PTBurn SDK

Network-capable, text-based, shared folder burning & Printing

Primera Technology Inc.

1 Introduction

Primera's **PTBurn** SDK application allows any client application to easily create discs with customized burn data and printed label information. It is ideal for use with customer-supplied "front-end" applications in networked or custom environments in markets such as medical imaging, digital photo processing, music/video/software on-demand and much more. The supported devices for this application are Primera's Disc Publisher, Disc Publisher II, Disc Publisher PRO, ComposerMAX, Disc Publisher XR, and Disc PublisherXRP.

The client application creates an ASCII text file (Job Request File) in the Job Request Folder (shared "hot-folder"). The Job Request File specifies the image data to burn, the label to print, and the number of copies to create. The PTBurn application scans this Job Request Folder for new jobs submitted by any client application and creates the discs automatically on the Disc Publisher.

The application works on Windows 2000 or Windows XP PRO. Client machines can be any that are able to share and write into a Windows folder. It can burn either data or audio discs, as well as create discs from a disc image.

Changes can be made to the PTSETUP.INI file to customize certain settings. See for more details on the PTSETUP.INI file

PT Burn Supports the Disc Publisher, Disc Publisher II, the Disc Publisher PRO, ComposerMAX, Disc Publisher XR and Disc Publisher XRP.

2 JRQ File Command Structure

To create discs, the client application must create a Job Request File. This text file can be named anything the client chooses but it MUST reside within the Job Request Folder AND must have an extension of .JRQ (this can be changed in PTSETUP.INI). This .JRQ file created by the client contains information that specifies the data to burn, number of copies, etc.

The Job Request File must be a text document with certain Key values defined (many of which are optional). The format is:

2.1 Command Keys/Values

2.1.1 **JobID**

Any ASCII string message up to 32 characters describing the job. When the job is being executed this JobID string will be shown in the PTBurn window. If this key is not provided then the job request filename will be used.

2.1.2 **ClientID**

This ASCII string message up to 32 characters is a description for the Client who is submitting the job. The client can decide what string he wants to use. If this key is not provided then the ClientID will default to "Unknown."

2.1.3 **Importance**

This tells PTBurn how important the job is. Possible values are **0** to **9** where **0** is most important and **9** is least important. If this key is not provided then a default value of **4** will be used. Jobs with lower values will be processed first unless the job has been waiting too long (this value can be changed in PTSETUP.INI).

2.1.4 **DiscType**

This tells what type of disc is being targeted. DiscType possible values:
   CDR
   DVDR
Where the default value is CDR if this key is not given.

2.1.5 **Data**

This is a string that specifies the root folder that contains all the data to be burned. All files and subfolders within this root path folder will be burned (the root folder itself will not be copied – only its contents). Alternatively, individual files can be specified here (the full path for the source file must be given, but the file will be copied to the root location on the disc). The format is as follows:

Data = Filename, SessionX

Where SessionX is optional and is used only if requesting a multi-session disc (a maximum of 2 sessions is allowed at this time). The value X is an integer value (1 or 2) that tells PTBurn for which session to burn this data.
If SessionX is not given then it will be burned into the first (and only) session.

e.g.
Data = C:\MyFolder1, Session2

(This tells PTBurn to burn the contents of C:\MyFolder1 to session 2 on the disc. In this example, there must also be an AudioFile= or ImageFile= entry for Session 1).

Up to 99 Data, AudioFile, and ImageFile entries are allowed (99 total).

See the DataImageType key below to specify burning options including file system.

The only way the Data key can be used with the AudioFile keys or the ImageFile key is if the SessionX value is used. The Data key must not be used with AudioFile or ImageFile with the same session value.

2.1.6 **AudioFile**

This is a string that specifies the name of an audio file to burn.
You can optionally specify a Pregap value (in sectors) of the track. So, the format is as follows:

AudioFile = Filename, PregapX, SessionX

Up to 99 AudioFile = statements are allowed (99 total if Data and ImageFile statements used also).

Acceptable audio filename types include .WAV, .MP3, and .WMA.
PregapX (audio silence) values are in sectors so 75 sectors = 1 second, 150 sectors = 2 seconds, and so on. The first audio track
will always have a Pregap of 150 even if another value is specified. If Pregap is not specified then a value of 150 will be used as the default.

SessionX is optional and is used only if requesting a multi-session disc (a maximum of 2 sessions are allowed at this time). The value X is an integer value (1 or 2) and tells PTBurn for which session to burn this audio file. If SessionX is not given then it will be burned into the first (and only) session

e.g.
AudioFile = MySong.mp3, Session1

(This tells PTBurn to burn the audio file MySong.mp3 to session 1 on the disc as cd audio. In this example there may be a Data= or ImageFile= entry for Session 2).

The only way this key can be used with the Data keys or the ImageFile key is if the SessionX value is used. AudioFile must not be used with Data or ImageFile with the same session value.

2.1.7 **ImageFile**

This specifies the name (including path) of an already-mastered disc image to be burned. The acceptable disc image types include .GI or .ISO.

The format is as follows:

ImageFile = Filename, SessionX

Where SessionX is optional and is used only if requesting a multi-session disc (a maximum of 2 sessions are allowed at this time).   The value X is an integer value (1 or 2) that tells PTBurn for which session to burn this image.
If SessionX is not given then it will be burned into the first (and only) session.

e.g.
ImageFile = c:\MyImage.ISO, Session1

(This tells PTBurn to burn the disc image MyImage.ISO to session 1 on the disc. In this example, there may be Data= or AudioFile= entries for Session 2).

The only way this key can be used with the Data keys or the AudioFile keys is if the multi-session SessionX value is used. ImageFile must not be used with Data or AudioFile keys with the same session value.

2.1.8 **DeleteFiles**

This specifies if the files/folders/image for this particular job, should be deleted after the job is completed. Possible values:
>   YES
>   NO

The default value if this key is not given is NO. In order for the files/folders to be deleted they must reside within a subfolder of the Shared Job Folder. Everything within the first subfolder under the Shared Job Folder (including the subfolder) will be deleted.

If DeleteFiles is set to YES, the job data and print files will be deleted upon the job completing (Pass, Fail, or Abort). The job request file (now with a .don or .err extension) will not be deleted immediately. The deletion of this file will occur when the time set in PTSETUP.ini (Status_Time) has expired after job completion.

2.1.9 **ImageType**

This specifies the mode (block length) to use when burning the ImageFile disc image. The possible values are as follows:

> MODE_1_2048
> MODE_2_2336
> MODE_2_2352

This key only applies to .ISO disc images.
Note that using the wrong value here can cause the image to not fit and lead to an unusable disc.

2.1.10   **DataImageType**

This specifies what kind of image should be created for a data burn (when DataFiles key is given). Multiple items are possible so the format is:

DataImageType = FileSystem, Option1, Option 2, …

Possible values of FileSystem are the following:
ISOLEVEL1 – for an ISO 9660 Level 1 compliant CD with folder and file names in the 8+3 format using only the A-:-Z, 0-:-9 and "_" character set.
ISOLEVEL2 – for and ISO 9660 Level 2 compliant CD (DOS OEM characters). Filenames are 8+3 format (use ISOLEVEL3 for long filename support).
ISOLEVEL3 – for an ISO 9660 Level 3 compliant CD (DOS OEM characters, long file names)
JOLIET – for a Microsoft Joliet compliant CD with filenames up to 106 characters.
ISOLEVEL1+JOLIET – for an ISO 9660 Level 1 with Joliet CD.
ISOLEVEL2+JOLIET – for an ISO 9660 Level 2 with Joliet CD.
ISOLEVEL3+JOLIET – for an ISO 9660 Level 3 with Joliet CD.
UDF – for a UDF 1.02 bridge file system
UDF201 – for a UDF 2.01 bridge file system

Possible values of Option1, Option2, … are the following: **SETNOW** – this will cause all files to be set to the time/date at which the disc is created. If this option is not given then the file's time/date will keep their original values.
MODE2 – this will make a CD-ROM Mode 2 XA disc. If this option is not given then the disc created will be Mode 1.
This option is valid only for a CD-R, and is ignored for a DVD-R.
SAO -- if the disc must be written Session At Once. When SAO is not specified the recording is done Track At Once (TAO). TAO is required for DVD multi-border (DVD-R, DVD-RW) but is optional for CD-R, CD-RW.
(If this key is not provided, the default will be a Joliet, Mode1, Track at Once Disc).

Note: If choosing ISOLevel1 the filenames must adhere to the ISOLevel1 naming convention (8+3 using A-Z, 0-9, and _ only). If any files/folders in the job do not adhere to this convention the job will fail.

Note: If burning DVD Video (VIDEO_TS), we recommend that you select UDF to allow for better playback compatibility with dvd players.

2.1.11   **CloseDisc**

This specifies if the disc must be closed so that no other session can be added. Possible values:
> **YES**
> **NO**
The default value is NO if this key is not given.

2.1.12   **Copies**

This specifies how many copies you want created. The range of values is from **1** to **10,000**. The default is **1** if this key is not given.

