Note. Use this worksheet only if the instructions under line H on page 1 direct you here.

1. Enter the number from line H, page 1 (or from line 10 above if you used the Personal/Two-Job Worksheet, page 1.) $ 1

2. Find the number in Table 1 below that applies to the HIGHEST paying job and enter it here. $ 2

3. If line 1 is more than or equal to line 2, subtract line 2 from line 1 and enter the result here (if zero, enter "-0-") and on Form W-4, line 5, page 1. Do not enter line 2. $ 3

Note. If line 1 is less than line 2, enter "-0-" on Form W-4, line 5, page 1. Complete lines 4–9 below to calculate the additional withholding amount necessary to avoid a year-end tax bill.

4. Enter the number from line 2 of this worksheet $ 4

5. Enter the number from line 1 of the worksheet $ 5

6. Subtract line 5 from line 4. $ 6

7. Find the amount in Table 2 below that applies to the HIGHEST paying job and enter it here. $ 7

8. Multiply line 7 by line 6 and enter the result here. This is the additional annual withholding needed. $ 8

9. Divide line 8 by the number of pay periods remaining in 2005. For example, divide by 26 if you are paid every two weeks and you complete this form in December 2004. Enter the result here and on Form W-4, line 6, page 1. This is the additional amount to be withheld from each paycheck. $ 9

Table 1: Two-Earner/Two-Job Worksheet

<table>
<thead>
<tr>
<th>Married Filing Jointly</th>
<th>All Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>If wages from HIGHEST paying job are—</td>
<td>If wages from LOWEST paying job are—</td>
</tr>
<tr>
<td>LOWEST</td>
<td>LOWEST</td>
</tr>
<tr>
<td>$0 - $40,000</td>
<td>$0 - $4,000</td>
</tr>
<tr>
<td>4,001 - 8,000</td>
<td>1</td>
</tr>
<tr>
<td>8,001 - 18,000</td>
<td>2</td>
</tr>
<tr>
<td>18,001 and over</td>
<td>3</td>
</tr>
<tr>
<td>$40,001 and over</td>
<td>$0 - $4,000</td>
</tr>
<tr>
<td>4,001 - 8,000</td>
<td>1</td>
</tr>
<tr>
<td>8,001 - 18,000</td>
<td>2</td>
</tr>
<tr>
<td>18,001 - 22,000</td>
<td>3</td>
</tr>
<tr>
<td>22,001 - 25,000</td>
<td>4</td>
</tr>
<tr>
<td>25,001 - 30,000</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 2: Two-Earner/Two-Job Worksheet

<table>
<thead>
<tr>
<th>Married Filing Jointly</th>
<th>All Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>If wages from HIGHEST paying job are—</td>
<td>If wages from LOWEST paying job are—</td>
</tr>
<tr>
<td>$0 - $60,000</td>
<td>$0 - $30,000</td>
</tr>
<tr>
<td>60,001 - 110,000</td>
<td>800</td>
</tr>
<tr>
<td>110,001 - 160,000</td>
<td>900</td>
</tr>
<tr>
<td>160,001 - 280,000</td>
<td>1,060</td>
</tr>
<tr>
<td>280,001 and over</td>
<td>1,120</td>
</tr>
</tbody>
</table>
Deductions and Adjustments Worksheet

Note. Use this worksheet only if you plan to itemize deductions, claim certain credits, or claim adjustments to income on your 2005 tax return.

1 Enter an estimate of your 2005 itemized deductions. These include qualifying home mortgage interest, charitable contributions, state and local taxes, medical expenses in excess of 7.5% of your income, and miscellaneous deductions. (For 2005, you may have to reduce your itemized deductions if your income is over $145,950 ($72,975 if married filing separately). See Worksheet 3 in Pub. 919 for details.)

2 Enter:
   - $10,000 if married filing jointly or qualifying widow(er)
   - $7,300 if head of household
   - $5,000 if single or married filing separately

3 Subtract line 2 from line 1. If line 2 is greater than line 1, enter "–0–".

4 Enter an estimate of your 2006 adjustments to income, including alimony, deductible IRA contributions, and student loan interest.

