

IBM VoiceType Dictation Adapters and Microphone

The VoiceType™ Dictation Adapters work in conjunction with the VoiceType Dictation application software to provide speech-to-text function. The adapters provide computational and memory-efficient speech processing to decode discrete speech into text. The VoiceType Dictation system allows you to use your voice to enter dictation and control Windows† Program Manager, OS/2® 2.1 Workplace Shell®, and other applications.

Three versions of the VoiceType Dictation Adapter support the wide range of PC slots:

- PCMCIA
- ISA
- Micro Channel®

The adapters provide plugs for attachment of audio devices, such as microphones and loudspeakers.

The VoiceType Dictation Microphone is a vendor product that IBM qualified as compatible with the VoiceType Dictation adapters and software. The microphone accommodates customers who want an additional or alternative microphone.

To use your existing OS/2 or Windows applications with VoiceType Dictation and the optional VoiceType Dictation Vocabularies, simply issue commands or move dictated text to your programs. For additional information on the VoiceType Dictation software and a list of supported applications, refer to the following Software Announcements, dated November 8, 1994:

- 294-700, VoiceType Dictation for OS/2 Version 1.1
- 294-702, VoiceType Dictation for Windows Version 1.1
- 294-706, VoiceType Vocabularies for Dictation for OS/2 and Windows Version 1.1

Purchase Price:

VoiceType Dictation PCMCIA Adapter	\$649
VoiceType Dictation ISA Adapter	499
VoiceType Dictation Micro Channel Adapter	649
Microphone	129

Availability Date: November 8, 1994

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† Trademark of Microsoft Corporation

® Registered trademark of International Business Machines Corporation

IN BRIEF . . .

With the VoiceType Dictation Adapters and Microphone and the VoiceType Dictation software, you can:

- ◆ Increase productivity
 - Eliminate typing
 - Use proven IBM technology
 - Work where you want
- ◆ Capture precisely what you say
 - Convert speech to text
 - Improve accuracy
- ◆ Work the way you think
 - Maintain your train of thought
 - Create text as you work
- ◆ Let the system work for you
 - Enter text and commands through speech
 - Use existing OS/2 or Windows applications with VoiceType Dictation and the optional VoiceType Dictation Vocabularies by issuing commands or moving dictated text to your programs

Description

Large vocabulary speech recognition requires considerable computation and memory. For example, for every word dictated, the system must consider a very large number of possible words in the active vocabulary. To do this, the system must have immediate access to the acoustic models for all words and all parameters that characterize the speaker's voice. Consequently, the VoiceType Dictation Adapters are uniquely designed for computational and memory-efficient speech processing that otherwise would be handled by the main processor in the PC. With memory for speech processing, the adapters enable highly accurate, real-time speech recognition to operate on PCs with 486 processors at speeds as slow as 25MHz.

To support the intense, computational aspects of speech recognition, the VoiceType Dictation Adapters incorporate a digital signal processor (DSP). The DSP is rated at 25 MIPS with a 16-bit wide, external memory data path, a 16 x 16 multiplier, and a 32-bit arithmetic logic unit (ALU). Data transfers, multiplication, and ALU operations are independent and all can be active during every instruction cycle. In addition to the DSP, special processing hardware is included on the adapter to handle arithmetic intensive operations.

The VoiceType Dictation Adapters also include separate instruction and data memories. The adapters have static RAM and over 1MB of dynamic RAM directly addressed by the DSP. A parallel interface bus provides the processor with high bandwidth access to memory without affecting DSP computation.

The VoiceType ISA Adapter, the VoiceType Micro Channel Adapter, and the external jack box of the VoiceType PCMCIA Adapter provide the following analog audio interfaces:

- Line Input

The line input is designed to accept a 3.5 mm mini monaural or stereo jack. An external pre-amplified microphone or output from an audio player device can be connected to this jack. The line-in input is rated at 700 mVrms and has a 20 KOhm input impedance.

- Microphone Input

The signal from the external microphone is pre-amplified before being passed to the adapter card. A phantom power of 2.5 V is also provided from the microphone jack, allowing use of pre-amplified microphones that are not self powered. The microphone input plug is designed to accept a 3.5 mm mini monaural or stereo jack.