2.1.13   **PrintLabel**

This specifies path and filename of the label to print on disc.
The possible file types are .STD (SureThing™), .jpg (JPEG), .bmp (Windows Bitmap), or .PRN (printed to file through any application).   If this key is not given then no printing will be performed. For printing merge text and pictures (unique text and/or pictures on each disc) see the supporting SureThing documentation from Microvision (some tips are also given below).

2.1.14   **VolumeName**

This string specifies the volume label name. The string can be up to 32 characters, but usually only the first 11 characters are visible on a system. If this key is not given then the default will be the JobID string (if the JobID string is not given then the default will be "NewDisc")

2.1.15   **BurnSpeed**

This integer value specifies a requested recorder burn speed. The range is from **1** to **100**. This corresponds to 1x to 100x (even though 100x recorders are currently not available). If this key is not given then the recorder will burn at MAX speed (or you can set BurnSpeed=0 for MAX speed). If the recorder is not capable of the requested burn speed, then the nearest available speed will be used.

2.1.16   **VerifyDisc**

This specifies if the disc must be verified or not. Possible values:
    YES
    NO
The default value is NO if this key is not given.

2.1.17   **RejectIfNotBlank**

This specifies if a disc should be rejected if is not blank. Possible values:
    YES
    NO
The default value is NO if this key is not given. When a value if YES is given then the disc will be rejected unless blank media is inserted. NO means that it will attempt to add a session if one already exists.

2.1.18   **NotifyClient**

This key specifies if the client wants to be notified when their job is complete (pass, fail, or abort).
Possible values:
    Message
    Disabled
The default value is **Disabled** if this key is not given. When a value of **Message** is given then the client will be notified via a net message. If this feature is used, the ClientID key must be set to the client's computer name.

2.1.19   **CDTextDiscTitle**

This key specifies the CDText field representing the disc's title.   This entry is required when doing an audio disc with CD Text. The maximum number of characters is 100.
The total number of characters for CDTextDiscTitle and all CDTextTrackTitle entries cannot exceed 2000 characters

2.1.20   **CDTextDiscPerformer**

This key specifies the CDText field representing the disc's performer. This entry is required when doing an audio disc with CD Text. The maximum number of characters is 100.
The total number of characters for CDTextDiscPerformer and all CDTextTrackPerformer entries cannot exceed 2000 characters.

2.1.21   **CDTextDiscComposer**

This key specifies the CDText field representing the disc's composer. This entry is required when doing an audio disc with CD Text. The maximum number of characters is 100.
The total number of characters for CDTextDiscComposer and all CDTextTrackComposer entries cannot exceed 2000 characters.

2.1.22   **CDTextTrackTitle**

This key specifies the CDText field representing the track's title.   This entry is required for each track when doing an audio disc with CD Text. The maximum number of characters is 100. The CDText fields will be associated with their respective track based on the order it appears in the Job Request File. For example:

AudioFile=myfile1.mp3
AudioFile=myfile2.mp3

CDTextTrackTitle = First track
CDTextTrackTitle = Second track

Track 1 will be myfile1.mp3 with the cdtext "First track". Track 2 will be myfile2.mp3 with the cdtext "Second track".

2.1.23   **CDTextTrackPerformer**

This key specifies the CDText field representing the track's performer. This entry is required for each track when doing an audio disc with CD Text. The maximum number of characters is 100.

2.1.24   **CDTextTrackComposer**

This key specifies the CDText field representing the track's composer. This entry is required for each track when doing an audio disc with CD Text. The maximum number of characters is 100.

2.1.25   **PreserveISOVariations**

This key forces the recording engine to preserve the file name as is even if it is out of specification. Possible values:
>   **YES**

NO

The default value is NO if this key is not given.

2.1.26   **ReadDataTo**

This key specifies the location to which data from the disc(s) should be stored (this is useful for saving the contents of a disc for later use).   If the ReadDataFormat key is set to ReadData, then this key contains the path of where the data from the disc should be written to the hard disk drive (ex. C:\MyDisc1). If ReadDataFormat is ReadGI, then ReadDataTo specifies the path and GI file name that should be created (ex. \\Computer\PTBurnJobs\ReadFile would create the global image file \\Computer\PTBurnJobs\ReadFile.gi). When using ReadGI as the format you should NOT specify the .gi extension in the ReadDataTo key because PTBurn will append the .gi extension to the name.

2.1.27   **ReadDataFormat**

This key specifies the format in which the disc(s) will be stored onto the hard disk drive (into the location specified by ReadDataTo). The possible values are as follows:

ReadGI
ReadData

The default value is ReadData, which will read the data from the disc and store the same data onto the hard disk drive. ReadGI will create a Global Image file of the Disc. If the format is ReadGI and the number of copies is greater than 1, then a _1, _2… will be appended to the GI filename.

2.1.28   **CreateSubFolders**

This key will cause PTBurn to create a subfolder below the ReadDataTo path for each disc read. The subfolders will be named Disc1, Disc2 …   The possible values are:

YES
NO

The default value is NO if this key is not given. This key is only valid if ReadDataTo is specified, ReadDataFormat = ReadData, and the number of copies is greater than 1.

2.1.29   **CheckFileOnDisc**

This key will cause PTBurn to check the disc prior to recording to see if the specified file exists. The value of this key should be the complete path (on the disc) of the file. For example:

CheckFileOnDisc=Server\myFile.txt

will cause PTBurn to check to see if the file "myFile.txt" is on the disc in the "Server" folder. If the file is not found then an Invalid Media Error (Job/Disc Error 10) will be set.

2.1.30   **CheckSystemIDOnDisc**

This key will cause PTBurn to check the disc prior to recording to see if the SystemID value in the PVD matches the value of this key.

CheckSystemIDOnDisc=PTBurn

will cause PTBurn to check to see if the system ID in the PVD on the disc is set to "PTBurn" .
If the value is not found then an Invalid Media Error (Job/Disc Error 10) will be set.

2.1.31   CheckVolumeIDOnDisc

This key will cause PTBurn to check the disc prior to recording to see if the VolumeID value in
the PVD matches the value of this key.

If the value is not found then an Invalid Media Error (Job/Disc Error 10) will be set

2.1.32   CheckPubIDOnDisc

This key will cause PTBurn to check the disc prior to recording to see if the PublisherID value in
the PVD matches the value of this key.

If the value is not found then an Invalid Media Error (Job/Disc Error 10) will be set.

2.1.33   CheckPreparerIDOnDisc

This key will cause PTBurn to check the disc prior to recording to see if the DataPreparerID
value in the PVD matches the value of this key.

If the value is not found then an Invalid Media Error (Job/Disc Error 10) will be set.

2.1.34   CheckAppIDOnDisc

This key will cause PTBurn to check the disc prior to recording to see if the ApplicationID value
in the PVD matches the value of this key.

If the value is not found then an Invalid Media Error (Job/Disc Error 10) will be set.

2.1.35   PVDSystemID

This key will set the SystemID value of the PVD.   This max number of characters for this key is
32.

2.1.36   PVDPublisherID

This key will set the PublisherID value of the PVD.   This max number of characters for this key
is 128.

2.1.37   PVDPreparerID

This key will set the PreparerID value of the PVD.   This max number of characters for this key
is 128.

2.1.38   PVDApplicationID

This key will set the ApplicationID value of the PVD.   This max number of characters for this
key is 128.

2.1.39   LoadUnloadOverride

This key will enable the manual load and unload functionality.
     YES

> **NO**

The default value is NO if this key is not given. This key allows you to Pause after the drive is loaded (before burning) and also allows you to Pause after burning (before the drive is unloaded). It also allows you to Load/Unload the drive without burning (e.g. read disc contents only).

Please see <u>Appendix D</u> for details regarding manual load and unload.

2.1.40   **PreMasterData**

This key will enable pre-mastering of data jobs. This means that when the job is started a temporary image will be created and then each disc in the job will be burned from that image. Otherwise each disc will be burned as a separate data disc. We recommend setting this to YES if you are burning a large number of files, or there is the possibility that a file could change during the burn process.

> **YES**
> **NO**

The default value is NO if this key is not given.

2.1.41   **DriveID**

This Key is used to specify a drive to be used in a job. There can be more than one DriveID key in a jrq file. The DriveID should be set to the drive index, which can be found in the PTStatus.txt file (See DriveDescX in Section 3.4.22). If no DriveID is specified then all drives in the robot will be used. For Example:

If the JRQ Specifies
DriveID = 0

And the PTStatus.txt has the following entry
DriveDesc0=HL-DT-ST CD-RW GCE-8526B 1.02
DriveLocation0=Publisher Drive Top (G:)

Then, in this example, only the top drive will be used in the job.

2.2 Programming Examples

2.2.1 **Simple Data Job**

Test1. JRQ in the Job Request Folder has the contents:

Data = c:\MyBackup

This will burn one CD-R disc with all the files and subfolders within the c:\MyBackup folder. It will be a Joliet file system, Mode 1, Track-at-once, not-closed disc (see other defaults above).

2.2.2 **Simple Audio Job**

Test2. JRQ in the Job Request Folder has the contents:

AudioFile = c:\MyMusic\MyTrack1.wav
AudioFile = c:\MyMusic\MyTrack2.mp3, Pregap75
AudioFile = c:\MyMusic\MyTrack3.wma, Pregap150

BurnSpeed = 8
CloseDisc = YES
Copies = 2

This will burn 2 CD-R audio discs with three tracks. The .wav, .mp3, and .wma will be converted and burned as CD-Audio automatically. MyTrack2 will have a 1 second pause before it and MyTrack3 will have a 2 second pause before it.   The discs will be burned at 8x (or as close as possible) and the disc will be closed.