5 Add lines 3 and 4 and enter the total. (Include any amount for credits from Worksheet 7 in Pub. 919.)

6 Enter an estimate of your 2005 nonwage income (such as dividends or interest).

7 Subtract line 6 from line 5. Enter the result, but not less than “–0–”.

8 Divide the amount on line 7 by $3,200 and enter the result here. Drop any fraction.

9 Enter the number from the Personal Allowances Worksheet.

10 Add lines 8 and 9 and enter the total here. If you use the Personal/Two-Job Worksheet, also enter this total on line 1 below. Otherwise, stop here. (See Form W-4, line 5, page 1.)

Two-Earner/Two-Job Worksheet

Note. Use this worksheet only if the instructions on line H on page 1 direct you here.

1 Enter the number from line H, page 1 (or from line H, page 2).

2 Find the number in Table 1 below that applies to your filing status. Enter it here.

3 If line 1 is more than or equal to line 2, subtract line 2 from line 1. Enter the result here (if zero, enter "–0–") and on Form W-4, line 5, page 1. Do not enter a minus sign before the result.

4 Enter the number from line 2 of this worksheet.

5 Enter the number from line 1 of the worksheet.

6 Subtract line 5 from line 4.

7 Find the amount in Table 2 below that applies to the HIGHEST paying job and enter it here.

8 Multiply line 7 by line 6 and enter the result here. This is the additional annual withholding needed.

9 Divide line 8 by the number of pay periods remaining in 2005. For example, divide by 26 if you are paid every two weeks and you complete this form in December 2004. Enter the result here and on Form W-4, line 6, page 1. This is the additional amount to be withheld from each paycheck.

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</tr>
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<tr>
<td>$01 - 18,000</td>
<td>2</td>
</tr>
<tr>
<td>18,001 and over</td>
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</tr>
<tr>
<td>$40,001 and over</td>
<td>0</td>
</tr>
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<td>$0 - $4,000</td>
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<td>1</td>
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<tr>
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<td>2</td>
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<td>18,001 and over</td>
<td>3</td>
</tr>
<tr>
<td>$40,001 and over</td>
<td>0</td>
</tr>
<tr>
<td>$0 - $60,000</td>
<td>$0 - $30,000</td>
</tr>
<tr>
<td>60,001 - 110,000</td>
<td>100,001 - 150,000</td>
</tr>
<tr>
<td>110,001 - 160,000</td>
<td>160,001 - 200,000</td>
</tr>
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<td>160,001 - 200,000</td>
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</tr>
</tbody>
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Table 2: Two-Earner/Two-Job Worksheet

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<td>100,001 - 150,000</td>
</tr>
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<td>160,001 - 200,000</td>
</tr>
<tr>
<td>160,001 - 200,000</td>
<td>200,001 and over</td>
</tr>
</tbody>
</table>

Privacy Act and Paperwork Reduction Act Notice. We ask for the information on this form to comply with the Internal Revenue Code requiring this information under sections 6104 and 6109 and their regulations. Failure to provide a properly completed form will result in your being treated as a single person who claims no withholding allowances, providing fraudulent information may also subject you to penalties. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation, to cities, states, and the District of Columbia for use in administering their tax laws, and using it in the National Directory of New Hires. We may also disclose this information to other countries under a tax treaty, to federal and state agencies to enforce federal non-tax criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism.

You are not required to provide the information requested on a form that is subject to the Paperwork Reduction Act unless the form displays a valid OMB control number. Books or records relating to a form or its instructions must be retained as long as their contents may become material in the administration of any Internal Revenue law. Generally, tax returns and return information are confidential, as required by Code section 6103.

The time needed to complete this form will vary depending on individual circumstances. The estimated average time is: Recordkeeping, 45 min.; Learning about the law or the form, 12 min.; Preparing the form, 58 min. If you have comments concerning the accuracy of these time estimates or suggestions for making this form simpler, we would be happy to hear from you. You can write to: Internal Revenue Service, Tax Products Coordinating Committee, SE:W:CAMP:TT:SP. 111 Constitution Ave. NW, RI-6406, Washington, DC 20224. Do not send Form W-4 to this address. Instead, give it to your employer.
Hello World!

5
Hello World!
Portable Document Format

From Wikipedia, the free encyclopedia.

"PDF" redirects here. For other uses, see PDF (disambiguation).

