

2008

PAYDAY SMALL BIZ

SPEECH-ENHANCED APPLICATION SOFTWARE



Key Features:

- Speech-enhanced Payroll / Accounting application for small business
 - Novel sophisticated Audio-Visual User Interface (AVUI or Multi-Modal UI)
 - Automated Pay Checks Writing / Printing module
 - Automated Number-to-Text conversion
 - Payroll Tax computation engine: Federal, State and Local
 - Data Export to Microsoft Excel
 - Consistent set of Technologies: Microsoft Office 2003 / 2007
 - Low cost of ownership and maintenance
-

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InfoSoft International Inc
2008



PAYDAY SMALL BUSINESS DEMO VERSION

Developed by: Dr. Alexander Bell,
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WWW.ALEXANDERBELL.US

NOTE: THIS APPLICATION REQUIRES MICROSOFT OFFICE 2003 OR 2007 TO BE INSTALLED ON USER'S PC.

Revision History

Revision	Release Date	Note
V 11.0.1	05/10/05	First Prototype developed
V.11.0.2	09/01/05	QA, Bug Fix, Documentation
V.11.0.2	09/01/05	DEMO version released (expiration date set to 12/31/06)
V.11.0.4	05/22/06	Sample Tax Tables update (Y 2006)
V.11.0.4	01/10/07	Sample Tax Tables update (Y 2007)
V.11.0.4	01/10/07	Sample Tax Tables update (Y 2007)
V.11.0.4	02/18/07	DEMO version updated (expiration date set to 12/31/07)
V.11.0.4	02/01/08	DEMO version updated (expiration date set to 12/31/08)

EXPIRATION NOTICE: This DEMO version will automatically expire and disable its main functionality on the date shown in the last record of revision history table: after the expiration date it must be uninstalled from the User's computer.

DISCLAIMER OF WARRANTY AND LIMITATION OF LIABILITY

This product is provided on **AS IS** basis without warranty of any kind for Demo/Evaluation purpose only. Commercial use of this product is strictly prohibited. In **no case** the Author and/or his Company could be held liable for any damages related to the use and/or inability to use of this product.

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Note 1:

All data in data fields is shown for Demo purpose only and does not represent the actual personal and/or financial data.

Note 2:

This product requires Microsoft Office 2003/2007 to be installed on User's Workstation.

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Note 3:

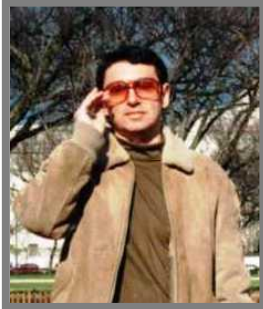
For better readability some humor is added to the document: please watch the opening/closing xml tags: <humor> and </humor>, correspondingly:

<humor>

Possible side effects: LOL. Reader's discretion advised.

</humor>

ABOUT THE AUTHOR



Dr. Alexander Bell, founder of the Infosoftware International Inc (NYC based Hi-Tech consulting Company) has more than 25 years of hi-tech experience, mostly in the area of IT, Software Engineering, Finance and Investment. Prior to starting his own Company in 1998, Dr. Bell held multiple managerial position in the US and worldwide.

Alex holds PhD and MS with major in Electronic Engineering and IT. His creativity leads to 38 design patents on inventions and 100+ technical articles. For almost 5 years Alex was actively working on Speech enhanced Software Applications, implementing novel Audio-Visual User Interfaces ^{1...6} (AVUI, aka Multi-modal UI).

Alex is a proud US Citizen, living in the City of New York. Beyond his professional duties he enjoys digital photography and music.



DEDICATION

To Alexander Graham Bell and his great inventions, which gave me the inspiration and boost my creativity when developing Speech Enhanced Application software.

ACKNOWLEDGEMENTS

Special thanks to Mr. William Henry Gates III and his Microsoft Corporation for the tremendous contribution to the modern technology universe. Microsoft products became the cultural phenomena and have made IT and software development to look like a pleasant and joyful experience for billions of people around the world, including myself.

FOREWORD

Dear Colleagues,

Proposed software solution employs, among other features, very promising Speech Technology enhancement to the Office applications, namely ASR (Automatic Speech Recognition) and TTS (Text-to-Speech), thus further extending the Man-Machine communication principles: from Graphical User Interface (GUI) to Audio-Visual User Interface (AVUI), also known as Multimodal User Interface (MMI). This product could well serve the purpose of being practical example of Speech Technology use at workplace.

The solution originally was built around Microsoft Office 2003 application suite. The efficiency of the Microsoft Office used as a RAD platform could be partially explained by the fact that plenty of sophisticated ready-to-use software components come “with territory”, including the above mentioned ASR-TTS engines.

<humor>

Speech enhanced software applications are capable of moving the realities of life far beyond the most exotic fairy tails and fantasies of the humankind. Taken as an example, the story of Aladdin and his Wonderful Lamp (WL) reveals the serious deficiencies of his hypothetical tool of trade (WL), namely:

- Rather ineffective User Interface: WL was manually activated
- Lack of the robust User authentication mechanism

Conclusion: Both issues could be effectively resolved by applying modern ASR/TTS technologies.

</humor>

For a pretty long time I have been working on a concept and implementation of Audio-Visual User Interface (AVUI): that’s how I coined this term in my early publications^{1...6}. Another good name for the same thing is a Multi-Modal User Interface (MMUI). At this time both terms could be used interchangeably, though potentially MMUI has a wider coverage area than AVUI: there is a good possibility that in the future the principles of Man-Machine interaction and its practical implementation could be moved to a new level, not just limited to the Audio-Visual communication channel.

Speech Technology is partially discussed in a context of this application in the following Chapters. Many additional resources on this topic are available online: see the links to my publications^{1...6} and Microsoft online documents^{A...K} in the Reference section of this Manual.

Alexander Bell

Any Application Software can be only as good as its User Interface: it could be worse but never can be better.