2.2.3 **Burn and Print job of 5 discs with many options specified**

Test3. JRQ in the shared-folder location have the contents:

JobID = Kevin's Photos
ClientID = COMPANYX-KEVIN1
Data = \\SERVER\PTBurnJobs\KevinsJob\Photos\Data
Data = c:\MyBackup\File1.jpg
DeleteFiles = YES
DataImageType = ISOLEVEL1, SAO, SETNOW
CloseDisc = YES
Copies = 5
PrintLabel = \\SERVER\PTBurnJobs\KevinsJob\Print\Photos.std
VolumeName = My Photos
VerifyDisc = YES
NotifyClient = Message

This will burn 5 CD-R discs with all the files and subfolders within the subfolder \\SERVER\PTBurnJobs\KevinsJob\Photos\Data and it will also burn the file C:\MyBackup\File1.jpg. The disc will be verified after burning. The SureThing label file \\SERVER\PTBurnJobs\KevinsJob\Print\Photos.std will be printed on each disc. The discs will be closed-session Disc-at-once with ISO 9660 Level 1 file system, and the time/date of the files will be set to the time at which each disc is burned. After completing the job, PTBurn will delete all the files and subfolders within and including the subfolder \\SERVER\PTBurnJobs\KevinsJob. Note that the file C:\MyBackup\File1.jpg will not be deleted.
Because the NotifyClient key is set to Message, when the job is completed a net message will be sent to the computer COMPANYX-KEVIN1.

2.2.4 **Print Only Job of 25 Discs**

JobID = My Print Job
ClientID = MyWorkstation
PrintLabel = \\SERVER\PTBurnJobs\MyJob\MyImage.STD
Copies = 25

2.2.5 **Read Data Job of 3 Discs**

ClientID=MyComputer
JobID=Job0
Importance=2
Copies=3
NotifyClient=Message

ReadDataTo=\\MyComputer\PTBurnJobs\ReadData
ReadDataFormat=ReadData
CreateSubFolders=YES

2.2.6 **Read Global Image Job of 3 Discs**

ClientID=MyComputer
JobID=Job0
Importance=2
Copies=3
NotifyClient=Message
ReadDataTo=\\MyComputer\PTBurnJobs\ReadData
ReadDataFormat=ReadGI

This will create a GI global image file for each of the 3 discs at the following locations:

\\MyComputer\PTBurnJobs\ReadData_1.gi
\\MyComputer\PTBurnJobs\ReadData_2.gi
\\MyComputer\PTBurnJobs\ReadData_3.gi

3 Status Information

PTBurn will provide status for each submitted job in several different ways.

First of all, the filename extension for the submitted Job Request File will have four different values: the "new job request" extension, the "job discovered" extension, the "in process" extension, and the "job completed" extension. All four of these extensions can be specified in PTSETUP.INI. Using the default values here is an example description of the four filename extensions:

MyJob.JRQ → The client has submitted the job request
MyJob.QRJ → PTBurn has discovered and put the job in its list of jobs.
MyJob.INP → PTBurn is currently processing this job.
MyJob.DON → The job has been completed.

An additional filename extension is possible when a job has an error or has been aborted.
MyJob.ERR → The job has finished with errors or has been aborted.

Secondly, there will be a Master Status Text File **PTSTATUS.TXT** and it will reside in a subfolder called **Status** within the Job Request Folder location (defined in PTSETUP.INI). The structure of this status file will be similar to an .INI file with three fixed Sections of [JobList], [CompletedJobs], and [System]. Also, each job will have its own Section (section name is the name of the Job Request File without an extension) with detailed information of the job.

Note: When processing PTSTATUS.TXT from a client application, the client application should **NOT** access PTSTATUS.TXT with exclusive access.

3.1 JobList Section

The first fixed section in PTSTATUS.TXT is [JobList]
Within this section are keys that can provide a client the list of the current jobs being processed by PTBurn. The Key value of the current job is always Job0, the next job is Job1, etc.
So, an example might be:

[JobList]
Job0=MyJob1
Job1=YourJob1
Job2=MyJob2

The client can display the list of jobs by sequentially trying to get the string values for Keys: Job0, Job1, Job2,… The end of the list of jobs can be determined by the client when the string value for the next key is not found.

3.2 CompletedJobs Section

The second fixed section in PTSTATUS.TXT is [CompletedJobs]
Within this section are keys that can provide a client the list of the recently completed jobs (including successful jobs, jobs with errors, and jobs that have been aborted). The Key value of the current job is always Job0, the next job is Job1, etc.
So, an example might be:

[CompletedJobs]
Job0=MyJob3
Job1=YourJob4
Job2=MyJob5

The client can display the list of jobs by sequentially trying to get the string values for Keys:
Job0, Job1, Job2,… The end of the list of jobs can be determined by the client when the string
value for the next key is not found.

3.3 Job Details Section

More detailed information about each job in [JobList] and [CompletedJobs] can be accessed in
the job's own Section.
For example, if a submitted job is called MyJob1.jrq, then the section in the status file would be
given as [MyJob1].

The keys under each job's details section are:

3.3.1 **JobID**

String that the describes this job

3.3.2 **ClientID**

String that describes the client of this job

3.3.3 **JobsAhead**

Integer value that tells how many jobs are in the PTBurn queue before this job.

3.3.4 **DiscsAhead**

This integer value tells how many discs remain to be completed (in other jobs) before this job
can begin.

3.3.5 **DiscsRemaining**

Integer value that tells how many discs are remaining to be completed in this job.

3.3.6 **GoodDiscs**

Integer value that tells how many discs have been successfully completed in this job

3.3.7 **BadDiscs**

Integer value that tells how many discs that have failed to be completed successfully in this job
(rejects)

3.3.8 **CurrentStatus**

String that describes what is currently going on with this job.

3.3.9 **TimeCreated**

String that gives the time and date of when the Job Request File was created

Format is:
MM/DD/YYYY hh:mm:ss XX
where XX is either AM or PM.

3.3.10   **TimeStarted**

String that gives the time and date of when the job was started.

Format is:
MM/DD/YYYY hh:mm:ss XX
where XX is either AM or PM.

If not started yet the value is blank space

3.3.11   **TimeCompleted**

String that gives the time and date of when the job was completed.

Format is:
MM/DD/YYYY hh:mm:ss XX
where XX is either AM or PM.

If not completed yet the value is blank space

3.3.12   **JobState**

Integer values that give the state of the job:

0 = Job not started
1 = Job running
2 = Job completed successfully
3 = Job failed

3.3.13   **JobErrorNumber**

Integer value that details what job error has occurred. Please see Appendix C for details on job errors.

3.3.14   **JobErrorString**

String corresponding to the JobErrorNumber. Please see Appendix C for details on job errors.

3.3.15   **DiscErrorIndexX**

Integer value that details which disc in the job had the error. In other words, the disc number within the job that the software is attempting to record (e.g. the first disc of the job = 1, second disc of the job = 2, etc.).

X is a value from 0 to 9 that provides a sequential unique key.
So, the first disc error that is encountered in the job will be given the key value of
DiscErrorIndex0, the second disc error (within the same job) will be given the key value of
DiscErrorIndex1, and so on.   The number of disc errors reported is limited to 10 so the values
for this key can range from DiscErrorIndex0 up to DiscErrorIndex9.

A disc may have more than 1 error reported if the disc was retried. Example:
   A job is set to record 3 copies of a disc:
   Disc 1 is recorded successfully.
   Disc 2 is recorded successfully.
   Disc 3 fails to record two times before successfully burning on
   its third attempt.
In this example, the entries for this job will be:
DiscErrorIndex0 = 3
DiscErrorIndex1 = 3

3.3.16   DiscErrorNumberX

Integer value that details what disc error has occurred. Please see Appendix C for details on disc
errors and the potential values.

X is a value from 0 to 9 that provides a sequential unique key.
So, the first disc error that is encountered in the job will be given the key value of
DiscErrorNumber0, the second disc error (within the same job) will be given the key value of
DiscErrorNumber1, and so on.   The number of disc errors reported is limited to 10 so the values
for this key can range from DiscErrorNumber0 up to DiscErrorNumber9.

3.3.17   DiscErrorStringX

String corresponding to the DiscErrorNumber. Please see Appendix C for details on disc errors
and the possible strings.

X is a value from 0 to 9 that provides a sequential unique key.
So, the first disc error that is encountered in the job will be given the key value of
DiscErrorString0, the second disc error (within the same job) will be given the key value of
DiscErrorString1, and so on.   The number of disc errors reported is limited to 10 so the values
for this key can range from DiscErrorString0 up to DiscErrorString9.

