IBM DirectTalk Speech Recognition for Windows with ViaVoice Technology Delivers Large Vocabulary Speech Recognition in the Telephony Environment

Overview

The DirectTalk® Speech Recognition for Windows with ViaVoice Technology program is speech recognition technology for use with DirectTalk for Windows in the telephony environment.

It enables the development of speech recognition applications to satisfy the requirements of:

- High accuracy
- Speaker independent
- Large vocabulary
- Complex grammar
- Continuous (connected) speech recognition
- Acoustic models tuned for telephone use
- U.S. and U.K. English, French, and German Languages

Some of the applications DirectTalk Speech Recognition for Windows enables are interface with your bank, stock broker, or an airline booking service, without a sales agent.

It replaces the ViaVoice Speech Recognition for Windows PRPQ (5799-RHK).

Voice Response for Windows Renamed: DirectTalk for Windows

As part of repositioning the IBM product range and to give products names meaningful in the market place, IBM is renaming the Corepoint Voice Response for Windows to: DirectTalk for Windows.

For more information, refer to Software Announcement 298-397, dated October 20, 1998.

Key Prerequisites

- DirectTalk for Windows system plus Customer Service Diskette (CSD) IP21926
- An Intel PC for the recognition server with LAN connection, and at minimum, a 450 MHz processor, 2 GB disk drive, and 128 MB RAM
- Microsoft® Windows NT™ Workstation 4.0 with Service Pack 4, or higher

-planned Availability Date

June 30, 2000

At a Glance

New speech recognition software for DirectTalk for Windows:

- Reduces the need for sales agents or operators
- Provides high-accuracy, speaker-independent, large vocabulary recognition
- Eliminates the need to press buttons on a telephone to perform business functions

For ordering, contact:
Your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL

Reference: SE001
DirectTalk Speech Recognition for Windows with ViaVoice Technology is a software product for building and operating advanced, speaker-independent, speech recognition applications for telephone users.

Applications include:
- Automated directory services
- Funds transfer services
- Sales force automation
- Airline customer services
- Personal message handling systems

DirectTalk Speech Recognition for Windows improves the usability of voice self-service applications by increasing the bandwidth of communication with the computer system. Complex menu structures can be replaced by simple spoken commands selected from an extensive number of options. Information can be selected from large lists and directories. Numerical and non-numeric data can be entered into business applications. Natural speech can be analyzed and interpreted to generate the most appropriate system response.

Speech recognition removes the need to press telephone keys to interact with business applications. This is particularly valuable when using a mobile phone, increasing user mobility and the ability to simultaneously perform other tasks. In some situations, the ability of a user to operate a system without looking at the phone or pressing keys may improve safety. Speech recognition is particularly valuable for applications that support mobile employees and consumers.

These attributes of DirectTalk Speech Recognition for Windows solutions may increase the number of customers willing to use self-service voice response applications as an alternative to calling a live customer service representative, generating cost savings for the business. DirectTalk Speech Recognition for Windows services may increase the willingness of customers to use business services, increasing the volume of business. The improved service provided by advanced speech recognition may increase customer loyalty or tempt customers from competitors.

DirectTalk Speech Recognition for Windows supports a flexible client-server architecture allowing speech recognition engines to be configured either on each DirectTalk (Voice Response) for Windows server or on speech recognition servers connected by a LAN.

DirectTalk Speech Recognition for Windows supports U.S. and U.K. English, French, and German languages. Contact your IBM or Business Partner services representative for information on building applications and solutions.

Benefits

With DirectTalk Speech Recognition for Windows, applications can be developed that allow callers to speak the answers to prompted questions in a natural way, responding with a phrase or short sentence.

Benefits are:
- Routine requests can be handled automatically, freeing agents to give better service to callers who require personal help.
- Applications can be much easier and more natural for callers to use than traditional systems.
- Allows a new set of IVR applications where the selection of an item from a large list is required, for example, to select a town or a fund name. This selection is easy using DirectTalk Speech Recognition for Windows but very difficult using DTMF tone input.