...modern IT paradigms by Dr. Alexander Bell

Key Acronyms and Definitions

- | | |
|-------------|---|
| ASR | - Automatic Speech Recognition |
| TTS | - Text-to-Speech (Speech synthesis) |
| AVUI | - Audio-Visual User Interface (Speech enhanced GUI) |
| MMUI | - Multi-Modal User Interface |
-

1. PRODUCT OVERVIEW

PAYDAY SMALL BIZ (hereinafter - Application) is an Integrated Speech-enhanced Office productivity tool, extending the capability of financial operations of the **Microsoft Office 2003/2007** Application suite.

Application File structure is shown on Fig.1.1

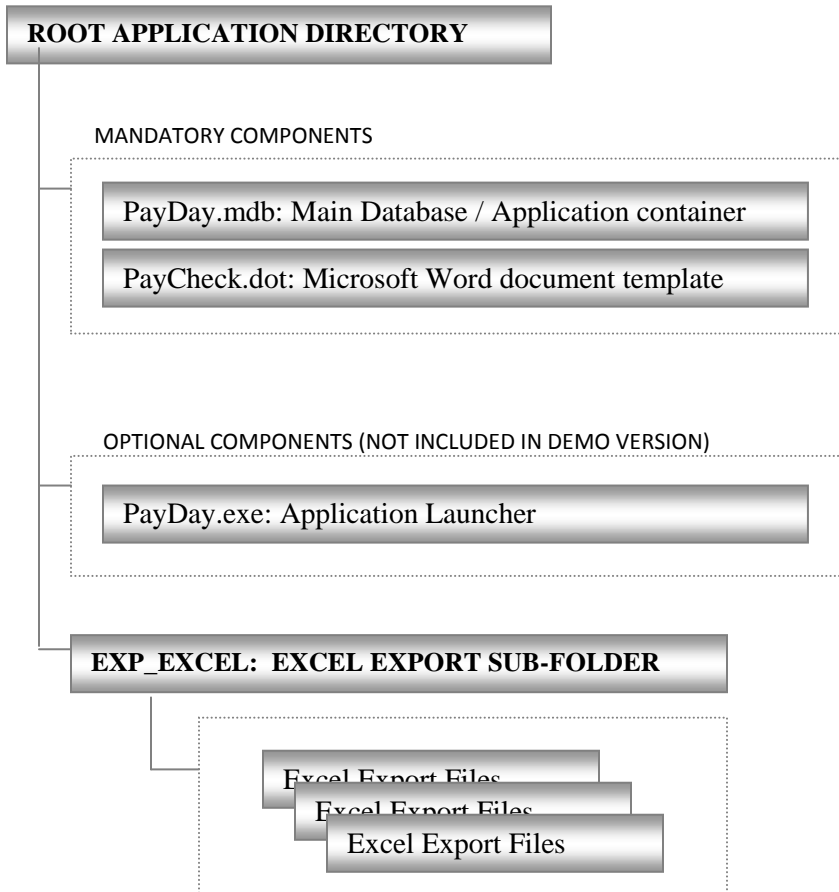


Fig.1.1. Application File Structure

Platform: the whole solution is built on a **Microsoft Access 2003** foundation with functional links to **Word** and **Excel** applications. It utilizes **Microsoft Office 2003, Excel** and **Word** Object Libraries.

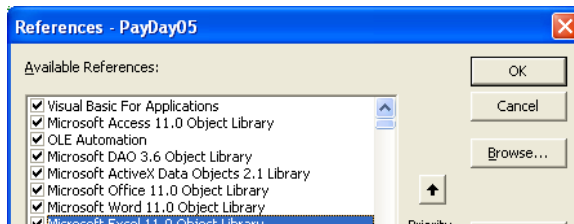


Fig.1.2. List of Object Libraries used by Application

Minimum prerequisites: any full multimedia PC-compatible system, running **Microsoft Windows XP/Vista** with **Microsoft Office 2003/2007** installed.

Core Functionality. Application contains two major functional areas: **Pay Check** and **Payroll/Tax Computation**.

Pay Check functionality enables user to automate Checks writing, printing, data storage and visualization. It encapsulates the unique proprietary “Number to Text” conversion module, dramatically improving the overall productivity and reducing the possibility of misspelling and other data entry errors. When user enters numeric dollar amount, for example \$123.45, application automatically generate the textual equivalent as “One Hundred Twenty Three & 45/100” and populates the appropriate field.

Payroll and Tax Computation functional area enables to automate Payroll Tax computation and organize the Tax/Payroll related data. Payroll Taxes could be computed for the Tax Year 2006 and 2007 on Federal^{7,9,10} and State levels^{8,11}. NY State and New York City were chosen for this DEMO application. There is a functional link to the Pay Check writing area, enabling automated generation of the Check entry record by opening Check Entry Form with data fields partially populated with data taken from Payroll Computation Form.

SPEECH ENHANCED USER INTERFACE

Application has rather intuitive AVUI (MMUI). There is no traditional for Access-based applications switchboard Form. All navigation and command entry could be performed through standardized Toolbar (Fig.1.3) controls and set of intuitive User-friendly Access Forms.

Application enables **Voice Control** and **Voice Feedback** through ASR and TTS engines, correspondingly.

In a **Voice Control** mode User can just reads the control’s caption and the system will respond in the same way as if there was a mouse click. In order to use the Voice control feature the ASR Engine must be activated and set in Command operation mode. Please refer to (A...K) for more details ASR activation and fine tuning.