3.3.18   LoadDiscStateX

If the LoadUnloadOverride key is set in the jrq file then PTBurn will report the current state of
this disc with this key. See Appendix D for an example of use. The possible values for this key
are:

1 = Disc Loaded (hold state)
2 = Disc Processing
3 = Disc Processed (hold state)
4 = Disc Unloading

3.3.19   **LoadDiscDriveX**

This is the drive that is processing the disc

3.4 System Section

3.4.1 **SystemDesc**

String that describes the system (e.g. Disc Publisher DVDR)

3.4.2 **SystemStatus**

String that gives general system status of the software and robotics (e.g. Offline, System OK, Out of Discs, Ink Low, …).
If the PTBurn software application is not running then this value will always be set to "Offline". If this key is anything except "Offline" then the software is running.

If the software is running but the printer is offline (user pressed the power button) then the SystemStatus will be "Printer Offline". For this error, and other system errors, the SysErrorNumber key can be queried.   See more information for SysErrorNumber below.

3.4.3 **SystemDrives**

Integer value that tells how many drives are managed by the robotics. (for the Disc Publisher this will be 1).

3.4.4 **GoodDiscsLife**

Integer value that tells how many discs have been successfully completed in the life of this system (value is stored on the computer – not within the robotics).

3.4.5 **BadDiscsLife**

Integer value that tells how many discs have been rejected because of failure during the life of this system (value is stored on the computer – not within the robotics).

3.4.6 **GoodDiscsLaunch**

Integer value that tells how many discs have been successfully completed since the PTBurn application was launched.

3.4.7 **BadDiscsLaunch**

Integer value that tells how many discs have been rejected because of failure since the PTBurn application was launched.

3.4.8 **ServerTime**

Current time obtained by the PTBurn application on the server (computer on which PTBurn is running).

Format is:
MM/DD/YYYY hh:mm:ss XX
where XX is either AM or PM.

3.4.9 **DriveSpace**

Integer value that tells how much free hard drive space is available. This is the drive on which the Shared Folder resides. The value is given in MB (e.g. for 12GB of free space – DriveSpace=12000

3.4.10 **SysErrorNumber**

Integer value that details what error has occurred on the system. Please see Appendix C for more details on system errors.

If the software is shut down while a system error is in place, then SystemStatus will be set to "Offline" and SysErrorNumber will retain its error value.

Also, if certain system errors are encountered when PTBurn is launched, these errors will cause the PTBurn software to close down immediately. In this case, SystemStatus will be set to "Offline" and SysErrorNumber can be queried to determined what error caused the software to shut down. For example, if PTBurn is launched without the USB cable connected, the software will set SysErrorNumber=14 and SystemStatus=Offline and then PTBurn will shut down.

3.4.11 **SysErrorString**

String corresponding to the SysErrorNumber. Please see Appendix C for details on system errors.

3.4.12 **PtburnSWVer**

String that contains the version of PTBurn.exe.

3.4.13 **JobProcSWVer**

String that contains the version of JobProcessor.dll.

3.4.14 **PxroboSWVer**

String that contains the version of PxRobo.dll.

3.4.15 **PxengSWVer**

String that contains the version of Px.dll.

3.4.16 **PxsdkSWVer**

String that contains the version of PXSDKPLS.dll.

3.4.17 **PxDrvSWVer**

String that contains the version of PxDrv.dll.

3.4.18 **PxMasSWVer**

String that contains the version of PxMas.dll.

3.4.19 **PxWaveSWVer**

String that contains the version of PxWave.dll.

3.4.20   **PxHelp20SWVer**

String that contains the version of PxHelp20.sys.

3.4.21   **RoboFWVer**

String that contains the version of the firmware on the duplicator.

3.4.22   **DriveDescX**

String that contains the description of robotically controlled drives on the system. The X represents an index if multiple robotically controlled drives are present. Below is an example of the drive description string :

DriveDesc0 = PIONEER DVD-RW DVR-105 1.30

3.4.23   **DriveLocationX**

String that contains the location of robotically controlled drives on the system. The X represents an index if multiple robotically controlled drives are present. Below is an example of the drive location string :

DriveLocation0 = Publisher Drive Top (G:)
DriveLocation1 = Publisher Drive Bottom (H:)

3.4.24   **DriveStateX**

Number that contains the state of the robotically controlled drive(s) on the system. The X represents an index if multiple robotically controlled drives are present. The available values are:

0 = Idle
1= Recording
2= Reading
3= Verifying
4= Disc Loaded
5= Verify Failed
6= Verify Complete
7= Record Failed
8= Record Complete

3.4.25   **DrivePercentX**

Number that contains the percent complete (0-100) of the drive state that the recorder is currently processing. The X represents an index if multiple robotically controlled drives are present.

3.4.26   **DriveJobX**

String that contains the name of the job that the recorder is currently assigned to. The X represents an index if multiple robotically controlled drives are present.

3.4.27   **DriveDiscX**

Number that contains the disc number in the job that the recorder is currently assigned to. The X represents an index if multiple robotically controlled drives are present.

3.4.28   **DiscsInRightBin**

Number that contains the number of discs in the Right Bin. If this value is -1 then the number is unknown. This value is updated each time a disc is picked from a bin. The user can also send the "Check Bins" command to force an update of this value.

3.4.29   **DiscsInLeftBin**

Number that contains the number of discs in the Left Bin. If this value is -1 then the number is unknown. This value is updated each time a disc is picked from a bin. The user can also send the "Check Bins" command to force an update of this value.

3.4.30   **CartridgeFillX**

Number that contains the percent fill of the cartridge. The X is an index when 0 is the left most cartridge.

3.4.31   **CartridgeType**

Number that contains the type of the cartridge. The X is an index when 0 is the left most cartridge.

0 = no cartridge, 1 = color cartridge, 2 = black cartridge

3.5 Drive Statistics Section

There is a drive statistics section for each robotic drive.

3.5.1 **GoodDiscs**

The number of good discs produced by this drive.

3.5.2 **BadDiscs**

The number of bad discs produced by this drive.

3.5.3 **ReadingErrors**

The number of bad discs (produced by this drive) that were a result of reading errors that weren't media related (ie. not Sense 03)

3.5.4 **ReadingErrorsMedia**

The number of bad discs (produced by this drive) that were a result of reading errors that were media related (ie. Sense 03)

3.5.5 **RecordingErrors**

The number of bad discs (produced by this drive) that were a result of recording errors that were not media related (ie. not Sense 03)

3.5.6 **RecordingErrorsMedia**

The number of bad discs (produced by this drive) that were a result of recording errors that were media related (ie. Sense 03)

3.5.7 **VerifyingErrors**

The number of bad discs (produced by this drive) that were a result of verifying errors that were not media related (ie. not Sense 03).

3.5.8 **VerifyingErrorsMedia**

The number of bad discs (produced by this drive) that were a result of verifying errors that were media related (ie. Sense 03)

3.5.9 **DriveNotReady**

The number of bad discs (produced by this drive) that were a result of the drive not becoming ready.

3.6 Example of PTStatus.txt

[System]
SysErrorString=No Errors
SysErrorNumber=0
PtburnSWVer=2, 5, 0, 0

JobProcSWVer=2, 5, 0, 0
PxsdkSWVer=2.0.72.501
PxengSWVer=2.0.72.501
PxDrvSWVer=1.01.28a
PxMasSWVer=2.0.72.501
PxWaveSWVer=2.0.72.501
PxHelp20SWVer=2.03.22a
PxroboSWVer=1, 0, 0, 5
DriveDesc0=HL-DT-ST CD-RW GCE-8526B 1.02
DriveLocation0=Publisher Drive Top (G:)
DriveDesc1=HL-DT-ST CD-RW GCE-8526B 1.02
DriveLocation1=Publisher Drive Bottom (H:)
SystemStatus=Offline
RoboFWVer=1.14 12/23/2004
SystemDesc=Disc Publisher PRO, DVDR
SystemDrives=2
GoodDiscsLaunch=2
BadDiscsLaunch=0
GoodDiscsLife=2
BadDiscsLife=0
ServerTime=01/14/2005 16:02:25
DriveSpace=24980
DriveState0=0
DrivePercent0=0
DriveJob0=None
DriveDisc0=None
DriveState1=0
DrivePercent1=0
DriveJob1=None
DriveDisc1=None

[Publisher Drive Bottom]
GoodDiscs=7
BadDiscs=1
ReadingErrors=0
ReadingErrorsMedia=0
RecordingErrors=0
RecordingErrorsMedia=1
VerifyingErrors=0
VerifyingErrorsMedia=0
DriveNotReady=0

[Publisher Drive Top]
GoodDiscs=9
BadDiscs=2
ReadingErrors=0
ReadingErrorsMedia=0
RecordingErrors=0
RecordingErrorsMedia=1

VerifyingErrors=0
VerifyingErrorsMedia=0
DriveNotReady=1

[JobList]
Job0 = MyJob1
Job1 = YourJob2
Job2 = MyJob2

[CompletedJobs]
Job0 = AnotherJob3

[MyJob1]
JobID = Kevin's photos
ClientID = Kevin
CurrentStatus = Waiting
JobsAhead = 1
DiscsAhead = 3
DiscsRemaining = 10
GoodDiscs = 0
BadDiscs = 0
TimeCreated = 15:32:15 4/15/2003
TimeStarted =
TimeCompleted =
JobState = 0
JobErrorNumber =0
JobErrorString= No Errors