- Audio Analog Output

This output can be connected to a headphone or a line-level device. The output is designed to accept a 3.5 mm mini monaural or stereo jack. An amplified loudspeaker can be connected to the output. Satisfactory results can be obtained using economical speakers, such as the Radio Shack** 32-2040 Compact One-Watt Speaker/Amplifier.

- Sense Input

This input is intended for sensing the position of an external switch, for example, a microphone with remote control.

The VoiceType Dictation software does not currently support the sense input audio interfaces found on the VoiceType Dictation Adapters.

The VoiceType Adapters have FCC Class B certification.

The microphone requires some assembly by the customer. Instructions are provided. An audio loudspeaker is optional, but strongly recommended when using this microphone.

Product Positioning

By providing three adapter cards, the widest range of PCs are supported by the VoiceType Dictation application software. The VoiceType Dictation PCMCIA Adapter represents a significant technological achievement of packaging to facilitate speech recognition by mobile workers. The PCMCIA adapter now lets you take speech recognition with you. The PCMCIA adapter is also useful for smaller form-factor desktop PCs that use PCMCIA slots instead of traditional ISA or Micro Channel card slots. The ISA and Micro Channel versions of the VoiceType Dictation Adapter are useful in desktop or desk-side PCs.

For audio feedback, the microphone requires a separate speaker. The microphone is qualified for use with the VoiceType Dictation products.

Other manufacturers' microphones may not give the same results. Additionally, unqualified microphones may affect speech recognition accuracy. For additional information regarding microphone selection, refer to the Planning Information section of the following IBM VoiceType Dictation software announcements:

- 294-700, dated November 8, 1994 (for OS/2)
- 294-702, dated November 8, 1994 (for Windows)

Publications

The *IBM VoiceType Dictation Fact Sheet* (G221-3915) is available from IBM. To order, contact your IBM representative or call 800-879-2755.

The following publications are available. To order, contact your IBM representative.

Title	Order Number
VoiceType Dictation Hardware Maintenance Manual	S83G-8275
VoiceType Dictation Option Diskette	S83G-8276

The System Library Subscription Service (SLSS) is available. Customers currently subscribing to SLSS will receive publication updates automatically.

Technical Information

Specified Operating Environment

Physical Specifications:

- ISA Adapter
 - Width: 17 mm (0.7 inches)
 - Depth: 176 mm (6.9 inches)
 - Height: 100 mm (3.9 inches)
 - Weight: 0.12 kg (0.3 pounds)
- Micro Channel

- Width: 16 mm (0.6 inches)
- Depth: 174 mm (6.8 inches)
- Height: 88 mm (3.5 inches)
- Weight: 0.12 kg (0.3 pounds)
- PCMCIA Type II
 - Length: 85.6 mm (3.37 inches)
 - Width: 54.0 mm (2.13 inches)
 - Interconnect: 1.65 mm (0.07 inches)
 - Substrate: 2.50 mm (0.09 inches)
- Interconnect area and substrate area thickness are specified from the PC Card center line to either the top or bottom surface.
- Physical characteristics of the external jack box are:
 - Length: 112 mm
 - Height: 27 mm
 - Width: 25 mm
 - Weight: 80 gr
- VoiceType Dictation Adapters have FCC Class B certification.

Operating Environment:

- ISA and Micro Channel:
 - Temperature: 10° to 40°C (50° to 104°F)
 - Relative Humidity: 8% to 80%
 - Wet Bulb: 27°C (80.6°F)
- PCMCIA:
 - Ambient Temperature: 0° to 55°C
 - Relative Humidity: 95% Maximum (Non-condensing)

Hardware Requirements: The VoiceType Dictation Adapter requires either an available:

- PCMCIA Type II slot for the VoiceType Dictation PCMCIA Adapter, or
- ISA expansion slot for the VoiceType Dictation ISA Adapter, or
- An available Micro Channel expansion slot for the VoiceType Dictation Micro Channel Adapter

Also required are a microphone, loudspeaker (optional, but recommended), and cables compatible with the audio subsystem.

For additional information regarding hardware requirements, refer to the following VoiceType Dictation Software Announcements:

- 294-706, dated November 8, 1994 (for Vocabularies)
- 294-700, dated November 8, 1994 (for OS/2)
- 294-702, dated November 8, 1994 (for Windows)

Software Requirements: The VoiceType Dictation Adapters require either VoiceType Dictation for OS/2 Version 1.1 or VoiceType Dictation for Windows Version 1.1.