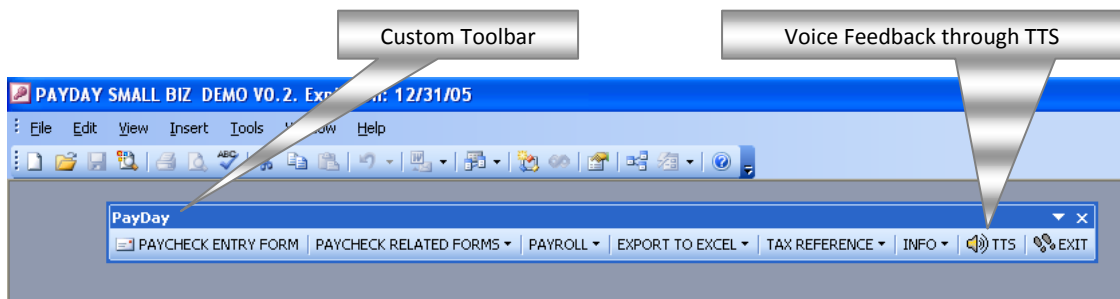


Fig.1.3. Custom Toolbar replaces the traditional for Access Switchboard Form

Voice Feedback implementation is based on TTS engine, included in Microsoft Excel XP/2003/2007. In order to use it in other Office application there must be a reference to the Excel Object Library (see Fig.1.2). Voice Feedback feature could be turned On/OFF by checking/un-checking the Box on TTS Form.

2. SETUP

INSTALL

Automatic installation using .msi module: Applicable to both DEMO and production version. If you use installation module **PayDay05.msi**, then the whole installation process will be completed automatically: just open the folder where the module resides with Windows explorer, double click on the corresponding line item: it will automatically initiate the Installer. Follow the instruction on the screen. Upon the completion, open the application folder and create the shortcut to the item “PayDay.exe”. Double-click on the shortcut icon to run the application.

Note: you can choose the Application folder up to your discretion or just keep the default (recommended).

Manual installation: Applicable to DEMO version only:

In case you do not have an .msi module, but have instead a set of separate software components, then you can install the application manually. Follow the steps 2.1... 2.3.

2.1. Create the Application folder, named for example: "PayDay"

2.2. Copy all software components into Application folder

- PayDay.mdb
- PayCheck.dot
- PayDay_Manual.doc (or PayDay_Manual.pdf)

2.3. Create shortcut pointing to the PayDay.mdb database. Double Click on the shortcut icon to start the application.

UNINSTALL

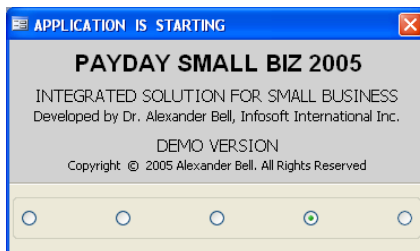
Automatic mode. If you have installed the Application by using .msi module, then you can uninstall via Control Panel: go to the "Add/Remove Programs" and then select the "PayDay" item. Follow the instruction on the dialog screens.

Manual mode. If the Application was installed manually, then simply remove all components listed in the section 2.2 of this Setup Manual from the User's computer; you could also delete the root folder provided that you did not use it to store other applications/software components.

3. USAGE

Startup Form will appear as you open the Database, either directly or via the application Launcher. The Form should stay on the screen for couple seconds, then it will dismiss and custom Toolbar will appear on the top (see Fig.3.1).

Next, the default **Pay Check** data entry Form will be opened (Fig.3.2).



Application has rather intuitive User Interface (AVUI). There is no traditional for Access-based applications switchboard Form. All navigation and commands could be performed via standardized Toolbar controls.

Application could be operated through **Voice Commands**: User can just reads the control's caption and system will respond in the same way as if there was a mouse click. In order to use the Voice control feature the

ASR Engine must be activated and set in Command operation mode.

Notice Toolbar Drop Downs: they contain additional items

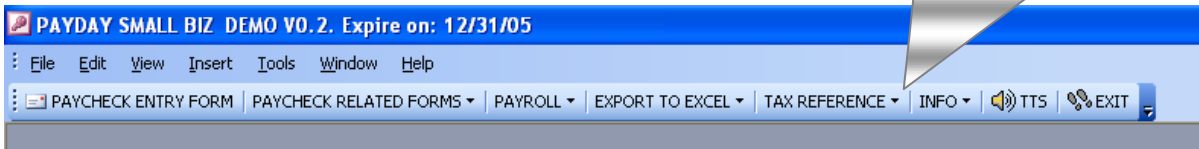


Fig.3.1. Application control panel: bye-bye Access Switchboard Form, Hello Toolbar!

Voice Feedback implementation is based on TTS engine, included in Microsoft Excel XP/2003. This feature could be turn On/OFF. Refer to the section [Speech Enhanced User Interface](#) for details on Speech technology features utilized in the product.

3.1. PAY CHECK FUNCTIONAL AREA

Pay Check data entry Form is rather intuitive and self-explanatory. It contains printable data Fields (see PRINTABLE AREA) and a set of auxiliary non-printable controls. The latter are added in order to trace the Check status (see Fields aggregated in the CHECK NON-PRINTABLE AREA) and User activity on the Check record level (see Fields in SYS ADMIN INFO area: these Fields are always locked). The Form employs several functional features, increasing the overall application appeal and usability.

Automatic Number to Dollar Text conversion allows increasing the overall productivity and reducing the data error rate caused by operator's mistake (in particular, due to misspelling). As you enter the dollar amount in the numeric field and move to the next field, the Application will automatically convert this numeric value into proper formatted text string and insert it into the "Dollars" Field. This Field is locked for editing (background color is set to gray, which indicates the Field locking); its content is programmatically linked to the (\$) Numeric value.

