



A Philips/PolyGram Corporation

AIM Technical Note #55

CD-RTOS: Status of Problems Reported by AIM

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July 5, 1990

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The following is a status report on problems in CD-RTOS that were reported by AIM.

The terms defined below are used in specifying the status of a problem and for indicating a specific class of players.

<i>CD-RTOS ISSUE</i>	Indicates that the problem is a deviation from the Green Book specification and will be addressed in CD-RTOS drivers and/or managers.
<i>GREEN BOOK ISSUE</i>	Indicates that the Green Book specification will be updated to resolve this problem.
<i>PRODUCT ISSUE</i>	Indicates that this problem is not covered by the Green Book, but is an issue related to Philips' player design.
<i>18x PLAYERS</i>	The two or three-unit players currently in the field.
<i>60x PLAYERS</i>	The professional series of players scheduled to come out at the end of 1990.
<i>20x PLAYERS</i>	The first Philips consumer players.

Until CD-RTOS 1.1 is officially released, AIM will receive pre-release versions of the CD and AP drivers (known as **cdapdriv**). The current version is of these drivers is **Edition 4 (rev 3)**. AIM will distribute these drivers to select users for testing purposes.

CD-RTOS 1.1 will have numerous bug fixes and improved memory allocation behavior. It will include modifications to accommodate recent Green Book changes. It is scheduled for release in August, 1990, and will be installed in the 18x players.

The following is the status of specific problems reported by AIM. These problems are listed by number for identification and tracking.

AB208 (FR17)—System hangs without a terminal. Unless a terminal or loop-back connector is connected to the player, any output to **stdout**, **stderr**, or **stdin** in the application hangs the system.

***PRODUCT ISSUE.** This probably will not be changed in the 18x players. In the 60x professional series and 20x consumer series players, an error will be returned every time the SCF driver is accessed when there is no terminal attached to the serial port.*

VVVVV

AB210 (FR19)—Inappropriate error message. When there is no floppy disk in the drive and CD-RTOS is selected, the message **System Failure** is displayed.

***PRODUCT ISSUE.** This will not be fixed in the 18x players. Subsequent players will have a different player shell that should eliminate this problem.*

VVVVV

AB212 (FR?)—Poor CVBS (composite) video quality. When NTSC composite video is shown on a television with a comb filter, unacceptable artifacts are produced.

VVVVV

***PRODUCT ISSUE.** This will not be fixed in the 18x players. An engineering design change is proposed and is currently in test. We hope the change will be incorporated in the 60x series and definitely be in the 20x series.*

VVVVV

AB215 (FR30)—GC_Org not properly initialized. GC_org is not always initialized to the 0,0 coordinates when the application starts.

***GREEN BOOK ISSUE.** The FFGB will be amended to state that the application must initialize all parameters such as GC_Org.*

VVVVV

AB216 (FR31)—Application loaded in the middle of plane B. In the ROMS dated December 8, the application launched from the player shell is placed in the middle of memory in Plane B.

***GREEN BOOK ISSUE.** The FFGB will be modified to require that when the application is launched, Plane B will be free of allocations other than the 32k of system usage. This implies that the application will be loaded at the top of Plane B. CD-RTOS version 1.1 will reflect this change.*

VVVVV

AB218 (FR27)—SCSI loses data. Product issue. A race condition was found in the SCSI driver.

A fix was suggested by AIM and implemented in the December 8 CD-RTOS release.

VVVVV

AB219 (FR26)—Disc descriptor does not accommodate 512 byte sectors.

PRODUCT ISSUE. New descriptors will be supplied with the 60x series.

VVVVV

AB221 (FR64)—Lost audio sectors. Sometimes the first few sectors of audio are not output from the beginning of a real-time file play.

CD-RTOS ISSUE. This problem will be fixed with a change to the Philips DSP ROM code for the 60x and 20x series players.

VVVVV

AB222 (FR65)—SS_Cont hangs. When `ss_pause` and `ss_cont` are invoked repeatedly in quick succession, the third or fourth `ss_cont` does not function properly. The play delivers bad data or does not continue.

