Q: I am porting my sound driver program from Release 2 to 3.   But the kernel header file **snd_msgs.h** is no longer available in Release 3.   What can I do to get a handle on the error codes returned by the SNDDRIVER functions?

A: You can include the following code in your program to provide for error handling:

```
#import <sound/sounderror.h>       /* for SNDSoundError() */

#ifndef SNDDRIVER_NO_ERROR
#define SNDDRIVER_NO_ERROR              100         // non-error ack.
#define SNDDRIVER_BAD_PORT             101         // message sent to wrong port
#define SNDDRIVER_BAD_MSG 102         // unknown message id
#define SNDDRIVER_BAD_PARM             103         // bad parameter list in message
#define SNDDRIVER_NO_MEMORY           104         // can't allocate memory (record)
#define SNDDRIVER_PORT_BUSY            105         // access req'd to existing excl access port
#define SNDDRIVER_NOT_OWNER           106         // must be owner to do this
#define SNDDRIVER_BAD_CHAN            107         // dsp channel hasn't been inited
#define SNDDRIVER_SEARCH   108         // couldn't find requested resource
#define SNDDRIVER_NODATA   109         // can't send data commands to dsp in this mode
#define SNDDRIVER_NOPAGER 110         // can't allocate from external pager (record).
#define SNDDRIVER_NOTALIGNED           111         // bad data alignment.
#define SNDDRIVER_BAD_HOST_PRIV 112              // bad host privilege port passed.
#define SNDDRIVER_BAD_PROTO           113         // can't do requested operation in cur protocol
#define SNDDRIVER_MAX_ERROR          113
#endif
```

```c
static char *snddriver_error_list[] = {
            "sound success",
            "sound message sent to wrong port",
            "unknown sound message id",
            "bad parameter list in sound message",
            "can't allocate memory for recording",
            "sound service in use",
            "sound service requires ownership",
            "DSP channel not initialized",
            "can't find requested sound resource",
            "bad DSP mode for sending data commands",
            "external pager support not implemented",
            "sound data not properly aligned",
            "bad host provilege port passed",
            "can't do requested operation in extant DSP protocol"
};

/*
 * Error code to string conversion
 */
extern char *mach_error_string();
char *snddriver_error_string(int error)
{
  if (error <= 0)
    return mach_error_string(error);
```

```
  else if (error >= SNDDRIVER_NO_ERROR && error <= SNDDRIVER_MAX_ERROR)
    return snddriver_error_list[error-SNDDRIVER_NO_ERROR];
  else
    return SNDSoundError(error);
}

void snddriver_error(char *msg,int error)
{
  char *errtype;
  if (error <= 0)
    errtype = "mach";
  else if (error >= SNDDRIVER_NO_ERROR && error <= SNDDRIVER_MAX_ERROR)
    errtype = "snddriver";
  else
    errtype = "sound";
  fprintf(stderr,"%s\n\t%s error:%s\n",msg,errtype,snddriver_error_string(error));
}
```

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Valid for 3.0, 3.1