[YourJob2]
JobID = YourJob1
ClientID = John
CurrentStatus = Burning Disc 7 -- Printing Disc 8
JobsAhead = 0
DiscsAhead = 0
DiscsRemaining = 3
GoodDiscs = 6
BadDiscs = 1
TimeCreated = 15:28:15 4/15/2003
TimeStarted = 15:28:22 4/15/2003
TimeCompleted =
JobState = 1
JobErrorNumber =0
JobErrorString= No Errors
DiscErrorIndex0 = 5
DiscErrorNumber0 = 12
DiscErrorString0 = The media (CD/DVD) is not blank

[MyJob2]
JobID = Kevin's music

ClientID = Kevin
CurrentStatus = Completed
JobsAhead = 0
DiscsAhead = 0
DiscsRemaining = 0
GoodDiscs = 5
BadDiscs = 0
TimeCreated = 15:00:08 4/15/2003
TimeStarted = 15:00:12 4/15/2003
TimeCompleted = 15:15:33 4/15/2003
JobState = 2
JobErrorNumber =0
JobErrorString= No Errors

[AnotherJob3]
JobID = Some Data Disc
ClientID = Tech Support
CurrentStatus = Completed
JobsAhead = 0
DiscsAhead = 0
DiscsRemaining = 0
GoodDiscs = 1
BadDiscs = 0
TimeCreated = 12:00:08 4/15/2003
TimeStarted = 12:00:12 4/15/2003
TimeCompleted = 12:15:33 4/15/2003
JobState = 2
JobErrorNumber =0
JobErrorString= No Errors

4 Client Commands

PTBurn clients can send commands to the PTBurn server.

To do this, the client should create a new file in the Job Request Shared Folder with the filename extension of .PTM with the same filename as the JRQ file you are referencing.

4.1 Abort Command

The abort command will abort a particular job. The .ptm file must have the same filename as an existing Job Request File and the valid contents are shown below (note the filenames must match except for the filename extensions).

        Message = ABORT
        ClientID = XXX

Where XXX is the same ClientID that is specified in the corresponding Job Request File. You can abort any job by specifying "Administrator" for the ClientID.

For example, if the client submits a job with the Job Request Filename of:
        MyJob1.JRQ
and then the client decides that this job should be aborted, the client must create a new file called:
        MyJob1.PTM
Note that the ClientID must be specified and it MUST match the ClientID in the corresponding Job Request File – the abort request will be rejected if the ClientID does not match.
For the MyJob1 example (see above) the contents of MyJob1.PTM would be:
        Message = ABORT
        ClientID = Kevin

4.2 Shutdown After Job Command

The "Shutdown After Job" command will shutdown the Server software after any in-process jobs are completed (have a .inp extension). This command will prevent any new jobs from being put into an "in process" state. The unit will finish all actions on the "in process" jobs and then shutdown. The .ptm file can have any name and should be formatted as follows:

        Message=SHUTDOWN_AFTERJOB
        ClientID=Administrator

The ClientID should ALWAYS be fixed to "Administrator".

4.3 Shutdown Immediate Command

The "Shutdown Immediate" command will shutdown the Server software immediately after the message is processed. Messages are processed approximately every 10 seconds. It is only advised to use this message in an emergency. Upon using this command the system will be left in an unknown state. There could be discs left on the picker, in the recorder, or in the printer. The .ptm file can have any name and should be formatted as follows:

Message=SHUTDOWN_IMMEDIATE
ClientID=Administrator

The ClientID should ALWAYS be fixed to "Administrator".

4.4 Align Printer Command

** This command is only valid on the Disc Publisher PRO **
The Align Printer Command will align the printer when the system error is set to 22 or there are no jobs on the system. If the alignment fails, the system error will be set to 31 otherwise the system error will be set to 0. See Appendix C for system error codes.

Message= ALIGN_PRINTER
ClientID=Administrator

The ClientID should ALWAYS be fixed to "Administrator".

4.5 Ignore Ink Low Command

** This command is only valid on the Disc Publisher PRO **
The Ignore Ink Low command will ignore an ink low condition when the system error is set to 5, 6, or 7.

Message= IGNORE_INKLOW
ClientID=Administrator

The ClientID should ALWAYS be fixed to "Administrator".

4.6 Process Disc Command

The Process Disc Command will cause the unit to leave the wait state prior to recording the disc and continue processing the disc. This command is only valid when LoadUnloadOverride was set to YES in the .JRQ Job Request File.

Message= PROCESS_DISC
DiscID=X

The DiscID should contain the id of the disc that is being processed (ie. the X value from LoadDiscStateX =   in the Status file). See Appendix D for an example of how to use this message with the load/unload override functionality.

4.7 Reject Disc Command

The Reject Disc Command will cause the unit to leave one of the two wait states (prior to recording or once recording is finished) and reject the disc. This command is only valid when LoadUnloadOverride was set to YES in the jobs jrq file.

Message= PROCESS_DISC
DiscID=X

The DiscID should contain the id of the disc that is being processed (ie. the X value from LoadDiscStateX =   in the Status file). See Appendix D for an example of how to use this message with the load/unload override functionality.

4.8 Unload Command

The Unload Disc Command will cause the unit to leave one of the two wait states (prior to recording or once recording is finished) and unload the disc. This command is only valid when LoadUnloadOverride was set to YES in the jobs jrq file.

> Message= PROCESS_DISC
> DiscID=X

The DiscID should contain the id of the disc that is being processed(ie. the X value from LoadDiscStateX =   in the Status file). See Appendix D for an example of how to use this message with the load/unload override functionality.

4.9 Check Bins Command

The "Check Bins" command will cause the Disc Publisher to check each bin for the number of discs remaining. It will then update the DiscsInLeftBin and DiscsInRightBin values of the status file. The .ptm file can have any name and should be formatted as follows:

> Message= CHECK_DISCSINBIN
> ClientID=Administrator

The ClientID should ALWAYS be fixed to "Administrator". This command will only work if there are no jobs in the system.

5   Appendix A: PTSetup.ini

The file PTSETUP.INI is a "loose" file that can be modified before deployment. Below is a copy of the default PTSETUP.INI file. See the description below for each key. It is advised that you modify this file (in the PTBurn directory on the installation disc) before you deploy your solution; the installer will then install your modified version which PTBurn server can use. If you do wish to modify the PTSETUP.INI file after installation through your own application then you can find the location of the PTSETUP.INI directory by querying the Registry key called: DataPath   which is located in the Registry at: HKEY_LOCAL_MACHINE\SOFTWARE\Primera\PTBurn
Note that that PTBurn will parse PTSETUP.INI when launched each time, so your program should modify PTSETUP.INI before launching PTBurn.exe. To find the directory where the PTBurn executable is located you can query the Registry key called: AppPath   which is located in the same location in the Registry.

```
; PTSETUP.INI
;
; Setup file for the Primera Text-Based Shared-Folder Burning application PTBurn.
;

; NOTE: This is the default PTSETUP.INI file
; To change the defaults, you should edit this file before installing PTBurn.
```

[PTBurn_Settings]

```
;---------------------------------
; Job Request File extensions for the 4 phases of the job (6 including Job Aborting and Job Error)
;           1. When the job is submitted
;           2. When the job has been found and registered by PTBurn
;           3. When the job is in process
;           4. When the job has been completed.
;           5. If the job is being aborted
;           6. If the job had an error (after aborted the extension is set to error)
;
;           7. Message extension - client can create same filename as Job Request File but with the
;                          Message extension to send a message to the server regarding this job
;                          (e.g. Abort the job)  NOTE: this should be a separate file from the Job
;                          Request File.  See documentation for valid messages.
; PTBurn will initially scan for all files with the extension given by
; the Job_New_Ext key below -- this means all Clients must use this filename extension
; when submitting a new job ( example:  MyJob.JRQ)
;---------------------------------
Job_New_Ext=JRQ
Job_Found_Ext=QRJ
Job_InProcess_Ext=INP
Job_Done_Ext=DON
Job_Error_Ext=ERR
Job_Aborting_Ext=ABT
Job_Message_Ext=PTM


;
; How long before a lower priority job will be processed over a higher priority job ; (in minutes).
```

; For example, if a job with a priority of 9 (lowest) has been waiting for over 120 minutes it will be processed
; before a job with a priority of 0 (highest) that has been waiting for less than 120 minutes. This key is only
; relevant for jobs request files that haven't been changed to "IN PROCESS" (.inp).
LowPriority_Time = 120

; How long the status information stays around (in PTSTATUS.TXT) before being deleted (in minutes)
; This is also specifies how long the job request file (now .don or .err) will remain before being deleted.
Status_Time = 60

; What is the level of logging that PTBurn should track:
; 0 = No logging
; 1 = errors only
; 2 = warnings & errors
; 3 = some details
; 4 or 5 = more and more details...
LogLevel=3

; Number of rejects in a row before PTBurn will abort the job
Rejects_InARow=4

; Should PTBurn attempt to complete all the copies requested
; or should it only process the number of discs requested
; TRUE will finish all copies requested (regardless of the number of rejects)
; FALSE will only deal with the number of disc requested (if any rejects occur then the number of good discs will be
less than the number of copies requested)
CompleteAllCopies=TRUE

; Specifies whether PTBurn should suppress dialog messages or not.
; FALSE will cause PTBurn to show dialog messages including errors.
; TRUE will cause PTBurn to suppress its dialog messages. In this case, the front-end application
; should attempt to notify the user of any errors (as obtained from the Status file).
QuietMode=FALSE

; Specifies what to do with "in process" (.inp) jobs on startup. This key has no effect on jobs that have not
; started (.JRQ or .QRJ) or jobs that were completed, aborted or errored out (.DON or .ABT or .ERR) .
; Prompt will ask the user at the server to decide what to do with the job. (this is the DEFAULT)
;   Note that the user will get a prompt even if QuietMode=TRUE. For no dialog use Kill or Retry.
; Kill will automatically kill the job/s without prompting the user
; Retry will automatically retry the job/s without prompting the user
JobActionOnStartup=Prompt

;Specifies if the admin (set up through the "Setup Admin Notifications" button in the
;Settings dialog on the server) is to receive net messages when system errors occur.
;The AdminComputer key specifies the admin, this MUST be a computer name on the network.
;By default this notification is disabled; To enable net messages set to: NotifyAdmin=Message
NotifyAdmin=Disabled
AdminComputer=COMPANYX-NAME1

; !!!!!!! DO NOT MODIFY THIS KEY !!!!!!!!!!!!!
SERVER_VERSION=SDK_VERSION
; !!!!!!! DO NOT MODIFY THIS KEY !!!!!!!!!!!!!