Portable Document Format (PDF) is a file format developed by Adobe Systems for representing documents in a manner that is independent of the original application software, hardware, and operating system used to create those documents. A PDF file can describe documents containing any combination of text, graphics, and images in a device independent and resolution independent format. These documents can be one page or thousands of pages, very simple or extremely complex with a rich use of fonts, graphics, colour, and images. PDF is an open standard, and anyone may write applications that can read or write PDFs royalty-free.

In addition to encapsulating text and graphics, PDF files are most appropriate for encoding the exact look of a document in a device-independent way. In contrast, markup languages such as HTML defer many display decisions to a rendering device such as a browser, and will not look the same on different computers.

Free readers for many platforms are available to read from the Adobe website [1], and there are several free open source readers for POSIX-like systems with the X Window System: KPDF [3], a viewer based on Xpdf for KDE; GPdf [4], a derivative of Xpdf for GNOME, Evince [5], a viewer based on Evince (fork of GPdf) that can view PDF-files; GSPdf [6] and ViewPDF [7], for GNUstep; and front-ends for many platforms to Ghostscript.

Proper subsets of PDF, collectively called PDF/X, have been standardized by ISO.

Contents

[show]

•

[edit]

Technology

PDF is primarily the combination of three technologies:

• a cut-down form of PostScript for generating the layout and graphics,
• a font-embedding/replacement system to allow fonts to travel with the documents, and
• a structured storage system to bundle these elements into a single file, with data compression where appropriate.

[edit]

PostScript
Portable Document Format

From Wikipedia, the free encyclopedia.

"PDF" redirects here. For other uses, see PDF (disambiguation).

Portable Document Format (PDF) is a file format developed by Adobe Systems for representing documents in a manner that is independent of the original application software, hardware, and operating system used to create those documents. A PDF file can describe documents containing any combination of text, graphics, and images in a device independent and resolution independent format. These documents can be one page or thousands of pages, very simple or extremely complex with a rich use of fonts, graphics, colour, and images. PDF is an open standard, and anyone may write applications that can read or write PDFs royalty-free.

In addition to encapsulating text and graphics, PDF files are most appropriate for encoding the exact look of a document in a device-independent way. In contrast, markup languages such as HTML defer many display decisions to a rendering device such as a browser, and will not look the same on different computers.

Free readers for many platforms are available for download from the Adobe website [1], and there are several free open source programs, such as Xpdf [2] for POSIX-like systems with the X Window System; KPDF [3], a viewer based on Xpdf for KDE; GPdf [4], a derivative of Xpdf for GNOME, Evince [5], a derivative of Xpdf for GNOME (fork of GPdf) that can view PDF-files; GSPdf [6] and ViewPDF [7] for GNUstep; and front-ends for many platforms to Ghostscript.

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Contents

[show]


[edit]

Technology

PDF is primarily the combination of three technologies:

- a cut-down form of PostScript for generating the layout and graphics,
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[edit]

PostScript
PostScript is a computer language — more precisely, a page description language — that is run in an interpreter to generate an image. This process requires a fair amount of resources.

PDF is a subset of those PostScript language elements that define the graphics, and only requires a very simple interpreter. For instance, flow control commands like if and loop are removed, while graphics commands such as lineto remain.

That means that the process of turning PDF back into a graphic is a matter of simply reading the description, rather than running a program in the PostScript interpreter. However, the entire PostScript world in terms of fonts, layout and measurement remains intact.

Often, the PostScript-like PDF code is generated from a source PostScript file. The graphics commands that are output by the PostScript code are collected and tokenized; any files, graphics or fonts the document references are also collected; and finally everything is compressed into a single file.

As a document format, PDF has several advantages over PostScript. One is that a document resides in a single file, whereas the same document in PostScript may span multiple files (graphics, etc.) and probably occupies more space. In addition, PDF contains already-interpreted results of the PostScript source code, so it is less computation-intensive and faster to open, and there is a more direct correspondence between changes to items in the PDF page description and changes to the resulting appearance of the page. Also, PDF (starting from version 1.4) supports true object transparency while PostScript does not. Finally, if displayed with Adobe Reader, a font-substitution strategy ensures the document will be readable even if the end-user does not have the "proper" fonts installed. This also allows font embedding to ensure that the "proper" fonts are used, a possibility with PostScript, such files cannot normally be distributed freely due to licensing agreements.