These benefits combine to increase the level of caller satisfaction, making it easier to retain customer loyalty.

Maintenance and Support

Maintenance and support for this product is provided and licensed under the IBM Agreement for Acquisition of Programs and Support (IIAAPS), which includes an Attachment for Support with its Addendum for IBM Voice Systems programs. Maintenance must be purchased for the complete system including DirectTalk for Windows.

The following maintenance and support options are available:
- Standard — Provides customer support during normal business hours
- Extended — Provides customer support 24 hours per day, 7 days per week

The Standard Maintenance and Support Option includes:
- Corrections that fix substantial deviations of unmodified products from the then-current code, publications, and informal documentation (that is, release notes and memos).
- Software product updates that are improvements, extensions, and other changes, which IBM at its discretion, deems to be reasonable.
- Technical support that provides support via telephone, fax, or e-mail where available during normal business hours in the customer’s locality from Monday through Friday, except local holidays, and supplies workarounds for problems (where known), answers questions, and provides patches where they exist, and supplies to the customer a reasonable amount of assistance by mail or telephone in the event of difficulties in the use of, or the interpretation of, results from a product.

The Extended Maintenance and Support Option includes and extends the Standard Support Option. The former includes technical support via telephone 7 days per week, 24 hours per day.

Year 2000

These products do not have date dependencies and are Year 2000 ready.

Euro Currency

These programs are EuroReady.

For more information on the implications of the euro, visit the IBM euro Web site at:
http://www.ibm.com/euro
DirectTalk Speech Recognition for Windows with ViaVoice Technology, Version 1 Release 2.1, is IBM’s market-leading speech recognition software. It is used with DirectTalk for Windows, the voice processing platform of choice for complex, moderate, and line-size applications.

DirectTalk for Windows enables the development and operation of automated customer service solutions. Clients, customers, employees, and other users can interact directly with business applications using telephones connected via public or private networks. DirectTalk for Windows-based solutions can improve customer service, reduce operating costs, and improve productivity.

With speech recognition software, callers can interact with your voice applications and services using the spoken word, instead of pushing buttons on a telephone.

The DirectTalk Speech Recognition for Windows includes “barge-in” with “echo cancellation,” which allows the speaker to interrupt system prompts.

DirectTalk Speech Recognition for Windows provides high accuracy, large vocabulary, speaker-independent recognition built on leading-edge ViaVoice speech technology from IBM. With a total vocabulary of 250,000 words and an application vocabulary of up to 64,000 words in a single context, DirectTalk Speech Recognition for Windows can support the most complex speech recognition application. DirectTalk Speech Recognition for Windows can support multiple vocabularies allowing high recognition accuracy to be combined with effectively unconstrained vocabularies.

**Trademarks**

ViaVoice is a trademark of International Business Machines Corporation in the United States or other countries or both.

DirectTalk is a registered trademark of International Business Machines Corporation in the United States or other countries or both.

Windows, Microsoft, and Windows NT are trademarks of Microsoft Corporation.

Other company, product, and service names may be trademarks or service marks of others.
**Education Support**

Call IBM Education and Training at 800-IBM-TEACH (426-8322) for catalogs, schedules, and enrollments.

Visit the following Web site for additional information:


**Offering Information**

Product information is available through Offering Information (OITOOL) at:

http://www.ibm.com/wwoi

**Publications**

No separate publications are available for this product. Specific product information is contained in the DirectTalk® for Windows™ publications.

Displayable Softcopy Publications for DirectTalk for Windows are included on Customer Service Diskette (CSD) IP21926.

**Technical Information**

**Hardware Requirements:** It is recommended DirectTalk Speech Recognition for Windows be operated as a client-server system. The recognition server may be run on a dedicated Intel PC system.