; Added to disable the power button, default is TRUE;
; Set to TRUE to have the power button disabled while PTBurn is running.
; Set to FALSE keep the power button enabled while PTBurn is running.
DisablePowerButton=TRUE

;Used only when you want to specify a bin for each type of media (DVD and CD). The Possible values are

;   0 = Don't Care (Default).
;   1 = DVDs in left bin, CDs in right bin
;   2 = CDs in left bin, DVDs in right bin
; Specifying 1 or 2 will cause all discs to be output to the front slide. For 1 and 2 each job submitted must
; specify the DiscType key as either CDR or DVDR

BinConfiguration=0

;Found that on some Disc Publisher I units (Firewire interface with LG drives) the drive will fail to open, but
;will still respond like it is open causing a mispick error. By adjusting the time between
;when we stop the drive from spinning and when we open the drive we can prevent this from happening.
;The default value is 2 seconds. Found on units that exhibit this problem a 10sec delay fixed the problem.

DriveDelay=2

;This string will set the temp path that the recording engine uses to store temporary data necessary to
;burn the disc.   The folder must exist or the job will fail with an Internal Recording Engine error.

TempPath=C:\

;This key will cause PTBurn to use the old PXROBO_B.INI instead of the new printer specific
;Disc Publisher II_CFG.ini file. This was added for backwards compatibility, and we recommend setting it to ;FALSE;
UseOldIniFile = FALSE

;This key determines how the PTBurn application will minimize. If MinimizeStyle is set to Normal then the
;application will minimize to the start bar like any other application. If MinimizeStyle is set to Taskbar then
;the application will minimize to the taskbar. The default value is Normal.
MinimizeStyle=Normal

;This key will will specify if the disc publisher will print before recording. This is necessary for business card
;discs. The default value is False.
PrintFirst=False

;This key will allow the hot folder to not be a shared folder. If this is the case you can specify the local path with the
;LocalPath key. If you aren't using the NoSharedFolder key you should not set the LocalPath key, it will be created
;by the application when you set up the shared folder
;NoSharedFolder = False
;LocalPath=c:\ptburnjobs\

;This key determines how much time PTBurn will wait between getting a coveropen error and reporting it. This is set to
;10 by default because we want to prevent getting an error when the user just opens and shuts the cover.
CoverOpenWait=10

;This key will force PTBurn only to burn to one drive at a time.
BurnToOnlyOneDrive=FALSE

; end of PTSETUP.INI

There is another .INI file packaged with PTBurn that can affect robotics behavior. Actually, there are several files included, but the name of the file used depends on the unit being utilized. For Disc Publisher, Disc Publisher II, and Disc Publisher PRO, the name of the file is the same as the Printer name with "_CFG.INI" appended. So, for Disc Publisher II the file is called "Disc Publisher II_CFG.INI", and for Disc Publisher PRO the file is called "Disc Publisher PRO_CFG.INI". For the ComposerMax, the filename is called "PxRobo_MAX.INI".

This file is modified by PTBurn when you change settings at Settings/Options within PTBurn. This file is also packaged as a loose file and can be modified before deployment. After installation, the location of this file can also be obtained from the Registry using the DataPath key as described for PTSETUP.INI above.

; Beginning of Disc Publisher II_CFG.INI

[SETTINGS]

; INI for PTBurn PxRobo for Disc Publisher II

; This determines if Printing and Recording are to be done simultaneously or not.
; 0 = do not Print and Record at the same time
; 1 = Print and Record simultaneously
Record-Print=1

; This determines if Kiosk mode is enabled or not (Kiosk mode places discs onto front slide instead of left bin)
; 0 = Kiosk disabled
; 1 = Kiosk enabled
Kiosk-Mode=0

; This determines if a rejected disc will have the word "REJECT" printed onto the disc.
; 0 = don't print Reject
; 1 = print reject
Print-Reject=0

; This determines if a warning will be displayed if Surething is not installed
; 0 = don't show warning
; 1 = show warning
Show SureThing Question=1

; This determines if the printing dialog is minimized or not.
; 0 = not minimized
; 1 = minimized
MinimizePrint=1

; end of Disc Publisher II_CFG.INI

6 Appendix B: Deployment Details

Primera includes an installer that can be used to install the PTBurn server and the PxEngine. Simply launch the file **SETUP.EXE** in the PTBurn directory and complete the installation. Each vendor can perform some customization by editing the loose files PTSETUP.INI and PXROBO_B.INI before deployment. See the PTSETUP.INI and PXROBO_B.INI files in the PTBurn directory for customization choices in each file.

If you do <u>not</u> wish to utilize the SETUP.EXE installer provided to install the PTBurn server, but would instead like to write your own installer, below are some steps that must be followed in order to successfully install the PTBurn SDK.

Installation of PxEngine:

In order to install the recording engine the executable **pxsetup.exe** in the PxEngine directory needs to be called. This executable will run silently and almost instantaneously. The user must reboot prior to running PTBurn. You can continue to install other software components but the reboot must occur before the software is first launched.
Alternatively, you can run the executable PxEngineXXX.exe to install the burning engine (where XXX is the version number); however, this is not a silent installation and it will prompt the user to reboot the computer after installation.

Location of PTBurn executables:

The server installer SETUP.EXE installs the following files in "C:\Program Files\Primera Technology\PTBurn Server\Server\". If you write your own installer, these files are not location dependent and can be installed in any location desired. However, a registry key MUST be created to reference the location of these files. These files NEED to be in the location specified by the registry key.

Registry Key:
        HKEY_LOCAL_MACHINE\SOFTWARE\Primera\PTBurn\AppPath

Files:
        PTBurn.exe
        JobProcessor.dll
        Robo.dll
        PxRoboDPPRO.dll
        PxRoboDP.dll
        PxRoboMAX.dll
        PXSDKPLS.dll

Location of supplementary files:

The server installer SETUP.EXE also installs the following files in "C:\Program Files\Common Files\PTBurn". These files are not location dependent and can be installed to another location if

desired. However, your installer MUST add a registry key to reference the location of these files. These files NEED to be in the location specified by the registry key.

Registry Key:
       HKEY_LOCAL_MACHINE\SOFTWARE\Primera\PTBurn\DataPath

Files:
       PTSETUP.ini
       BitmapPTBurn.std
       Disc Publisher_CFG.INI
       Disc Publisher II_CFG.INI
       Disc Publisher PRO_CFG.INI
       PxRobo_MAX.INI

7 Appendix C: Job and System Error Codes

System Errors

System errors are defined in the table below. These are errors that occur that require administrator attention. PTBurn provides these error numbers and messages in the SystemStatus section of the PTSTATUS.TXT file (See section IV of this document) with key values of SysErrorNumber and SysErrorString. You may choose to use/display the error string provided, or develop your own, for each respective error number.

System Error	
Number	**String**
0	No Errors
1	Administrator attention: Printer tray movement error.
2	Administrator attention: Invalid cartridge.
3	Administrator attention: Input bin is empty.
4	Administrator attention: Internal printer communication error.
5	Administrator attention: Color ink cartridge is low.
6	Administrator attention: Black ink cartridge is low.
7	Administrator attention: Both ink cartridges are low.
8	Administrator attention: Failure picking disc.
9	Administrator attention: Mechanical error moving robotic arm.
10	Administrator attention: Mechanical error moving printer cartridge.
11	Administrator attention: Server lacks local admin rights on the machine.
12	Administrator attention: Internal software error (PTBurn.exe).
13	Administrator attention: No robotically controlled drives are present.
14	Administrator attention: The unit is offline.
15	Administrator attention: The cover on the unit has been open for an extended period of time.
16	Adminstrator attention: Failure picking disc.
17	Administrator attention: Multiple discs were picked.
18	Administrator attention: Disc was dropped while moving into the Recorder.
19	Administrator attention: Disc was dropped while moving into the Printer.
20	Administrator attention: Disc was dropped while moving into the Left Bin.
21	Administrator attention: Disc was dropped while moving to Reject (Front Slide).
22	Administrator attention: The printer needs alignment.
23	Administrator attention: Invalid color cartridge.
24	Administrator attention: Invalid black cartridge.
25	Administrator attention: Both cartridges are invalid.
26	Administrator attention: No cartridges are installed.
27	Administrator attention: The Black Cartridge is in the Color Cartridge holder.
28	Administrator attention: The Color Cartridge is in the Black Cartridge holder.
29	Administrator attention: The Color and Black cartridges are swapped.
30	Administrator attention: This printer is not compatible with a pigment based cartridge.
31	Administrator attention: The alignment print failed.