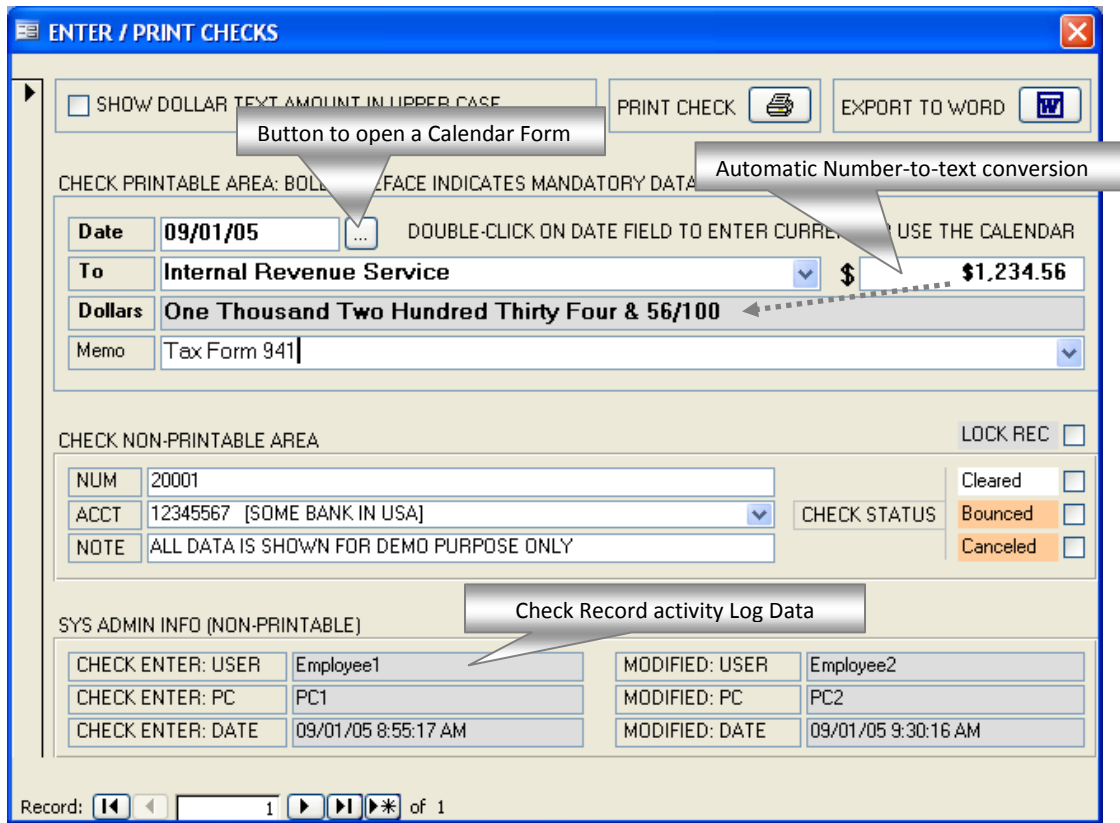


Fig.3.2. Pay Check data entry Form: entered numeric value in [\$] Data Field is automatically converted to the text entered in the [Dollars] Field. All Data fields with background color set to light gray are locked.

For safety reason the maximum value that could be entered and processed by this version of the Application is set to \$1,000,000.00, but it could be easily changed through the proper code modification. Form implements several data validation features with **Voice Feedback** performed through TTS.

Form allows switching between Upper/Lower cases in the "Dollars" text Field and locking the Check record data. The screenshot on the Fig.3.3 shows the same data Record as shown on Fig.3.1 except for the Dollars text is converted to Upper case, plus the check Record is locked for editing: all data fields' background color is set to gray.

ENTER / PRINT CHECKS

SHOW DOLLAR TEXT AMOUNT IN UPPER CASE PRINT CHECK EXPORT TO WORD

CHECK PRINTABLE AREA; BOLD TYPEFACE INDICATES MANDATORY DATA

Date: **09/01/05** DOUBLE-CLICK ON DATE FIELD TO ENTER CURRENT OR USE THE CALENDAR

To: **Internal Revenue Service** \$ **\$1,234.56**

Dollars: **ONE THOUSAND TWO HUNDRED THIRTY FOUR & 56/100**

Memo: Tax Form 941

CHECK NON-PRINTABLE AREA LOCK REC

NUM: 20001 ACCT: 12345567 [SOME BANK IN USA] CHECK STATUS: Cleared Bounced Canceled

NOTE: ALL DATA IS SHOWN FOR DEMO PURPOSE ONLY

SYS ADMIN INFO (NON-PRINTABLE)

CHECK ENTER: USER	Employee1	MODIFIED: USER	Employee2
CHECK ENTER: PC	PC1	MODIFIED: PC	PC2
CHECK ENTER: DATE	09/01/05 8:55:17 AM	MODIFIED: DATE	09/01/05 9:30:16 AM

Record: 1 of 1

Fig.3.3. Screenshot of the same Form and same record as shown on Fig.3.1, except for the Dollar text is converted to Upper case and check record is marked as "Locked": all data fields background color is set to gray

Calendar Form (Fig.3.4) is another convenience feature allowing User to enter the Date by clicking on the appropriate calendar item.

CALENDAR

Sep 2005 Sep 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1
2	3	4	5	6	7	8

Fig.3.4. Calendar Form allows the User to enter the Date by clicking on the appropriate calendar item

Printing Checks

Checks entered into the database could be printed one at a time by:

- Using the built in MS Access reporting feature (see Fig. 3.5), or;
- Exporting data into MS Word document through the Automation (see Fig.3.6) and printing it from Word