The following system configurations are suggested for operating DirectTalk Speech Recognition for Windows:

- For the Recognition Server
  - Intel PC 450 MHz, or faster
  - 2 GB disk drive, or higher
  - 128 MB RAM, or higher
  - Network adapter
- For the Client system
  - Supported DirectTalk for Windows system installed on an Intel PC 450 MHz, or faster
  - Network adapter for connection to the recognition server
  - 4 GB disk drive, or higher
  - 128 MB RAM, or higher

**Software Requirements**

*For the Client System*

- DirectTalk for Windows, Version 3.0 plus CSD IP21926 (5639-F59)
- Microsoft™ Windows NT™ Workstation 4.0 with Service Pack 4, or higher

**Note:** DirectTalk VR Support feature is not required.

*For the Recognition Server System*

- Microsoft Windows NT Workstation 4.0 with Service Pack 4, or higher

**Note:** DirectTalk VR Support feature is not required.

**Limitations**

- In a DirectTalk Speech Recognition for Windows configuration, the client system can have up to one trunk of telephony ports attached, depending on the hardware configuration of the DirectTalk system and the application complexity.
- One recognition process per 55 MHz for 32-bit systems.
- When more than one client system is connected to the same network, the guideline should be no more than 90 simultaneous speech recognition sessions on a 16 MB token-ring network.
- Applications written for the ViaVoice™ for Windows PRPQ (5799-RHK) may require modification to operate with DirectTalk Speech Recognition for Windows.
- The ViaVoice for Windows PRPQ (5799-RHK) will not function with DirectTalk for Windows plus CSD IP21926, or higher.

For details of technical requirements and limitations, refer to the DirectTalk for Windows General Information and Planning Manual (GC34-5480).

**Performance Considerations:** Performance of a DirectTalk (Voice Response) for Windows solution with DirectTalk Speech Recognition for Windows is dependent on the system configuration, performance capabilities of the personal computer system, and the application.

**DirectTalk Speech Recognition for Windows Operational Overview**

There are three parts to the system:

1. **Client System**

   The client package is loaded and runs on a personal computer system, which has telephony connectivity and runs the prerequisite DirectTalk for Windows software. This system also requires a LAN adapter for connection to one or more recognition servers,
Summary of Possible Configurations: The DirectTalk Client-Server Operation:

2. Recognition Server

The software server package is loaded on a personal computer system, with connection to the client system via a LAN. The speech recognition process that runs on the personal computer system under the Windows operating system is often referred to as the Speech Recognition Engine. A set of sample vocabularies (grammars) is provided with the product in each language to facilitate basic application development.

3. The toolkit component, which allows the application developer to create the grammars to perform the recognition in a particular language. The grammars can be created in the following supported languages: U.S. and U.K. English, French, and German.

Client-Server Operation: A caller requests the desired service by dialling a specific telephone number, which is routed through the client DirectTalk for Windows system through the telephony facilities. Application software residing in DirectTalk for Windows provides the necessary customer prompts, call control, and call processing logic. When speech recognition functions are required, the client communicates with the recognition server system over the LAN, initiating actions to request services from the DirectTalk Speech Recognition for Windows recognition engine installed with the application’s grammar files. Results of recognition analysis are then passed back to the application.

For additional information, refer to the softcopy DirectTalk for Windows product manuals.

Summary of Possible Configurations: The DirectTalk Speech Recognition for Windows run-time processes operate as servers to the DirectTalk for Windows clients. There are a number of possible configurations that may be implemented:

- A single system running the DirectTalk Speech Recognition for Windows and the DirectTalk for Windows client. This is only suitable for a small installation or demonstration system of up to four lines.
- One system running the Speech Recognition Run Time server and a second system running DirectTalk for Windows, connected via a LAN.
- Two or more systems running as DirectTalk Speech Recognition for Windows servers, connected to a single system running DirectTalk for Windows client. (This is the most usual scenario, since it allows enough speech recognition resources to handle all channels on a DirectTalk system.)
- Two or more systems running as DirectTalk Speech Recognition for Windows servers. These are LAN-connected to two or more systems running DirectTalk for Windows. This configuration allows more callers to be handled at once. It also provides greater redundancy, enabling continued service if one system fails.