History

When PDF first came out, in the early 1990s, it was slow to catch on. At the time, not only did the only PDF creation tools of the time (Acrobat) cost money, but so did the software to view and print PDF files. Early versions of the PDF format had no support for external hyperlinks, reducing its usefulness on the web. Additionally, there were competing formats such as Envoy, Common Ground Digital Paper, DjVu and even Adobe's own PostScript file format (.ps). Adobe started distributing the Acrobat Reader program at no cost, and continued to support PDF through its slow multi-year ramp-up. Competing formats eventually died out, and PDF became a well-accepted standard.

In 2005 Microsoft presented a competing format referenced by the code name "Metro". It is developed together with Global Graphics. Metro is based on XML, but requires a license. Metro is scheduled to be included in the next version of Microsoft Windows Vista.

Macintosh

PDF was selected as the "native" metafile format for Mac OS X, replacing the PICT format of the earlier Mac OS. Mac OS X’s imaging model, Quartz 2D, is based on both the Display
PostScript is a computer language — more precisely, a page description language — that is run in an interpreter to generate an image. This process requires a fair amount of resources.

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That means that the process of turning PDF back into a graphic is a matter of simply reading the description, rather than running a program in the PostScript interpreter. However, the entire PostScript world in terms of fonts, layout and measurement remains intact.

Often, the PostScript-like PDF code is generated from a source PostScript file. The graphics commands that are output by the PostScript code are collected and tokenized; any files, graphics or fonts the document references are also collected; and finally everything is compressed into a single file.

As a document format, PDF has several advantages over PostScript. One is that a document resides in a single file, whereas the same document in PostScript may span multiple files (graphics, etc.) and probably occupies more space. In addition, PDF contains already-interpreted results of the PostScript source code, so it is less computation-intensive and faster to open, and there is a more direct correspondence between changes to items in the PDF page description and changes to the resulting appearance of the page. Also, PDF (starting from version 1.4) supports true object transparency while PostScript does not. Finally, if displayed with Adobe Reader, a font-substitution strategy ensures the document will be readable even if the end-user does not have the "proper" fonts installed; this is also allows font embedding to ensure that the "proper" fonts are used, which is impossible with PostScript, such files cannot normally be distributed freely because of licensing agreements.

[edit]

History

When PDF first came out, in the early 1990s, it was slow to catch on. At the time, not only did the only PDF creation tools of the time (Acrobat) cost money, but so did the software to view and print PDF files. Early versions of the PDF format had no support for external hyperlinks, reducing its usefulness on the web. Additionally, there were competing formats such as Envoy, Common Ground Digital Paper, DjVu and even Adobe's own PostScript file format (.ps). Adobe started distributing the Acrobat Reader program at no cost, and continued to support PDF through its slow multi-year ramp-up. Competing formats eventually died out, and PDF became a well-accepted standard.

In 2005 Microsoft presented a competing format referenced by the code name "Metro". It is developed together with Global Graphics. Metro is based on XML, but requires a license. Metro is scheduled to be included in the next version of Microsoft Windows Vista.

[edit]

Macintosh

PDF was selected as the "native" metafile format for Mac OS X, replacing the PICT format of the earlier Mac OS. Mac OS X's imaging model, Quartz 2D, is based on both the Display
PostScript standard and PDF, and is sometimes referred to as Display PDF. Due to OS support, all OS X applications can create PDF documents automatically as long as they support the Print command.

PDF and accessibility

PDF can be accessible to people with disabilities. Current PDF file formats can include tags (essentially XML), text equivalents, captions and audio descriptions, and other accessibility features. Some software, such as Adobe InDesign, can output tagged PDFs automatically. Leading screen readers, including Jaws, Window-Eyes, and Hal, can read tagged PDFs; current versions of the Acrobat and Acrobat Reader programs can also read PDFs out loud. Moreover, tagged PDFs can be reflowed and zoomed for low-vision readers.

However, many problems remain, not least of which is the difficulty in adding tags to existing or "legacy" PDFs; for example, if PDFs are generated from scanned documents, accessibility tags and reflowing are unavailable and must be created either by hand or using OCR techniques. Moreover, that process itself is inaccessible. Nonetheless, well-made PDFs can be a valid choice as long-term accessible documents. (Work is being done on a PDF variant based on PDF 1.4. The PDF/A or PDF-Archive, specifically scaled down for archival purposes.)

Microsoft Word documents can be converted into accessible PDFs, but only if the Word document is written with accessibility in mind - for example, using styles, correct paragraph mark-up and "alt" (alternative) text for images, and so on.