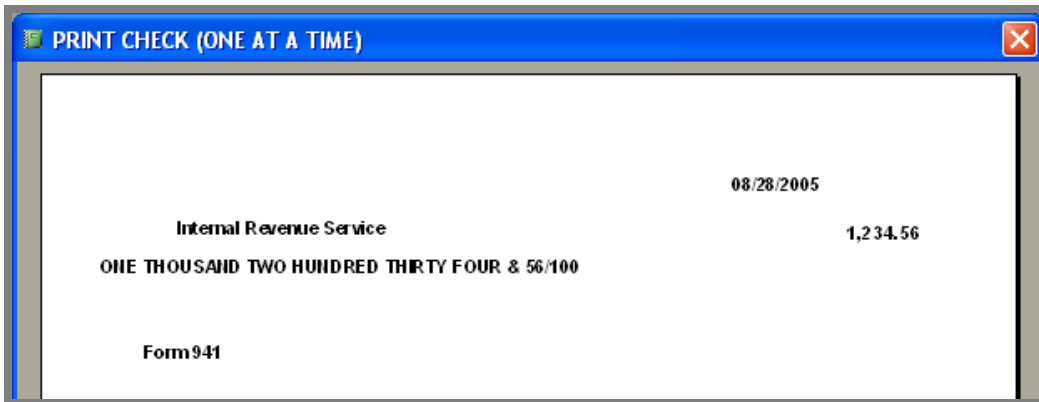


Fig. 3.5. Print Check screenshot: using the Microsoft Access Report feature

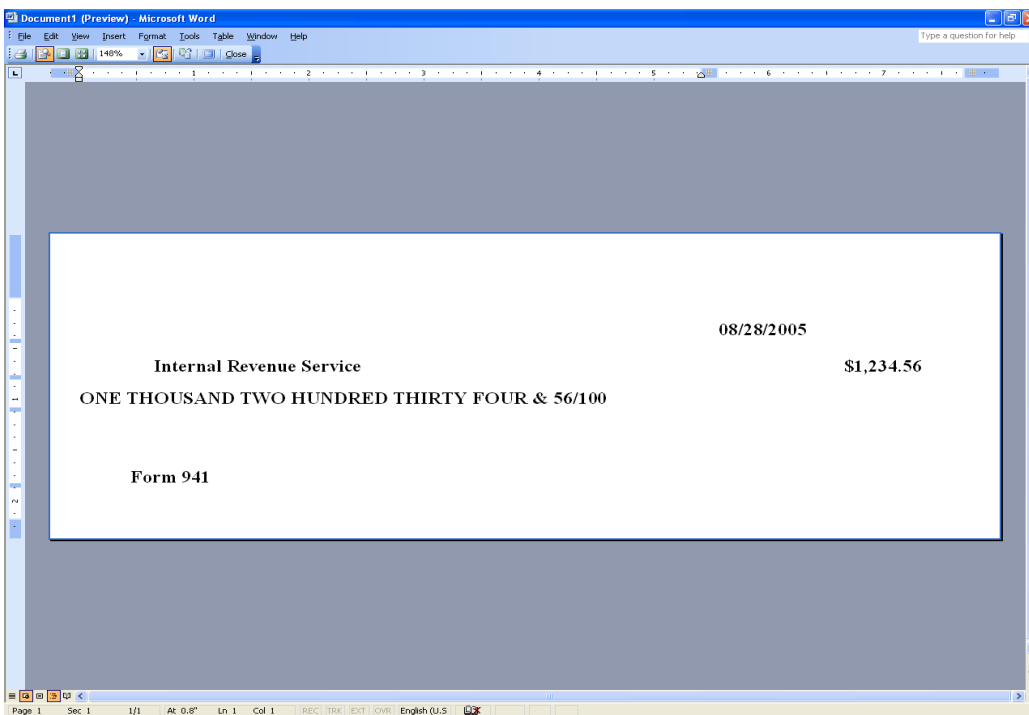


Fig.3.6. Check data is exported to Microsoft Word Document for printing

In both cases the Check size is chosen: 3" x 8.5", but it could be set to any size by modifying the Word Template and/or Access Report.

Note: Word document is custom Template-based: the file PayCheck.dot must reside in the same directory as the Access Database.

Data Export

Application has the ability to export the entire Pay Checks dataset and Tax Calculation Table into Microsoft Excel Workbook: see the Toolbar item titled "EXPORT TO EXCEL".

Drop Downs

Application allows storing Payee, Memo and Account data in the Database tables for future use as a list items in corresponding Drop Downs (Combo Boxes) on the main Pay Check Form: see the set of auxiliary Forms used to populate the Drop Downs with list items on Fig.3.7.

The screenshot shows three overlapping windows. The 'PAYEE LIST' window contains a table with one row: 'Internal Revenue Service'. The 'MEMO TEMPLATE STRING' window contains a table with one row: 'Tax Form 941'. The 'BANK ACCOUNTS' window contains a table with one row: '1234567', 'SOME BANK IN USA', and an empty 'NOTE' field.

Fig.3.7. Payee, Memo and Accounts data Form: use Toolbar Pop-Up buttons, located under the **PAYCHECK FIELD TEMPLATES** Toolbar item to open the Form

Screenshot of all Pay Check data as List View is shown on Fig.3.8:

ID	Date	Payee	Amount, \$	Memo	Check Num	Account	Cleared	Cancelled	Bounced	Note
1	01/29/05	XYZ	\$1,234.56	ALL DATA IS SHOWN FOR DEMO PURPOSE	10002	BIZ 12345	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DEMO
2	01/30/05	ABCD	\$3,456.78	ALL DATA IS SHOWN FOR DEMO PURPOSE	10003	BIZ 12345	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	DEMO

Fig.3.8. Pay Check List to view: Read-Only mode

3.2. PAYROLL AND TAX CALCULATION FUNCTIONAL AREA

Employee data must be entered first via Employee Data Form (see Fig.3.9)

The screenshot shows a form with various fields and dropdown menus. Fields include: ID, SSN (000-00-0000), Start Date, Departure Date, First Name, Last Name, Job Title, Note (TEMPLATE RECORD: REPLACE WITH ACTUAL EMPLOYEE DATA), Record number (1 of 1), Year (2005), Pay Period (Monthly), Date (01/01/05), Allowances (1), Exemptions (1), Marital Status (Single), Date (01/01/05), State (NY), and Locality (NYC).

