## PlainTalk Microphone: Specifications (8/95)

Article Created: 18 July 1994
Article Reviewed/Updated: 30 August 1995

TOPIC --------------------------------------------------------------

This article provides specifications of the PlainTalk Microphone (M9060Z/A). All specifications provided are for informational purposes only. Actual specifications may vary from those provided.

DISCUSSION ---------------------------------------------------------

Description
-----------
Apple PlainTalk Microphone - Unidirectional pickup pattern, electret microphone element.

Output
------
Typical voiced speech will develop 100 - 200 mVpp output. Peak could reach 1 - 2 Vpp.

Sensitivity
-----------
-9.5dbV + or - 5db at 1.0 KHz relative to 1.0 Volt/Pa

Directional Characteristics at 1 KHz
------------------------------------
at 90 degrees - output diminished by at least 4db
at 180 degrees - output diminished by at least 10db

Distortion
----------
Less than 1% THD from 200 to 7000 HZ

Signal to noise
---------------
56db (minimum)

Maximum Sound Input
-------------------
110 dB SPL (1% Distortion @ 1 KHz)

## Signal Level

There are different audio signal levels that microphones produce; mic level,
line level, and professional line level. The PlainTalk Microphone produces a
line level signal. Most microphones produce mic level output, including the
Omni-Directional Microphone used in some Macintosh computers. Mic level is lower
then line level, and line level is lower then a professional line level.

Prior to the introduction of the PlainTalk Microphone, the Omni-Directional
Microphone that produced a mic level output was used with Macintosh computers.
The Omni-Directional Microphone should not be used with Macintosh computers
requiring the PlainTalk Microphone. If a microphone that outputs a mic level is
used with a Macintosh that requires a PlainTalk Mic the signal produced from the
microphone is too low and results in noise and distortion. However, a mic level
microphone could be used if a microphone preamp is used. The microphone preamp
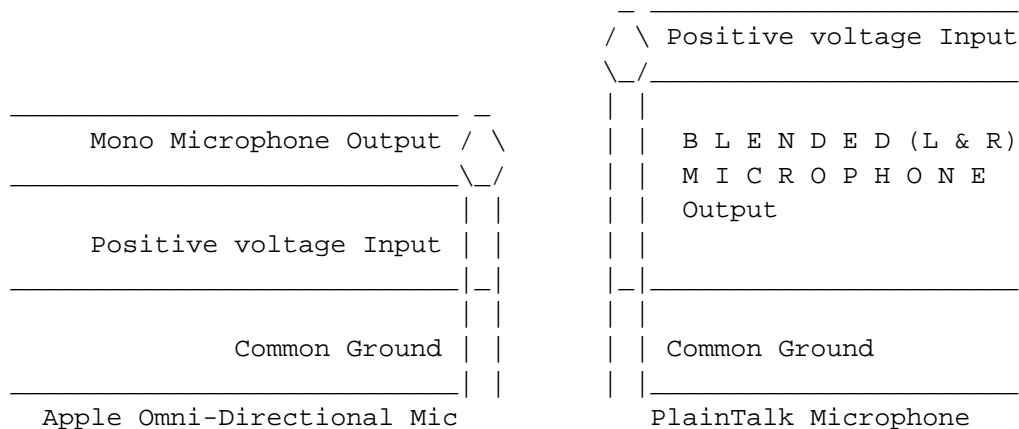boosts the mic level to a line level.

## Microphone Connector Design

A standard 3.5 mm mini-plug may be used as the microphone/sound input plug.

The layout of how signals connect to the two different microphones are
different. Both of these microphones require a voltage input to drive the
electret microphone elements in them. However, the voltage is supplied at
different connection points.

The PlainTalk microphone also outputs sound to both the left and right
connectors internal to the Macintosh microphone jack.

When using a third party microphone a standard 3.5 mm mini-plug may be used as
the input plug. The added length of the Apple PlainTalk Microphone jack connects
the jack to a power source for the amplification.

```
                                              _ _____
                                             / \ Positive voltage Input
                                             \_/_____
                                             | |
   _____ _             | |
        Mono Microphone Output / \           | |   B L E N D E D (L & R)
   _____/             | |   M I C R O P H O N E
                               | |            | |   Output
      Positive voltage Input  | |            | |
   _____|_|            |_|_____
                               | |            | |
             Common Ground     | |            | | Common Ground
   _____| |            | |_____
       Apple Omni-Directional Mic               PlainTalk Microphone
```

Article Change History:
30 Aug 1995 - Corrected measurement of microphone port.
19 Jan 1995 - Made article public.

Support Information Services

Keywords:  specsht

=================================================================

This information is from the Apple Technical Information Library.

19960215 11:05:19.00
Tech Info Library Article Number:  15884