PDF on the Web

Because HTML/XHTML rendering across web browsers has historically been inconsistent and sometimes unpredictable, PDF use online is becoming increasingly common. This is particularly true for order forms, catalogues, brochures, and other documents which are primarily formatted for printing. The ubiquity of the Adobe Reader web browser plugin, however, has inspired some (mostly corporate) web authors to publish a wider variety of information as PDF. This trend is compounded by the simple operation and wide corporate availability of WYSIWYG PDF authoring tools. While the end user experience of an XHTML document can vary significantly depending on browser, platform, and screen resolution, a PDF file can be reasonably expected to look exactly the same to every viewer.

Critics of this practice cite several reasons for avoiding it. Accessibility, particularly by the blind or sight-impaired is a common issue [8]. PDF files tend to be significantly larger than XHTML/SVG files presenting the same information, making it difficult or impossible for users with low-bandwidth connections to view them. Adobe Acrobat Reader, the de facto standard PDF viewer, has historically been slow to start and caused browser instability, particularly when run alongside other browser plugins (though the release of Adobe Reader 7 addressed many of these concerns).
PostScript standard and PDF, and is sometimes referred to as Display PDF. Due to OS support, all OS X applications can create PDF documents automatically as long as they support the Print command.

PDF and accessibility

PDF can be accessible to people with disabilities. Current PDF file formats can include tags (essentially XML), text equivalents, captions and audio descriptions, and other accessibility features. Some software, such as Adobe InDesign, can output tagged PDFs automatically. Leading screen readers, including Jaws, Window-Eyes, and Hal, can read tagged PDFs; current versions of the Acrobat and Acrobat Reader programs can also read PDFs out loud. Moreover, tagged PDFs can be reflowed and zoomed for low-vision readers.

However, many problems remain, not least of which is the difficulty in adding tags to existing or "legacy" PDFs; for example, if PDFs are generated from scanned documents, accessibility tags and reflowing are unavailable and must be created either by hand or using OCR techniques. Moreover, that process itself is inaccessible. Nonetheless, well-made PDFs can be a valid choice as long-term accessible documents. (Work is being done on a PDF variant based on PDF 1.4. The PDF/A or PDF-Archive is specifically scaled down for archival purposes.)

Microsoft Word documents can be converted into accessible PDFs, but only if the Word document is written with accessibility in mind—using styles, correct paragraph mark-up and "alt" (alternative) text for images, and so on.

PDF on the Web

Because HTML/XHTML rendering across web browsers has historically been inconsistent and sometimes unpredictable, PDF use online is becoming increasingly common. This is particularly true for order forms, catalogues, brochures, and other documents which are primarily formatted for printing. The ubiquity of the Adobe Reader web browser plugin, however, has inspired some (mostly corporate) web authors to publish a wider variety of information as PDF. This trend is compounded by the simple operation and wide corporate availability of WYSIWYG PDF authoring tools. While the end user experience of an XHTML document can vary significantly depending on browser, platform, and screen resolution, a PDF file can be reasonably expected to look exactly the same to every viewer.

Critics of this practice cite several reasons for avoiding it. Accessibility, particularly by the blind or sight-impaired is a common issue. PDF files tend to be significantly larger than XHTML/SVG files presenting the same information, making it difficult or impossible for users with low-bandwidth connections to view them. Adobe Acrobat Reader, the de facto standard PDF viewer, has historically been slow to start and caused browser instability, particularly when run alongside other browser plugins (though the release of Adobe Reader 7 addressed many of these concerns).
Currently, no web browser natively supports PDF, forcing viewers to run a separate application to access these documents online. Since the PDF specification is not published by the W3C, this is unlikely to change.

[edit]

**Searching for a text in a collection of files**

Adobe Acrobat Reader 6.0 and above allow searching a collection of PDF files.

Using a search program to search for a text in a collection of files of different types, it may or may not be possible to also search PDF files, depending on the program. This is because the text is stored in coded form, and a program searching for some text must interpret the code and search the result, not just search the code.

Search programs that do not work include that of Windows XP and Agent Ransack. However, for searching the Web, some search engines, such as Google and Yahoo!, include PDF files in searches. The option to view the PDF in HTML format is also commonly offered (this conversion does not include images).

