

Technical Note TN2223

Moving Off Deprecated HAL APIs

This Technical Note discusses transitioning to the newer `AudioDevice` and `AudioObject` APIs available since the release of Mac OS X 10.5.

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Introduction

The `AudioHardware.h` header file contains APIs used to work with the audio HAL. The audio HAL provides the abstraction through which applications can access audio hardware. There are a set of HAL APIs which have been deprecated since the release of Mac OS X 10.5 and should no longer be used.

There are two types of deprecated APIs. The first type are the `AudioDeviceIOProc` registration calls, these include `AudioDeviceAddIOProc` and `AudioDeviceRemoveIOProc`. The second type are the property accessors such as `AudioHardwareGetProperty`, `AudioDeviceSetProperty` and related APIs.

Transitioning to the newer APIs is straight forward and recommended for all applications currently using the older deprecated APIs.

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IOProc Registration Changes

The `AudioDeviceIOProc` registration change introduces the `AudioDeviceIOProcID` type and remaps `AudioDeviceAddIOProc` and `AudioDeviceRemoveIOProc` to `AudioDeviceCreateIOProcID` and `AudioDeviceDestroyIOProcID` respectively.

An `AudioDeviceIOProcID` represents both an `IOProc` and the client data that goes with it. Once created, an `AudioDeviceIOProcID` can be used everywhere one would use a regular `IOProc`. The purpose for an `AudioDeviceIOProcID` is to allow a client to register the same function pointer as an `IOProc` with a device multiple times (as long as the user client data pointer is different each time).

When using these new registration APIs, you pass the `AudioDeviceIOProcID` returned from `AudioDeviceCreateIOProcID` to `AudioDeviceStart` and `AudioDeviceStop` rather than the `IOProc` itself.