CD-RTOS ISSUE. This problem is not yet fully understood, However, as a side effect of other changes, this problem appears to be fixed in Edition 2 of the pre-release of the CD and AP drivers (`cdapdriv`).

VVVVV

AB223 (FR66)—Wrong file position pointer. If the sequence `ss_play`, `ss_abort` and `lseek` is repeated 2 to 4 times in quick succession, `lseek` reports a file position that is far beyond the end of the disc.

CD-RTOS ISSUE. This problem is fixed in Edition 2 of the pre-release `cdapdriv`.

VVVVV

AB224 (FR67)—SS_Seek is not asynchronous. When a call is made to `ss_seek`, a significant delay (from .5 to 1.45 seconds) occurs before the call returns.

CD-RTOS ISSUE. A theoretical solution has been developed, but not yet implemented. An alarm will be substituted for a sleep.

VVVVV

AB226 (FR68)—SM_Out plays high pitched garbage. On rare occasions, `sm_out` plays a high pitched continuous tone (similar to a sawtooth wave), instead of the requested sound map.

CD-RTOS ISSUE. This problem should be fixed in Edition 4 of `cdapdriv`. AIM has not yet run thorough enough tests to verify this.

VVVVV

AB229 (FR73)—Error 247 unless CD-DA gets played first. The 1-90 version of the Smithsonian disc gets seek errors unless a CD-DA disc is loaded before the CD-I disc.

It was thought that this problem was due to an out-of-tolerance disc pressing. It now has been confirmed that the disc was pressed correctly. This bug is, therefore, unresolved.

VVVVV

AB230 (FR74)—Audio muting during seeks.

This problem was withdrawn by AIM. This problem was due to delays caused by the non- asynchronous behavior of `SS_Seek`.

VVVVV

AB232 (FR81)—SS_Seek not adaptive. The routine `SS_seek` always positions the head at the nominal, subcode-based location on the disc, rather than at the CD-I main channel location. There is usually an offset between these two positions. Thus, when a play is activated, there is usually an extra seek from the nominal `SS_seek` position to the correct main channel position for the play.

CD-RTOS ISSUE. This problem was rejected by Philips due to the need for similar operation between low level disc access of Red audio and the function of `SS_Seek`.

VVVVV

AB233 (FR82)—Path table is read repeatedly. The path table is read once by the player shell when launching the application and again when the application first accesses the disc.

PRODUCT ISSUE. The source of this behavior is the lack of surety in detection of a disc change. The behavior will remain the same in the 18x series due to the CD mechanism. In the 60x and later series, the CDFM driver will be notified of a disc eject, so the driver will re-read the path table only after an eject.

VVVVV

AB234 (FR83)—Disc label read not optimized. CDFM seems to read every sector in the disc label, even though the first sector is the correct one.

CD-RTOS ISSUE. This problem is under investigation. It probably requires changes to both CDFM and the disc building utilities.

VVVVV

AB235 (FR84)—Directory not cached. If many files are opened successively from within the same directory, the directory is re-read for each open.

CD-RTOS ISSUE. As of CD-RTOS 1.1, CDFM will buffer the last directory sector accessed, Thus, if many files are opened consecutively in the same directory, in most cases, only one physical disc access will be made (i.e., where the directory fits in one sector)

VVVVV

AB236 (FR87)—Link count of initial application = 2. When the application is launched from the player shell, the application has a link count of 2.

*GREEN BOOK ISSUE. The FFGB will be amended to state that the initial application will always have a link count of 2 at start up. AIM has verified that an application can reduce its own link count using **munload()**.*

VVVVV

AB237 (FR88)—Bad seek position. During continuous sound map play, if an **ss_seek** is performed, the first one or two sectors of a subsequent **ss_play** are sometimes lost.

CD-RTOS ISSUE. This problem is under investigation.

VVVVV

AB238 (FR89)—DSD entry 8 unspecified.

CD-RTOS AND GREEN BOOK ISSUE. AND As of CD-RTOS 1.1, entry 8 will nominally be the same as entry 3, and the Green Book will be changed to be clearer in regard to the proper setting of DSD entry 8.