When not in "Quiet" mode there will be an error message displayed on the server dictating the required actions to recover from the error. However if you are in quiet mode, the following listing contains suggested alternative error strings that may provide the user with more information. This list contains only those errors that have a possible recover action apart from restarting the unit and server software. In the case of a user trying to clear the error (by the method suggested in the strings below), your software can find out if the retry was successful by seeing if the SysErrorNumber changes back to 0.

System Error 1

"Tray movement error. Press the Cartridge button (left button) on the unit to try again."

System Error 2

"There was a problem finding the ink cartridges. Open the cover and press the Cartridge button (left button). Make sure the color cartridge is installed on the left and the black is on the right. Then close the lid."

System Error 3

"The input bin is empty. Add more discs and push the Cartridge button (left button) on the unit."

System Error 4

"There was an internal printer communications error. Press the Cartridge button (left button) on the unit to try again."

System Error 5

"WARNING: The COLOR cartridge (left side) is LOW on ink. To replace the cartridge, open the cover on the unit and press the Cartridge button (left button), install the new cartridge, and close the cover. To ignore the warning press the Cartridge button (left button)."

System Error 6

"WARNING: The BLACK cartridge (right side) is LOW on ink. To replace the cartridge, open the cover on the unit and press the Cartridge button (left button), install the new cartridge, and close the cover. To ignore the warning press the Cartridge button (left button)."

System Error 7

"WARNING: BOTH cartridges are LOW on ink. To replace the cartridge, open the cover on the unit and press the Cartridge button (left button)., install the new cartridges, and close the cover. To ignore the warning press the Cartridge button (left button)."

System Error 8

"The disc was not picked. Push the Cartridge button (left button) on the unit to try again."

System Error 9

"There was an arm movement error. Press the Cartridge button (left button) on the unit to try again."

Note: This error is specific to Disc Publisher I, and not Disc Publisher II.

System Error 10
"Arm picker error (unable to home the picker or unable to hook up the picker). Press the Cartridge button (left button) on the unit to try again."

System Error 11
"The current user does not have local administrator rights. Please login with local administrator rights and re-start the software."

System Error 12
"There was an internal software error. Please re-start the software."

System Error 13
"No external recorder drives were found. Please unplug all cables from the Disc Publisher (including power). Then plug all cables back into the Disc Publisher, re-boot the computer, and then re-start the software."

Note: This error will occur only at the start of the software.

System Error 14
"The Disc Publisher is offline. Please ensure the unit is connected and powered on, and then shutdown and restart the software."

Note: In order to consistently recover from the unit going offline the cause must be determined and corrected, and the software restarted.

System Error 15
"The Disc Publisher cover is open. Please close the cover."

System Error 16
"The disc was not picked from the printer. Please manually remove the disc from the printer. Then close the cover and press the power button (right button) several times to reset the printer."

System Error 17
"Multiple discs were picked up and moved. Please manually remove any extra discs that were moved, keeping a single disc in place. Then close the cover and press the left button."

System Error 18
"The disc was dropped while moving into the Recorder. Please manually place the disc into the Recorder tray. Then close the cover and press the left button."

System Error 19
"The disc was dropped while moving into the Printer. Please manually place the disc into the Printer tray. Then close the cover and press the left button."

System Error 20

"The disc was dropped while moving into the Left Bin. Please manually place the disc into the Left Bin. Then close the cover and press the left button."

System Error 21
"The disc was dropped while moving to the Reject area (Front Slide). Please remove the dropped disc from the printer. Then close the cover and press the left button."

System Error 22
** Only used on the DiscPublisherPRO **
"The printer needs to be aligned. Would you like to align the printer now? Click "Yes" to align the printer, or "No" to quit the application.

System Error 23
** Only used on the DiscPublisherPRO **
"The color cartridge is invalid. To change the cartridge open the cover, press the "Cartridge" button, change the cartridge, close the cover and press "Ok" to continue.

System Error 24
** Only used on the DiscPublisherPRO **
"The black cartridge is invalid. To change the cartridge open the cover, press the "Cartridge" button, change the cartridge, close the cover and press "Ok" to continue.

System Error 25
** Only used on the DiscPublisherPRO **
"Both cartridges are invalid. To change the cartridges open the cover, press the "Cartridge" button, change the cartridge, close the cover and press "Ok" to continue.

System Error 26
** Only used on the DiscPublisherPRO **
"No cartridges are installed. To install cartridges open the cover, press the "Cartridge" button, change the cartridge, close the cover and press "Ok" to continue.

System Error 27
** Only used on the DiscPublisherPRO **
"The black cartridge is in the color cartridge holder. To change the cartridges open the cover, press the "Cartridge" button, change the cartridge, close the cover and press "Ok" to continue.

System Error 28
** Only used on the DiscPublisherPRO **
"The color cartridge is in the black cartridge holder. To change the cartridges open the cover, press the "Cartridge" button, change the cartridge, close the cover and press "Ok" to continue.

System Error 29
** Only used on the DiscPublisherPRO **

"No cartridges are swapped (color in black and black in color holders). To change the cartridges open the cover, press the "Cartridge" button, change the cartridge, close the cover and press "Ok" to continue.

System Error 30
** Only used on the DiscPublisherPRO **
"This printer is not compatible with a pigment based cartridge. To change the cartridges open the cover, press the "Cartridge" button, change the cartridge, close the cover and press "Ok" to continue.

System Error 31
** Only used on the DiscPublisherPRO **
"The alignment print failed. Would you like to retry the alignment now? Click "Yes" to align the printer, or "No" to quit the application.

Job/Disc Errors

Job/Disc errors are defined in the table below. These are errors that either cause a job to fail, or cause a disc within a job to fail. A job error means the job did not complete successfully, whereas disc errors within a job will not cause the job to fail unless too many rejected discs in a row are encountered. PTBurn provides these error numbers and messages in each job's "Job Details" section of the PTSTATUS.TXT file (See section IV of this document) with key values of JobErrorNumber and JobErrorString for job errors, and DiscErrorNumberX and DiscErrorStringX for disc errors (where X is an integer from 0 to 9). You may choose to use/display the error string provided, or develop your own, for each respective error.

Job/Disc Errors		
Number	**String**	**Error Type**
0	No Errors	Job
1	Internal recording engine error.	Job
2	Internal Job Processor error.	Job
3	Internal robotics error.	Job
4	The file/s you are trying to burn are invalid.	Job
5	The number of files you are trying to burn exceeds the limit.	Job
6	There is no burn file defined for this job.	Job
7	The print file is invalid.	Job
8	The job request file is invalid.	Job
9	The status file is corrupted or invalid.	Job
10	The media (CD/DVD) is invalid.	Disc
11	The media (CD/DVD) has insufficient space.	Disc
12	The media (CD/DVD) is not blank.	Disc
13	The drive failed to open/close.	Job
14	The drive failed to become ready in a reasonable time.	Disc
15	The drive selected is not a robotically controlled drive.	Job
16	The job was aborted.	Job
17	The DVD structure was invalid.	Job
18	Error recording the disc, see the log file for further information.	Disc
19	Error verifying the disc, see the log file for further information.	Disc
20	The number of allowable rejects was exceeded.	Job
21	The session of a mulitsession disc is invalid.	Job
22	This client (You) are not authorized to use the server and there are no licenses availabl	Job
23	Error processing client message.	Job
24	An unknown job type was attempted.	Job
25	A critical key or value in the job request was invalid	Job
26	The temporary folder has exceeded its limit.	Job
27	The CDText you attempted to use is invalid.	Job
28	The print application is not installed.	Job
29	The print file does not exist.	Job
30	Invalid cartridge/s for the print file specified.	Job
31	Insufficient space in the read disc location.	Disc
32	Error reading the disc, see the log file for further information.	Disc
33	The PVD data is invalid	Job
34	Invalid job type for specifying PVD Data	Job

Job/Disc Error 1
> This error indicates a problem with the recording engine module. This error will cause the job to fail.

Job/Disc Error 2
> This error indicates a problem with the JobProcessor.dll module. This error will cause the job to fail.

Job/Disc Error 3
> This error indicates a problem with the PxRobo.dll module. This error will cause the job to fail.

Job/Disc Error 4
> This error will occur when an invalid burn file/s is specified. An invalid file error can be caused by missing files, corrupt files, or files that are not in the correct format for the job requested. This error will cause the job to fail.

Job/Disc Error 5
> The maximum files/folders that can be burned is 99. However, files that are contained within a folder that is specified do not count towards the maximum. This error will cause the job to fail.

