

PHILIPS OPTICAL STORAGE

Application notes

PREMIUM 10501



Preface

This document gives some software application notes for the Premium 10501

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Application notes

PREMIUM 10501

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Note:

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Release 0.1	24-11-97	Derived from Premium 6000 DSA command description and adapted for Premium 7000 without change of the content.
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Table of Contents

1. SYMBOL EXPLANATION.....	6
2. APPLICATION NOTES	7
2.1 APPLICATION NOTE 1:	7
2.2 APPLICATION NOTE 2:	8
2.3 APPLICATION NOTE 3:	9
2.4 APPLICATION NOTE 4:	10
2.5 APPLICATION NOTE 5:	11
2.6 APPLICATION NOTE 6:	12
2.7 APPLICATION NOTE 7:	13
2.8 APPLICATION NOTE 8:	14
2.9 APPLICATION NOTE 9:	15
2.10 APPLICATION NOTE 10:	16

1. Symbol explanation.

->:<command>/<parameter>

means send command and parameter to CD-module.

<-:<command>/<parameter>

means receive command and parameter from CD-module.

2. Application notes

2.1 Application note 1:

Desired situation:

Play starting at 4,5,6,...etc. until the end of the disc, after a changing disc.
During the play the absolute time has to be displayed.

Command sequence:

->: Clear TOC 6Ah/00

<-: wait for response if o.k. then send

->: Set Mode 15h/11h

where:

- speed = 1
- audio mode
- ATTI = 01
- pause at the end of track disabled

<-: wait for response

->: Play Title 01h/04h

<-: wait for response

during play: <-: receive the actual updates.

Note:

If the “play title” command replies with an error and error-code is equal to “illegal value” then send (->) stop command.

Otherwise retry (only once) the (->) play title command.

2.2 Application note 2:

Desired situation

After disc change, read TOC and play only Track 12 (=enter pause mode at end of track 12). During the play, CD-module send updates in relative time.

Command sequence:

->: Clear TOC 6Ah/00
<-: wait for response

->: Read TOC 03h/00
<-: receive the 5 D.S.A. commands containing: first track number, last track number and leadout time.

->: Send Set Mode 15h/61h
where:

- speed = 1
- audio mode
- ATTI = 10
- Pause at end of track enable

<-: receive response

->: Play Title 01h/0Ch

<-:receive response

During play: <-: receive the actual update.

If the update command ACTUAL TITLE is received, this is the indication that the CD-module is in pause mode at the end of track.

Note:

If the “play title” command response with an error and error-code is equal to “illegal value” then send (->:) stop command.

Otherwise retry (only once) the (->:) play title command.

2.3 Application note 3:

Desired situation:

During the play-mode search forward at high speed.

->: Set volume 51h/<volume during search>

where: <volume during search> customer preferred value.

<-: receive volume response

->: Search forward at high speed with border flag cleared 06h/01h.

<-: Receive the actual updates, if selected.

When searching must be stopped for normal play again:

->: Search release 08h/00h

->: Set volume 51h/<volume during play>

<-: receive volume response

2.4 Application note 4:

Desired situation:

Actions required after reset or power on when using an external DAC.

Command sequence:

->: Set DAC mode 70h/<DAC mode>

where: <DAC mode> depends on used DAC.

2.5 Application note 5:

Desired situation:

Get the disc identification number.

Command sequence:

->: SPIN UP 18h/00

<-: wait for response

->: Get disc identifiers 30h/00

<-: receive the 5 DSA commands containing the disc number.

If also the TOC information is needed then the following command sequence can be used:

->: Read TOC 03h/00

<-: receive the 5 DSA commands containing: first track number, last track number and leadout time.

->: Get DISC identifiers 30h/00

<-: receive the 5 DSA command containing the disc identifier number.

2.6 Application note 6:

Desired situation:

Media change.

Command sequence:

->: STOP 02h/00

<-: wait for response

->: Clear TOC 6Ah/00

<-: wait for response

Now it is allowed to take off the disc from the mechanism.

2.7 Application note 7:

Desired situation:

Go to pause mode at the beginning of track 4.

Command sequence:

->: Pause 04h/00

<-: wait for response

->: Play Title 01h/04h

<-: wait for response

The CD-module is now in pause mode at the beginning of track 4.

Note:

It is now possible to get the pause time (this time is near the starting time of track 4 with the DSA command: ->: get complete time 0Dh/c).

Receive the 3 DSA commands (<-;) containing the minutes, seconds and frames.

2.8 Application note 8:

Desired situation:

Error control during the play:

Remark:

Because error codes are given only after command execution, error will not be stated during the play. (There are some powerful recovery routines implemented in the CD-module).

To control unrecoverable errors during playing, send regularly:

- >: Get Complete time commands 0Dh/00
- <-: wait for the DSA command containing the minutes, seconds, frame.

This time-code received must be greater than the previous one (of course when in play mode).

It is also possible to use the “actual updates” for this false detection.
When the updates of the seconds are not appearing (for more than 1 second) or the new time-code is not successive then a unrecoverable error situation has been detected.

The recovery could be handled by the DSA-command Go to time to the last received time-code.

2.9 Application note 9:

Desired situation:

Reading a complete TOC.

Command sequence:

->: Read Long TOC 14h/00

<-: Intercept the TOC items till all needed items are received.

Remark: one TOC item represents the following DSA (response) commands.

TOC-item = 60h/track number,
61h/control & address,
62h/start-time minutes,
63h/start-time seconds,
64h/start-time frames.

The Read Long TOC command can be stopped by sending any SERVO command, for example:

->: SPIN UP 18h/00

<-: wait for response

General remark:

The Read Long TOC command can take some seconds. This depends of a number of factors:

- the number of tracks on a disc
- the transfer speed of the DSA-interface

For example: a disc of 99 tracks at least $(99+3)*3/75 = 4$ seconds.

2.10 Application note 10:

Desired situation:

Play from (absolute) Time-A till time-B.
Where time-code B is larger than time-code A.

Define time-code A, B.

Command sequence:

->: Play A- till B-time 20h/absolute start-time min
 21h/absolute start-time sec
 22h/absolute start-time frame
 23h/absolute start-time sec
 24h/absolute start-time frame

<-: wait for response

During play: <-: receive the actual update.

When the DSA command FOUND (<-:) is intercept, this indicates that B-time has been reached (CD-module is in pause-mode).

The Play A- till B-time can be aborted by sending the DSA-command.

->: Release A-B time 26h/00
<-: wait for response