DirectTalk Speech Recognition for Windows:

- Defines up to 64,000 words
- Allows vocabularies to be loaded as required, and are almost unlimited in number

- Provides a toolkit to aid developers, and facilitate definition of the vocabularies

Customer Responsibilities

Direct Customer Support: Direct customer support is provided by PS Support Line. This fee service enhances customers’ productivity by providing voice and electronic access into the IBM support organization. PS Support Line will help answer questions pertaining to usage, and suspected software defects for eligible products. Installation and technical support is provided by Global Services. For more information, call 888-SUPPORT (888-787-7678).

Packaging: Customers will receive:

- CD-ROM containing the Recognition Server product code. (The client product code and softcopy publications are shipped as part of DirectTalk for Windows.)
- License Information
- Proof of Entitlement

Security, Auditable, and Control

This program uses the security and auditability features of the personal computer system and the Microsoft Windows operating system.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering Information

DirectTalk Speech Recognition for Windows is ordered in two vocabulary sizes: Entry/small vocabulary providing up to 5,000 words, and Large Vocabulary for greater than 5,000 words. There is no upgrade path from small to large vocabulary.

Each vocabulary has its own server install and is shipped on a CD-ROM.

Ordering Information for DirectTalk Speech Recognition for Windows

Ordering Example 1: A customer requiring 18 channels of DirectTalk Speech Recognition for Windows using the Entry Level Vocabulary on one system would order:

- Under Program Number 5639-L85
  - Quantity 1 of the one-time charge (OTC) feature number for Per Server Install for the Entry Level Vocabulary
  - Media feature number 5809
  - Asset Registration feature number 9001
  - Quantity 18 of the feature number for the 10 to 49 tier for the Entry Level Vocabulary

Ordering Example 2: A customer requiring 24 channels of DirectTalk Speech Recognition for Windows using the Large Vocabulary on each of three systems would order:

- Under Program Number 5639-L85
  - Quantity 3 of the OTC feature number for Per Server Install for the Large Vocabulary
- Media feature number 5819
- Quantity 3 Asset Registration feature number 9001
- Quantity 72 of the feature number for the 50 to 99 tier for the Large Vocabulary

<table>
<thead>
<tr>
<th>Order Type</th>
<th>Program Number</th>
<th>OTC Feature Number</th>
<th>Medium</th>
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<tr>
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<td>5809</td>
<td>CD-ROM</td>
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<td>Vocabulary</td>
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<tr>
<td>Per Server Install</td>
<td>0001</td>
<td>PoE</td>
<td></td>
</tr>
<tr>
<td>1 to 9 Channels</td>
<td>0002</td>
<td>PoE</td>
<td></td>
</tr>
<tr>
<td>10 to 49 Channels</td>
<td>0003</td>
<td>PoE</td>
<td></td>
</tr>
<tr>
<td>50 to 99 Channels</td>
<td>0004</td>
<td>PoE</td>
<td></td>
</tr>
<tr>
<td>100 to 249 Channels</td>
<td>0005</td>
<td>PoE</td>
<td></td>
</tr>
<tr>
<td>250+ Channels</td>
<td>0006</td>
<td>PoE</td>
<td></td>
</tr>
<tr>
<td>250 Channels Pack</td>
<td>0007</td>
<td>PoE</td>
<td></td>
</tr>
</tbody>
</table>

| Large Vocabulary   | 5639-L85       | 5819               | CD-ROM   |
|                    |                |                    |          |
| Per Server Install | 0008           | PoE                |          |
| 1 to 9 Channels    | 0009           | PoE                |          |
| 10 to 49 Channels  | 0010           | PoE                |          |
| 50 to 99 Channels  | 0011           | PoE                |          |
| 100 to 249 Channels| 0012           | PoE                |          |
| 250+ Channels      | 0013           | PoE                |          |
| 250 Channels Pack  | 0014           | PoE                |          |

**Maintenance and Support:** To obtain maintenance and support, order under program number 5648-C64. Maintenance and support must be equivalent to the product licenses ordered, and must be ordered at the same time as the product order. Maintenance must be purchased for the complete system including DirectTalk for Windows.