VVVVV

AB239 (FR90)—Formatting utility. The format utility in the current CD-RTOS release displays confusing information about the format to be performed (that is, it indicates that it is formatting an eight inch floppy when, in fact, it is formatting a three and one-half inch floppy)

PRODUCT ISSUE. *It is likely that the formatting utility will be improved for the 60x series.*

VVVVV

AB240 (FR?)—Single sector sound maps silent.

This problem has been withdrawn by AIM. It was caused by an application error.

VVVVV

AB241 (FR?)—CD-DA play fails. If a CD-DA disc is accidentally launched as a CD-I disc from the player shell, subsequent attempts to play the disc as a CD-DA disc fail.

PRODUCT ISSUE. *Previously reported in the player deviation list. This problem may be fixed in the 18x series. Later players will have a new player shell.*

VVVVV

AB242 (FR?)—Audio output fails. In applications which use sound maps and RTF audio, all audio output sometimes fails, although the application continues to work correctly.

CD-RTOS ISSUE. *This problem is fixed in edition 4 of **cdapdriv**.*

VVVVV

AB243 (FR?)—Sound map garbled during SS_Play. If a sound map is played during an **ss_play** which has audio directed to the audio processor, the sound is sometimes garbled.

CD-RTOS ISSUE. *This problem is fixed in edition 4 of **cdapdriv**.*

VVVVV

AB244 (FR?)—Sound map done signal never received. On rare occasions, a “sound map done” signal is not received.

CD-RTOS ISSUE. *This problem is under investigation. It is difficult to reliably reproduce, but has been observed in several AIM titles.*

VVVVV

AB245 (FR?)—Matte ICF in offset 0. Matte changes of image contribution factor written to offset 0 affect the ICF for the entire plane.

CD-RTOS OR HARDWARE ISSUE. This problem is under investigation. It has been reliably reproduced in several applications.

VVVVV

AB246—Transparency in Plane B does not always work.

This problem has been withdrawn by AIM. It was caused by an application error.

VVVVV

AB247—SM_Stat returns strange information. Under some circumstances, when **SM_Stat** is used to poll the status of an **SM_Out**, it indicates that the sectors of a looped sound map are played out of order (e.g., 0, 2, 1, 0, 2). This seems to occur only when called from system state.

CD-RTOS ISSUE. This problem is difficult to reproduce and is under investigation.

VVVVV

AB248—SM_Off returns error 222 when called from system state. When **SM_Off** is called from a system state routine installed by ITSM, it works correctly but returns error 222.

CD-RTOS ISSUE. This problem is difficult to reproduce and is under investigation.

VVVVV

AB249—SM_Out starts at wrong sector. Sometimes when **SM_Out** is called, it starts on the second or third sector instead of the first sector in the sound map. This problem occurs whether loop-back points are set or not.

*CD-RTOS ISSUE. Fixed in edition 4 of **cdapdriv**.*

VVVVV

AB250—readdir() returns bad filenames from CDFM directories. The routine **readdir()** seems to remove the first three characters of file names it returns when used on CDFM directories. No error is returned. The call works correctly for RBF devices.

CD-RTOS ISSUE. This problem is under investigation.

VVVVV

AB251—sm_off is very slow when asy_sig is set to zero. This call can take from 3-5 seconds in this situation.

CD-RTOS ISSUE. This problem is under investigation.

VVVVV

AB252—gs_pos does not return the correct location of the next byte to be read when an ss_play is in progress or paused.

CD-RTOS ISSUE. This problem is under investigation.

VVVVV

The priority of sound map audio versus real-time file audio was addressed in a recent Green Book meeting. In the current December 8 1.0 implementation, when RTF audio is output and a sound map is started, the sound map overrides the real-time file audio. Conversely, if a sound map is output, and a real-time file with audio is started, the RTF audio overrides the sound map. In CD-RTOS 1.1, sound map audio always overrides real-time file audio; this is now specified in the Green Book. This is implemented in edition 4 of **cdapdriv**.