Mac OS X, having PDF as a core element of the operating system, fully supports searching PDF files with the Preview application. The Spotlight feature in Mac OS X v10.4 extends this ability across the whole system, allowing information in PDF files (as well as almost all other files) to be found from a single search box.

On the Windows platform, text in PDF files can be searched using Google Desktop Search and also Windows Desktop Search when installed with an appropriate iFilter available from Adobe.

[edit]

**Types of content**

A PDF file for e.g. a map is often a combination of vector graphics layer, text, and raster graphics, e.g., the general reference map of the US [9] uses:

- vector graphics for coastlines, lakes, rivers, highways, markings of cities, and Interstate highway symbols — on zooming in, the curves remain sharp, they do not appear as consisting of enlarged pixels (i.e. rectangles of pixels)
- text stored as such — scalable, and also one can copy the text
- raster graphics for showing mountain relief — on zooming in, this consists of enlarged pixels (the blue of the sea and lakes is "filled" neatly to the vector graphics coast line, hence not in raster graphics).

An example of a PDF map without raster graphics is the CIA World Factbook’s map of the Arctic. In the same publication's European map, the blue of the sea is not "filled" neatly to the vector graphics coast line, but just raster graphics, giving a cruder result (noticeable when highly zoomed in).
Currently, no web browser natively supports PDF, forcing viewers to run a separate application to access these documents online. Since the PDF specification is not published by the W3C, this is unlikely to change.

[edit]

### Searching for a text in a collection of files

Adobe Acrobat Reader 6.0 and above allow searching a collection of PDF files.

Using a search program to search for a text in a collection of files of different types, it may or may not be possible to also search PDF files, depending on the program. This is because the text is stored in coded form, and a program searching for some text must interpret the code and search the result, not just search the code.

Search programs that do not work include that of Windows XP and Agent Ransack. However, for searching the Web, some search engines, such as Google and Yahoo!, include PDF files in searches. The option to view the PDF in HTML format is also commonly offered (this conversion does not include images).

Mac OS X, having PDF as a core element of its operating system, fully supports searching PDF files with the Preview application, and also allows Spotlight feature in Mac OS X v10.4 to search PDF files. The Spotlight feature in Mac OS X v10.4 extends this ability across the whole system, allowing information in PDF files (as well as almost all others) to be found from a single search box.

On the Windows platform, text in PDF files can be searched using Google Desktop Search and also Windows Desktop Search when installed with an appropriate iFilter available from Adobe.

[edit]

### Types of content

A PDF file for e.g. a map is often a combination of vector graphics layer, text, and raster graphics, e.g., the general reference map of the US [9] uses:

- vector graphics for coastlines, lakes, rivers, highways, markings of cities, and Interstate highway symbols — on zooming in, the curves remain sharp, they do not appear as consisting of enlarged pixels (i.e. rectangles of pixels)
- text stored as such — scalable, and also one can copy the text
- raster graphics for showing mountain relief — on zooming in, this consists of enlarged pixels (the blue of the sea and lakes is "filled" neatly to the vector graphics coast line, hence not in raster graphics).

An example of a PDF map without raster graphics is the CIA World Factbook's map of the Arctic. In the same publication's European map, the blue of the sea is not "filled" neatly to the vector graphics coast line, but just raster graphics, giving a cruder result (noticeable when highly zoomed in).
Tools exist, such as pdfimages (bundled with Xpdf) to extract the raster images from a PDF file. This can be extremely useful if the PDF is simply a collection of scanned pages.

See also

- Display PostScript
- Scalable Vector Graphics
- XSL-FO

Other Wikipedia articles about tools, utilities and products related to this article

- Ghostscript — Displays PDF files, converts to and from PS.
- iText
- OpenOffice.org — Can transform many types of documents into PDF documents.
- Panda library
- PdfTeX — Generates TeX output directly in PDF.
- PDFCreator — A GPL/AFPL PDF printer driver for Windows.

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Tools exist, such as pdfimages (bundled with Xpdf) to extract the raster images from a PDF file. This can be extremely useful if the PDF is simply a collection of scanned pages.

See also

- Display PostScript
- Scalable Vector Graphics
- XSL-FO

Other Wikipedia articles about tools, utilities and products related to this article

- Ghostscript — Displays PDF files, converts to and from PS.
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- OpenOffice.org — Can transform many types of documents into PDF documents.
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