**Ordering Information for Re-branded Product (DirectTalk for Windows) Version 3.0**

<table>
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<tr>
<th>Description</th>
<th>Program Number</th>
<th>OTC Feature Number</th>
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<td>Per Server</td>
<td>5639-F59</td>
<td>1500</td>
<td>5809 CD-ROM</td>
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<td>UA 1 to 9 Lines</td>
<td>5639-F59</td>
<td>1502</td>
<td>5845 Diskette</td>
</tr>
<tr>
<td>UA 10 to 49 Lines</td>
<td>5639-F59</td>
<td>1503</td>
<td>5845 Diskette</td>
</tr>
<tr>
<td>UA 50 to 99 Lines</td>
<td>5639-F59</td>
<td>1504</td>
<td>5845 Diskette</td>
</tr>
<tr>
<td>UA 100 to 249 Lines</td>
<td>5639-F59</td>
<td>1505</td>
<td>5845 Diskette</td>
</tr>
<tr>
<td>UA above 250 Lines</td>
<td>5639-F59</td>
<td>1506</td>
<td>5845 Diskette</td>
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<tr>
<td>UA 250 Line Use Pack</td>
<td>5639-F59</td>
<td>1507</td>
<td>5845 Diskette</td>
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<tr>
<td>TTS Support</td>
<td>5639-F59</td>
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<td>VR Support</td>
<td>5639-F59</td>
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<td>Communication Feature</td>
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<td>TDD Feature</td>
<td>5639-F59</td>
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<td>5835 Diskette</td>
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<tr>
<td>ADSI Feature</td>
<td>5639-F59</td>
<td>1518</td>
<td>5815 Diskette</td>
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</table>

**Maintenance and Support (5648-C64) for DirectTalk for Windows:** To obtain maintenance and support, order under program number 5648-C64. Maintenance and support must be equivalent to the product licenses ordered, and must be ordered at the same time as the product order.

**DirectTalk for Windows**

**Ordering Information for Re-branded Product (DirectTalk for Windows) Version 3.0**

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<tr>
<td>1 to 9 Lines</td>
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<td>1113 1114</td>
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<td>10 to 49 Lines</td>
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<td>1115 1116</td>
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<tr>
<td>UA 50 to 99 Lines</td>
<td></td>
<td>1117 1118</td>
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<td>UA 100 to 249 Lines</td>
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<td>1119 1120</td>
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<tr>
<td>UA Above 250 Lines</td>
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<td>1121 1122</td>
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<tr>
<td>Lines</td>
<td></td>
<td>1123 1124</td>
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<tr>
<td>UA 250 Line Use Pack</td>
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<td>1131 1132</td>
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<td>TTS Support</td>
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<td>VR Support</td>
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<tr>
<td>Communications Feature</td>
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<td>1129 1130</td>
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<td>1125 1126</td>
</tr>
<tr>
<td>ADSI Feature</td>
<td></td>
<td>1129 1130</td>
</tr>
</tbody>
</table>

**Migration from CP DT/2 Version 2.x to DirectTalk for Windows:** Customers who want to migrate from CallPath DirectTalk/2® Version 2.x to DirectTalk for Windows, need to order a migration feature for the number of lines and each feature installed in the CallPath DirectTalk/2 system.

For example, a customer who has CallPath DirectTalk/2, with 48 lines of telephony and the TTS option installed, needs to order:

- One DirectTalk for Windows, Version 3.0 Migration from CallPath DirectTalk/2 feature
- The DirectTalk TTS Support migration feature
- 48 of the 10 to 49 UA Lines Migration feature

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Upgrade from ViaVoice PRPQ (5799-RHK): For information, contact your local IBM marketing organization.
Customers who want to order maintenance and support for the migration features need to specify 5648-C64, feature number 9001 for asset registration, and the appropriate support feature number for the DirectTalk for Windows features installed.