Job/Disc Error 6
> The error will occur when there is no data files/folder in a job. This error will cause the job to fail.

Job/Disc Error 7
> This error will occur when an invalid print file is specified. An invalid print file could be a file that is not one of the following types: .std, .bmp, .jpg, or .prn. This can also occur with a .prn file that was not created for the printer being used. This error will cause the job to fail.

Job/Disc Error 8
> This error will occur when an invalid Job Request File is specified. This could be the result of a missing or locked file. This error will cause the job to fail.

Job/Disc Error 9
> This error will not occur in the SDK version of PTBurn.

Job/Disc Error 10
> This error will occur when attempting to burn to invalid media. This could be the result of a flipped disc or an unreadable disc.   This error will cause the disc to fail.

Job/Disc Error 11
> This error will occur when attempting to burn more data than is available on the recordable media. This error will cause the disc to fail.

Job/Disc Error 12

> This error will occur when attempting to burn data to a disc that is not blank and the key RejectIfNotBlank (in the jrq file) is set to YES. This error will cause the disc to fail.

Job/Disc Error 13

> This error will occur when the drive fails to respond to open/close commands. This error will cause the job to fail.

Job/Disc Error 14

> This error will occur when a drive fails to become ready after the disc has been inserted. This is usually the result of poor/unreadable media (making it similar to Job/Disc Error 10).   This error will cause the disc to fail.

Job/Disc Error 15

> This error will occur when the drive that is being used for a job is not the drive in the Disc Publisher. This error can occur when the Disc Publisher drive is not seen by the server, and there is another external recorder on the system. This error will cause the job to fail.

Job/Disc Error 16

> This error will occur if the job is aborted by the user.

Job/Disc Error 17

> This error will occur when the VIDEO_TS or AUDIO_TS structures do not respect the DVD-Video or DVD-Audio rules.   This error will cause the job to fail.

Job/Disc Error 18

> This error will occur when the engine reports an error recording the disc. This error will also be accompanied by Sector, Sense, ASC, and ASCQ values. This error will cause the disc to fail.

Job/Disc Error 19

> This error will occur when the engine reports an error verifying the disc. This error will also be accompanied by Sector, Sense, ASC, and ASCQ values. This error will cause the disc to fail.

Job/Disc Error 20

> This error will occur when the maximum allowable reject limit has been reached. This error will cause the job to fail.

Job/Disc Error 21

> This error will occur when the session of a multisession disc is invalid. This error will cause the job to fail.

Job/Disc Error 22

> This error will not occur in the SDK version of PTBurn.

Job/Disc Error 23

This error will occur if there is an error processing a client message. This error will cause the job to fail.

Job/Disc Error 24

This error will occur if an unknown job type is specified in the .jrq file. This error will cause the job to fail.

Job/Disc Error 25

This error will occur if a critical key in the jrq file is invalid. This error will cause the job to fail.

Job/Disc Error 26

This error will occur if the temporary storage area for the application runs out of space. This error will cause the job to fail.

Job/Disc Error 27

This error will occur if the CD Text is in an invalid format or exceeds the maximum CD Text length (6000 bytes). This error will cause the job to fail.

Job/Disc Error 28

This error will occur if the CD printing application is not installed and the job requires the printing application. This error will cause the job to fail.

Job/Disc Error 29

This error will occur if the print file specified in the jrq file does not exist. This error will cause the job to fail.

Job/Disc Error 30

This error will occur if an improper ink cartridge is installed for the print file you are attempting to print (e.g. only the Black cartridge is installed but you are attempting to print with Color).

Job/Disc Error 31

This error will occur if the location the you specify to read the data to in a read job does not have sufficient space for the data. This error will cause the disc to fail.

Job/Disc Error 32

This error will occur when the engine reports an error reading the disc. This error will also be accompanied by Sector, Sense, ASC, and ASCQ values. This error will cause the disc to fail.

Job/Disc Error 33

This error will occur if a PVD field is invalid. This is usually the result of a field being too large. This error will cause the job to fail.

Job/Disc Error 34

This error will occur if PVD fields are specified for any jobs except Data Disc Jobs. This error will cause the job to fail.

8 Appendix D: Loading/Unloading Override

PTBurn now allows an external program to override disc load/unload functionality.   This is useful if you want to do some external processing of the disc, either before recording or after recording. This also allows the ability to load discs into the drive so an external program can read information from the drive (without performing any recording). An example of one use of this functionality is detailed below:

The user wants to run their own "special" verification procedure on the disc. They want this procedure to run prior to unloading the disc to the printer and want to be able to control whether the disc passes or fails based on their verification.

- User submits a Recording/Printing job with LoadUnloadOverride = YES.

- Once the disc is loaded, PTBurn will set the following values in the Job specific status section:

  [JobXYZ]
  LoadDiscState0 = 1
  LoadDiscDrive0 = F

- This notifies the client that the disc is loaded in drive F: and in a hold state until the client releases the hold state. The user could do some special procedure on the disc at this point if they desire.
- The user releases the hold state by sending the "Process Disc" message. For this example the message file must be called JobXYZ.ptm and the contents are shown below. The DiscID is the value of X from the LoadDiscStateX in the status file.

  Message= PROCESS_DISC
  DiscID=0

- Once PTBurn processes the "Process Disc" message the .ptm file is deleted and the Job specific status section is updated as follows:
  [JobXYZ]
  LoadDiscState0 = 2
  LoadDiscDrive0 = F

- At this point PTBurn will process the recording portion of the job as it was specified in the .JRQ file. If no recording is specified in the JRQ file, the PTBurn will skip over the recording phase.
- Once completed, PTBurn will enter a hold state with the job status section as follows:
  [JobXYZ]
  LoadDiscState0 = 3
  LoadDiscDrive0 = F

- At this point, the client can perform his "special" verification procedure on the disc.
- If the user's special verification procedure fails, the client can send the "Reject Disc" message as detailed below. This will cause the hold state to end, and the disc will fail and be rejected appropriately. The contents of JobXYZ.ptm would be:

Message= REJECT_DISC
DiscID=0

- However, if the user's special verification passes, the client can send the "Unload Disc" message as detailed below. This will cause the hold state to end. The job will continue with printing if the JRQ file specifies that the disc be printed on. Otherwise, the disc will be unloaded to the output. Here are the contents of JobXYZ.ptm:

Message= UNLOAD_DISC
DiscID=0

9   Revision History

5/4/06 - document version 2.6.1
- Updated the abort command to abort any job if the ClientID in the command is set to "Administrator"(Section 4.1)
- Added CoverOpenWait key (Appendix 5)
- Added BurnToOnlyOneDrive key (Appendix 5)
- Added Disc Publisher XRP as a supported robot.

2/27/06 - document version 2.6.0
- Add Ink Level Monitoring (Section 3.4.30 and 3.4.31)
- Added NoSharedFolder Key (Appendix 5)

1/25/06 - document version 2.5.9
- Added Drive Selection (Section 2.1.41)
- Added Drive Statistics   (Section 3.5)
- Added sample Drive Statistics sections to the Status File example (Section 3.6)

10/14/05 - document version 2.5.8
- Added Disc Publisher XR to supported devices list.

9/15/05 - document version 2.5.7
- Added note about DVD video burning. (Section 2.1.10)

5/23/05 - document version 2.5.6
- Added links within the document.

5/13/05 - document version 2.5.5
- Added sections 2.1.40 (PreMasterData).

4/21/05 - document version 2.5.4
- Added sections 3.4.28 (DiscsInRightBin) and 3.4.29 (DiscsInLeftBin).
- Added Section 4.9 (Check Discs Command).

4/1/05 - document version 2.5.2
- Added Table of Contents and new cover sheet and renamed PTBurnSDK.doc.
- Page 31: Added the PrintFirst key to the PTSetup.ini file to support "print before burn" functionality.
- Page 31: Added the MinimizeStyle key to the PTSetup.ini file to support minimizing to the taskbar.

3/15/05 - document version 2.5.1
- Page 17: Added note about not accessing PTStatus.txt with exclusive access.
- Page 32: Added UseOldIniFile key to PTSetup.ini.
- Replaced Bravo with Disc Publisher.

1/20/05 - document version 2.5   (initial release of PTBurn 2.5)

NOTE: PTBurn 2.5 is the first version to work with multiple-drive units.

- Added LoadUnloadOverride key. See Appendix C for more details.
- Added LoadDiscState, LoadDiscDrive values to Status file when using LoadUnloadOverride=YES.
- Added more information regarding drive information in the Status file: DriveLocation, DriveState, DrivePercent, DriveJob, DriveDisc.
- Added more .PTM message commands: Align Printer, Ignore Ink Low, Process Disc, Reject Disc, Unload. See section V. for details.
- Added ability in PTSETUP.INI to specify the location of the temporary directory for the recording engine. Appendix A.
- The INI file that contains robotic options (e.g. Kiosk mode) has been changed from PXROBO_B.INI to whatever the name of the printer is (e.g. Disc Publisher II.INI, Disc Publisher PRO.INI). Appendix A.
- The install files have changed (more DLL files installed) to support multiple robots with the same install. Appendix B.
- Many System Errors added. System Error 22 through Error 31 added.
- Job/Disc Errors added. Error 31 through 34 added.