Fig.3.9. Employee Data Form: use **PAYROLL -> Employee Data** Toolbar Control to open the Form

Payroll Gross Amount and optional Payroll Reduction Amount (qualified Tax deductible amount, such as 401K, Medical Insurance if applicable, etc.) must be entered on the Payroll data entry Form (see Fig.3.10)

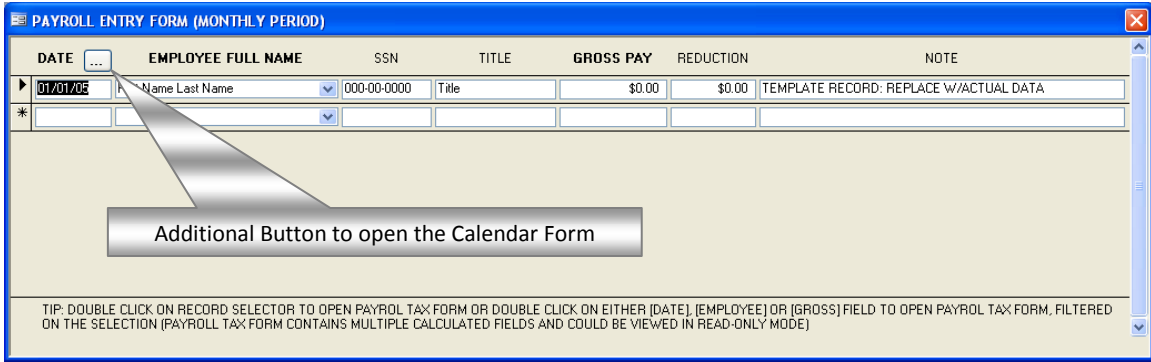


Fig.3.10. Payroll Data Form: use **PAYROLL** -> **Payroll Entry** Toolbar Control to open the Form

Useful Tip

Double-Click on Record Selector of Payroll Data Form will open the Tax Calculator Form (see Fig.3.11).

Double-Click on any of [Date], [Employee] or [Gross] Fields will open the same Tax Calculator Form filtered.

Finally, the Tax Computation Form (see Fig. 3.11) could be opened in Read-Only mode to view the Year 2005 Federal and State/Local Level Payroll Taxes and Net Pay.

For this particular DEMO the State of New York and City of New York were chosen. The computation formulas correspond to the "Single, Monthly Payroll Period) Tables^{7,8}. The Field labeled **Form 941** shows the Corporation (General Corporation Sub-Chapter C) monthly Payroll Tax deposit on Federal level. *Fields A and E* show the number of **Allowances** (Federal level Form W-4) and **Exemptions** (State Level) claimed, correspondingly.

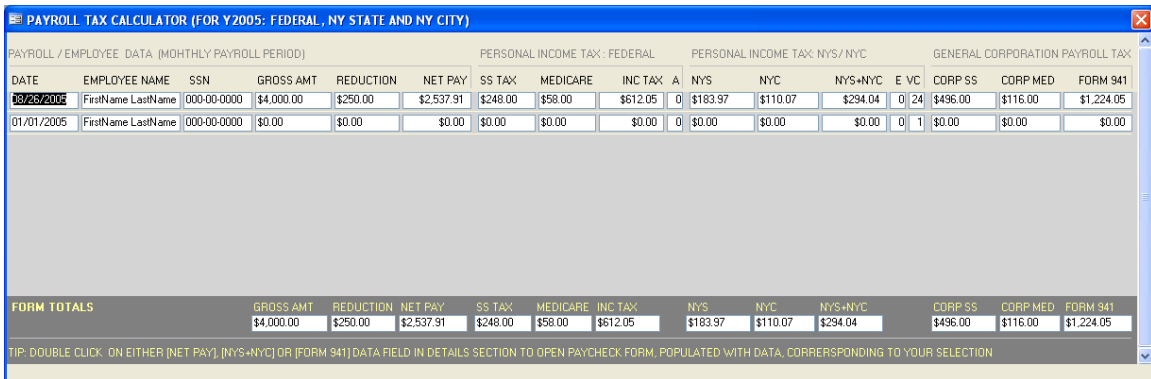


Fig.3.11. Tax Calculation Form (Read-Only): use **PAYROLL** -> **Tax Calculation** Toolbar Item to open the Form

Useful Tip

Double-Click on either [Net Pay] or [Form 941] data field in Details section of the Tax Calculation Form will open Pay Check Form (see Fig. 3.2), pre-populated with data carried from the corresponding line item located on Tax Calculation Form.

Total of State/Local Payroll Tax is shown in the Field **NYS+NYC**. The row at the bottom of the Tax Calculation Form shows the totals for each numeric Fields.

3.3. TAX TABLES

Tax Table are partially populated with data taken from the Reference ^{7,9,10} (Federal level) and Reference ^{8, 11} (NY State and Local levels). This data is entered for DEMO purpose; its accuracy is not guaranteed in this version.

FEDERAL LEVEL TABLES

ID	Tax Year	Allowance Amt	Effective Date	Ref	Note	Active
1	2005	\$3,200.00	01/01/05	IRS Pub 15, Circular E, page 34	Revised Jan 2005	<input checked="" type="checkbox"/>
*	(Auto)					<input type="checkbox"/>

Fig.3.12. One withholding Allowance amount (Federal)

ID	Tax Year	SS Base	Effective Date	Ref	Note	Active
1	2004	\$87,900.00	01/01/04	IRS Pb 15, Circular E page 16	Revised on Jan 2005	<input checked="" type="checkbox"/>
2	2005	\$90,000.00	01/01/05	IRS Pb 15, Circular E page 16	Revised on Jan 2005	<input checked="" type="checkbox"/>
*	(Auto)					<input type="checkbox"/>

Record: 1 of 2

Fig.3.13. Social Security wage base (Tax Rate: 6.2%)

Note: There are no withholding allowances for Social Security and Medicare Taxes ^{7, 9, 10}.