**DirectTalk for Windows**

<table>
<thead>
<tr>
<th>Description</th>
<th>Program Number</th>
<th>OTC Feature Number</th>
<th>Media Feature Number</th>
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<tr>
<td>Version 3.0</td>
<td>5639-F59</td>
<td>1508</td>
<td>5809</td>
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<tr>
<td>Migration from CallPath DirectTalk/2</td>
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<tr>
<td>UA 1 to 9 Lines Migration</td>
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<td>1510</td>
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<td>UA 10 to 49 Lines Migration</td>
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<td>UA 50 to 99 Lines Migration</td>
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<tr>
<td>ADSI Feature Migration</td>
<td>5639-F59</td>
<td>1519</td>
<td>5815</td>
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</tbody>
</table>

**Customization Options:** Select the appropriate feature numbers to customize your order with delivery options desired. These features can be specified on the initial or MES orders.

**Description**

**Feature Number**

**Initial Shipments**

- Serial Number Only
  - (suppresses shipment of media)
  - 3444
- Ship Media Only
  - (suppresses initial shipment of media)
  - 3470

**Update Shipments**

- Ship Media Updates Only
  - 3480
- Suppress Updates
  - (suppresses update shipment of media)
  - 3482

**Expedite Shipments**

- Local IBM Office Expedite
  - (for IBM use only)
  - 3445
- Customer Expedite Process Charge
  - (30 USD charge for each product)
  - 3446

Expedite shipments will be processed to receive 72-hour delivery from the time IBM Software Delivery and Fulfillment (SDF) receives the order. SDF will then ship the order via overnight air transportation.

**Terms and Conditions**

**Licensing:** IBM International Program License Agreement. Proofs of Entitlement (PoE) are required for all authorized use.

**Limited Warranty Applies:** Yes

**Program Services:** Available until January 31, 2002

**Money-Back Guarantee:** Two-month, money-back guarantee

**Copy and Use on Home/Portable Computer:** No

**Volume Orders (IVO):** No

**Passport Advantage Applies:** No

**Passport Advantage Subscription Applies:** No

**Support Line:** No

**AIX®/UNIX® Upgrade Protection Applies:** No

**Entitled Upgrade for Current AIX/UNIX Upgrade Protection Licensees:** No

**AS/400® Software Subscription Applies:** No

**Variable Charges Apply:** No

**Educational Allowance Available:** Education allowance does not apply.

**Charges**

**DirectTalk Speech Recognition for Windows**

<table>
<thead>
<tr>
<th>Description</th>
<th>OTC</th>
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<tbody>
<tr>
<td>Program Number 5639-L85</td>
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</table>

**Entry-level Vocabulary**

- Per Server Install
  - $200
  - 1 to 9 Channels
    - 2,000
  - 10 to 49 Channels
    - 1,900
  - 50 to 99 Channels
    - 1,800
  - 100 to 249 Channels
    - 1,700
  - 250+ Channels
    - 1,600
  - 250 Channels Pack
    - 400,000

**Large Vocabulary**

- Per Server Install
  - 200
  - 1 to 9 Channels
    - 3,500
  - 10 to 49 Channels
    - 3,325
  - 50 to 99 Channels
    - 3,150
  - 100 to 249 Channels
    - 2,975
  - 250+ Channels
    - 2,800
  - 250 Channels Pack
    - 700,000
### Maintenance and Support

**Order under Program Number 5648-C64**

<table>
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**Program Number 5639-L85**

#### Entry-level Vocabulary

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<th>1 to 9 Channels</th>
<th>10 to 49 Channels</th>
<th>50 to 99 Channels</th>
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#### Large Vocabulary

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<th>1 to 9 Channels</th>
<th>10 to 49 Channels</th>
<th>50 to 99 Channels</th>
<th>100 to 249 Channels</th>
<th>250+ Channels</th>
<th>250 Channels Pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>$36</td>
<td>$630</td>
<td>$598</td>
<td>$567</td>
<td>$535</td>
<td>$504</td>
<td>$126,000</td>
</tr>
<tr>
<td></td>
<td>$735</td>
<td>$698</td>
<td>$661</td>
<td>$625</td>
<td>$588</td>
<td>$147,000</td>
</tr>
</tbody>
</table>

**DirectTalk for Windows:** For a list of charges for DirectTalk for Windows (Corepoint Voice Response for Windows), refer to Software Announcement 299-111, dated May 11, 1999.

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