The VoiceType PCMCIA Adapter requires card and socket services, such as those included in DOS 6.1, which meet the Personal Computer Memory Card International Association 2.0X standard. PCMCIA device drivers may be required from the manufacturer when using non-IBM systems.

Compatibility: The VoiceType Adapters are compatible with a wide range of 80486 PCs (IBM and non-IBM) that include the appropriate compliant slots.

The VoiceType ISA Adapter has been tested with the VoiceType Dictation Version 1.1 and is compatible with the following systems:

- IBM ValuePoint™
 - 6384
 - 6492-X4F
 - P60D
- Docking Stations for ThinkPad® systems
 - 360C
 - 755C

The VoiceType Micro Channel Adapter has been tested with the VoiceType Dictation Version 1.1 and is compatible with the following systems:

- IBM PS/2®
 - 8590
 - 8595
 - 9577
 - 9595 (486DX2-33/66 and Pentium**)

The VoiceType PCMCIA Adapter is compatible with various 80486 PCs (IBM and non-IBM) with Type II or Type III PCMCIA Release 2.0 compliant slots, and Card and Socket Services Version 2.0 or 2.01. The VoiceType PCMCIA Adapter has been tested with the VoiceType Dictation Version 1.1 and is compatible with the following systems:

- ValuePoint
 - 6384
- ThinkPad
 - 360
 - 720
 - 750C
 - 750P
 - 755CS
- Toshiba
 - T4700C
- AST
 - 4/33SL
- NEC VERSA
 - UV-50-4-34

The microphone has been tested and is compatible for use with the VoiceType Dictation Adapters and VoiceType Dictation application software.

The microphone is designed to capture your voice at close range and reject background noise. Excessive background noise can effect speech recognition accuracy.

Limitations: The VoiceType Dictation software does not currently support the sense input audio interfaces on the VoiceType Dictation Adapters.

The VoiceType Dictation PCMCIA Adapter can be "hot plugged" into or out of a PCMCIA slot when the VoiceType Dictation application software is not active. The adapter must be present to start the VoiceType Dictation application software.

The ThinkPad 750C is supported by the VoiceType Dictation PCMCIA Adapter, but not by the VoiceType Dictation ISA Adapter or Micro Channel Adapter.

Planning Information

Cable Orders: The optional loudspeaker requires an audio cable to attach the speaker to the adapter. The cable should be purchased with the loudspeaker. The jack on the audio cable that connects to the audio output of the adapter must be a 3.5 mm jack (monaural or stereo).

Packaging: One box

Shipment Group

- VoiceType Dictation PCMCIA Adapter
 - PCMCIA Card Assembly
 - External Jack Box
 - Diagnostics/Publication
- VoiceType Dictation ISA Adapter
 - ISA Card Assembly
 - Publication
 - Option/Diagnostic Diskette
- VoiceType Dictation Micro Channel Adapter
 - Micro Channel Card Assembly
 - Publication
 - Option/Diagnostic Diskette
- VoiceType Dictation Microphone
 - Microphone
 - Assembly Instructions
 - Warranty Card

The dimensions of the external shipping package for the VoiceType Dictation Adapters are:

- ISA and Micro Channel Adapters: 225 x 152 x 38 mm (box carton)
- PCMCIA Adapter: 230 x 190 x 30 mm (transparent, plastic blister pac)

Security, Auditability, and Control

User management is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

Terms and Conditions

Feature Section

Field Installable Feature: Yes

Warranty Period:

IBM VoiceType Adapters: One year

Microphone: The microphone is warranted by the microphone manufacturer and not warranted by IBM. The manufacturer has provided the following information to IBM. The microphone warranty is one year to the end user from the manufacturer.

Customer Setup: Yes

All other terms and conditions are the same as those applicable to the IBM machine type in which the feature is installed.

Charges

Machine Type: 8550-ZZZ

Description	Part Number	Feature Number	Purchase Price
VoiceType Dictation PCMCIA Adapter	89G2854	7931	\$649
VoiceType Dictation ISA Adapter	89G3000	3850	499
VoiceType Dictation Micro Channel Adapter	89G3004	3851	649
Microphone	61G1268	3893	129

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