ID	Tax Year	Marital Status	Tax Bracket	Tax Rate	Effective Date	Ref	Note	Active
1	2005	Single	\$2,650.00	10.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
2	2005	Single	\$9,800.00	15.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
3	2005	Single	\$31,500.00	25.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
4	2005	Single	\$69,750.00	28.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
5	2005	Single	\$151,950.00	33.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
6	2005	Single	\$328,250.00	35.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
7	2005	Married	\$8,000.00	10.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
8	2005	Married	\$22,600.00	15.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
9	2005	Married	\$66,200.00	25.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
10	2005	Married	\$120,750.00	28.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
11	2005	Married	\$189,600.00	33.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
12	2005	Married	\$333,250.00	35.00%	01/01/05	IRS Pb 15, Circular E, Rev. Jan 2005	Page 37	<input checked="" type="checkbox"/>
*	(Auto)							<input type="checkbox"/>

Record: 1 of 12

Fig.3.14. Federal Table for Percentage Method of Withholding (only Annual base data must be entered)

STATE AND LOCAL TAX TABLES

In this DEMO version Tables were populated with data corresponding to the State of New York (State), City of New York and City of Yonkers (Locals) Tax Tables: Exact Calculation Method ^{8, 11} was applied. Additional data could be added for different State/Locals, based on the corresponding Tax publications. Please beware that in this DEMO version the accuracy of this data is not guaranteed.

Locality Name	State (USA)	Note
NYC	New York	City of New York
YONKERS	New York	City of Yonkers
*		

Fig.3.15. Locals were added to the list

ID	Tax Year	State	Marital Status	Deduction	One Exemption	Effective Date	Ref	Note	Active
1	2005	NY	Single	\$6,975.00	\$1,000.00	01/01/05	NYS-50-T.1, Page T-12	Deduction and Exemption Allowance	<input checked="" type="checkbox"/>
2	2005	NY	Married	\$7,475.00	\$1,000.00	01/01/05	NYS-50-T.1, Page T-12	Deduction and Exemption Allowance	<input checked="" type="checkbox"/>
*	[Auto]								<input type="checkbox"/>

Fig.3.16. State Deduction and One Exemption Allowances (State of New York, Annual base)

ID	Tax Year	State	Marital Status	Tax Bracket	Tax Rate	Effective Date	Ref	Note	Active
1	2005	NY	Single	\$0.00	4.00%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-13	<input checked="" type="checkbox"/>
2	2005	NY	Single	\$8,000.00	4.50%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-13	<input checked="" type="checkbox"/>
3	2005	NY	Single	\$11,000.00	5.25%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-13	<input checked="" type="checkbox"/>
4	2005	NY	Single	\$13,000.00	5.90%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-13	<input checked="" type="checkbox"/>
5	2005	NY	Single	\$20,000.00	6.85%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-13	<input checked="" type="checkbox"/>
6	2005	NY	Single	\$90,000.00	7.64%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-13	<input checked="" type="checkbox"/>
7	2005	NY	Single	\$100,000.00	8.54%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-13	<input checked="" type="checkbox"/>
8	2005	NY	Single	\$150,000.00	8.55%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-13	<input checked="" type="checkbox"/>
9	2005	NY	Single	\$200,000.00	7.75%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-13	<input checked="" type="checkbox"/>
10	2005	NY	Single	\$500,000.00	8.20%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-13	<input checked="" type="checkbox"/>
11	2005	NY	Married	\$0.00	4.00%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-14	<input checked="" type="checkbox"/>
12	2005	NY	Married	\$8,000.00	4.50%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-14	<input checked="" type="checkbox"/>
13	2005	NY	Married	\$11,000.00	5.25%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-14	<input checked="" type="checkbox"/>
14	2005	NY	Married	\$13,000.00	5.90%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-14	<input checked="" type="checkbox"/>
15	2005	NY	Married	\$20,000.00	6.85%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-14	<input checked="" type="checkbox"/>
16	2005	NY	Married	\$90,000.00	7.64%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-14	<input checked="" type="checkbox"/>
17	2005	NY	Married	\$100,000.00	8.14%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-14	<input checked="" type="checkbox"/>
18	2005	NY	Married	\$150,000.00	8.95%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-14	<input checked="" type="checkbox"/>
19	2005	NY	Married	\$200,000.00	7.75%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-14	<input checked="" type="checkbox"/>
20	2005	NY	Married	\$500,000.00	8.20%	01/01/05	NYS-50-T.1, Annual Tax Schedule	Page T-14	<input checked="" type="checkbox"/>
*	[Auto]								<input type="checkbox"/>

Fig.3.17. State of New York withholding Tax Table (Annual base)

ID	Tax Year	Locality	Marital Status	Deduction	Exemption	Effective Date	Ref	Note	Active
1	2005	NYC [NY]	Single	\$5,000.00	\$1,000.00	01/01/05	NYS-50-T.1, Page T-38	Local Deduction and Exemption Allowances (Annual)	<input checked="" type="checkbox"/>
2	2005	NYC [NY]	Married	\$5,500.00	\$1,000.00	01/01/05	NYS-50-T.1, Page T-38	Local Deduction and Exemption Allowances (Annual)	<input checked="" type="checkbox"/>
3	2005	YONKERS [NY]	Single	\$6,975.00	\$1,000.00	01/01/05	NYS-50-T.1, Page T-56	Local Deduction and Exemption Allowances (Annual)	<input checked="" type="checkbox"/>
4	2005	YONKERS [NY]	Married	\$7,475.00	\$1,000.00	01/01/05	NYS-50-T.1, Page T-56	Local Deduction and Exemption Allowances (Annual)	<input checked="" type="checkbox"/>
* [Auto]									<input type="checkbox"/>

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Fig.3.18. Local level Deduction and Exemption Allowances (City of New York and Yonkers, Annual base)

