PLAYSTATION TECHNICAL NOTE
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Date: August, 1996
Ref:
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Subject: Bug Fix: Instructions when Switching CD Subsystem Motor
             Rotation Speed

ABSTRACT

It turns out that special instructions need to be followed upon
switching PlayStation CD subsystem rotation speeds (standard/double).
Please make sure to follow these instructions since this problem has a
great possibility to become one of the worst field complaints.

SYMPTOM AND REMEDY

Symptom: Issuing CD head move commands (CdlSeekL/P, CdlReadS/N)
immediately after switching the CD transfer speed may result in head
runaway and the production of strange noise.

This symptom occurs because there is a brief time where the head cannot
be controlled properly after switching the transfer speed during the CD
subsystem operation.

If a command related to CD head movement is issued during this time, at
worst, the head goes into runaway and comes into collision with the
mechanical stopper. When this symptom arises, the head control
mechanism will be recovered by the CD subsystem and the program will
not be terminated. When the head comes into collision with the stopper,
the safety mechanism will be activated, and the parts will not be
damaged. However, a strange noise will be produced upon starting the
safety mechanism, and this may be reported as a field complaint.

Currently available CD head move functions/commands are as follows:

        CdRead (int sectors, u_long *buf, int mode)
        CdRead2 (long mode)
        CdSearchFile (CdlFILE *fp, char *name)
        CdReadFile (char *file, u_long *addr, int nbyte)
        CdReadExec (char *file)
        CdPlay (int mode, int *tracks, int offset)
        CdlSeekP, CdlSeekL, CdlReadS, CdlReadN, CdlPlay

When calling/issuing the above functions/commands after switching the
rotation speed, make sure to follow the instructions below to avoid
field complaints.

Remedy: Allow more than 3 vsync spacings to occur before issuing a CD
head movement command after switching the CD transfer speed.