ID	Tax Year	Locality	Marital Status	Tax Bracket	Tax Rate	Effective Date	Ref	Note	Active
1	2005	NYC [NY]	Single	\$0.00	1.90%	01/01/05	NYS-50-T.1, Page T-39	Annual Tax Schedule	<input checked="" type="checkbox"/>
2	2005	NYC [NY]	Single	\$8,000.00	2.65%	01/01/05	NYS-50-T.1, Page T-39	Annual Tax Schedule	<input checked="" type="checkbox"/>
3	2005	NYC [NY]	Single	\$8,700.00	3.10%	01/01/05	NYS-50-T.1, Page T-39	Annual Tax Schedule	<input checked="" type="checkbox"/>
4	2005	NYC [NY]	Single	\$15,000.00	3.70%	01/01/05	NYS-50-T.1, Page T-39	Annual Tax Schedule	<input checked="" type="checkbox"/>
5	2005	NYC [NY]	Single	\$25,000.00	3.90%	01/01/05	NYS-50-T.1, Page T-39	Annual Tax Schedule	<input checked="" type="checkbox"/>
6	2005	NYC [NY]	Single	\$60,000.00	4.00%	01/01/05	NYS-50-T.1, Page T-39	Annual Tax Schedule	<input checked="" type="checkbox"/>
7	2005	NYC [NY]	Single	\$100,000.00	4.40%	01/01/05	NYS-50-T.1, Page T-39	Annual Tax Schedule	<input checked="" type="checkbox"/>
8	2005	NYC [NY]	Single	\$150,000.00	5.44%	01/01/05	NYS-50-T.1, Page T-39	Annual Tax Schedule	<input checked="" type="checkbox"/>
9	2005	NYC [NY]	Single	\$200,000.00	4.40%	01/01/05	NYS-50-T.1, Page T-39	Annual Tax Schedule	<input checked="" type="checkbox"/>
10	2005	NYC [NY]	Single	\$500,000.00	4.80%	01/01/05	NYS-50-T.1, Page T-39	Annual Tax Schedule	<input checked="" type="checkbox"/>
11	2005	NYC [NY]	Married	\$0.00	1.90%	01/01/05	NYS-50-T.1, Page T-40	Annual Tax Schedule	<input checked="" type="checkbox"/>
12	2005	NYC [NY]	Married	\$8,000.00	2.65%	01/01/05	NYS-50-T.1, Page T-40	Annual Tax Schedule	<input checked="" type="checkbox"/>
13	2005	NYC [NY]	Married	\$8,700.00	3.10%	01/01/05	NYS-50-T.1, Page T-40	Annual Tax Schedule	<input checked="" type="checkbox"/>
14	2005	NYC [NY]	Married	\$15,000.00	3.70%	01/01/05	NYS-50-T.1, Page T-40	Annual Tax Schedule	<input checked="" type="checkbox"/>
15	2005	NYC [NY]	Married	\$25,000.00	3.90%	01/01/05	NYS-50-T.1, Page T-40	Annual Tax Schedule	<input checked="" type="checkbox"/>
16	2005	NYC [NY]	Married	\$60,000.00	4.00%	01/01/05	NYS-50-T.1, Page T-40	Annual Tax Schedule	<input checked="" type="checkbox"/>
17	2005	NYC [NY]	Married	\$100,000.00	4.00%	01/01/05	NYS-50-T.1, Page T-40	Annual Tax Schedule	<input checked="" type="checkbox"/>
18	2005	NYC [NY]	Married	\$150,000.00	6.03%	01/01/05	NYS-50-T.1, Page T-40	Annual Tax Schedule	<input checked="" type="checkbox"/>
19	2005	NYC [NY]	Married	\$200,000.00	4.40%	01/01/05	NYS-50-T.1, Page T-40	Annual Tax Schedule	<input checked="" type="checkbox"/>
20	2005	NYC [NY]	Married	\$500,000.00	4.80%	01/01/05	NYS-50-T.1, Page T-40	Annual Tax Schedule	<input checked="" type="checkbox"/>
21	2005	YONKERS [NY]	Single	\$0.00	4.00%	01/01/05	NYS-50-T.1, Page T-57	Annual Tax Schedule	<input checked="" type="checkbox"/>
22	2005	YONKERS [NY]	Single	\$8,000.00	4.50%	01/01/05	NYS-50-T.1, Page T-57	Annual Tax Schedule	<input checked="" type="checkbox"/>
23	2005	YONKERS [NY]	Single	\$11,000.00	5.25%	01/01/05	NYS-50-T.1, Page T-57	Annual Tax Schedule	<input checked="" type="checkbox"/>
24	2005	YONKERS [NY]	Single	\$13,000.00	5.90%	01/01/05	NYS-50-T.1, Page T-57	Annual Tax Schedule	<input checked="" type="checkbox"/>

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Fig.3.19. Local withholding Tax Table (City of New York and Yonkers, Annual base)

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10. IRS PUB 15, Rev. January 2007: Circular E, Employer's Tax Guide
11. NYS-50-T (1/06). New York State, New York City, and Yonkers Withholding Tax Tables and Methods. Effective January 1, 2006

Online Resources on Speech Technology available at Microsoft Office portal

- A. Microsoft. Information about Speech Recognition in Office
<http://office.microsoft.com/en-us/assistance/HA010348841033.aspx>
- B. Microsoft. Speech Recognition System Requirements in Office
<http://office.microsoft.com/en-us/assistance/HA010348881033.aspx>
- C. About Speech Recognition Microphones for Use in Office
<http://office.microsoft.com/en-us/assistance/HA010346111033.aspx>
- D. Examples of Using Speech Recognition with Office
<http://office.microsoft.com/en-us/assistance/HA010451261033.aspx>
- E. Customize Speech Recognition Voice Commands in Office
<http://office.microsoft.com/en-us/assistance/HA010348911033.aspx>
- F. Using Speech Recognition for the First Time in Office X
<http://office.microsoft.com/en-us/assistance/HA010565111033.aspx>
- G. Using Speech Recognition with Different Languages in Office
<http://office.microsoft.com/en-us/assistance/HA010347511033.aspx>
- H. Microsoft. More Speech Recognition Commands in Office
<http://office.microsoft.com/en-us/assistance/HA010348821033.aspx>
- I. Microsoft. Speech Recognition Commands in Excel
<http://office.microsoft.com/en-us/assistance/HA010346171033.aspx>
- J. Speech recognition commands in Word
<http://office.microsoft.com/en-us/assistance/HA010348831033.aspx>
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<http://office.microsoft.com/en-us/assistance/HA010345911033.aspx>