

Xitron Raster Blaster Linotronic Device Driver Manual

*For use in configuring and using the Xitron
Linotronic Device Driver for the Xitron Raster Blaster*

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Overview

Device Drivers for Xitron's Raster Blaster use a two board interface card set. The first board is a PCI interface (called the Bus Interface or BIF) which provides an interface from the Device Driver on the PC to the second board. The second board is an ISA interface which can be customized for a particular recorder family. This card is called the Personality Board or PB2. These two cards are cabled together using an internal ribbon connector. Either one or two PB2 cards can be attached to a single PCI BIF card.

A Device Driver is the sole method of outputting data to an imagesetter or printer in the Xitron Raster Blaster. Each Device Driver supports a particular engine class or family. When the Xitron Raster Blaster is started it scans a directory called "devices" for Device Driver files. For each Device Driver it finds, it loads that Device Driver and begins to query the Device Driver for a description of the capabilities of the recorders in the family it supports. This includes media widths, resolutions density ranges and so on. In this manner the Device Driver tells the Raster Blaster how to configure itself if it wants to output a bitmap to a recorder in its family.

Device Drivers

Device Drivers for the Xitron Raster Blaster are Win32 dynamic link libraries. Device Drivers control all actions of an output device for the Raster Blaster. This includes checking status's, device setup, imaging of data and advancing and cutting material. The Device Driver relays to the Raster Blaster all the physical characteristics of an engine such as supported resolutions and imageable area.

When the Raster Blaster has a page to image on an output device it loads the Lino Device Driver and begins a series of steps to begin output. The Raster Blaster first gives the Device Driver a chance to initialize the engine and check that it is ready. Assuming it is, it begins to read bitmap data off disk (or render the data in "Single/If" mode) into the Printer Buffer, telling the Device Driver where the data is in memory. When the Raster Blaster has filled the printer buffer, the Device Driver starts the output device. As the output device consumes the data, the Device Driver relays this information to the Raster Blaster, which then refills the memory. This continues until all of the data has been output. The Raster Blaster then tells the Device Driver that the job is over and waits for the Device Driver to indicate that the recorder has finished. This process happens for each page output to an engine.

Device Driver Messages

When a Device Driver encounters an error on an output device, it will print an appropriate error message. The short form of this message will appear in the Throughput Controller. The long form will appear in the Raster Blaster System Monitor window. Refer to figure 1 on the last page of this document for a sample of the Raster Blaster running. If the error encountered is one that can be easily remedied, i.e. an empty paper tray, then the Device Driver will continue to periodically test the engine until the error has been cleared. During this time the user may disable output by checking the "Disable output" check box in the Throughput Controller and dragging the page to either the Active or Held queues. If the error is

serious, the Device Driver will request that the Raster Blaster disable output and the page will be placed back in the Active Queue automatically.

Warning and informational messages common to all Device Drivers

The following table list the error messages that are common to all the Device Drivers developed by. These are from XDII32.dll:

<i>Message</i>	<i>debug level</i>	<i>Description</i>
BIFOpen	3	The Device Driver has opened the BIF (pci card) driver at the start of a page.
PB2Open	3	The Device Driver has opened the PB2 card driver at the start of a page.
BIFClose	3	The Device Driver has closed the BIF (pci card) driver at the end of a page.
PB2Close	3	The Device Driver has closed the PB2 card driver at the end of a page.
DriverStartPage Page Image Parameters: leftMargin: # lm(#) rightMargin: # rm(#) topMargin: # tm(#) bottomMargin: # bm(#) preRaster: # postRaster: # printWidth: # printHeight: # maxWidth: # maxHeight: #	3	These are the paramters for the page that is about to start outputting. These values are a result of any clipping that was performed due to a page being larger that the output device. These numbers are in device pixels.
Enable PCI Private Bus Port: #	2	The Device Driver is using the specified Private Bus port on the BIF board.

The following table list the error messages that are common to all the Device Drivers developed by Xitron. These are from the Device Driver itself:

<i>Message</i>	<i>debug level</i>	<i>Description</i>
Agfa.i32 Jul 3 1996, 17:09:38 -- version 2.0	0	Lists the Device Driver filename, date and time it was built along with the version and revision number.
Windows platform: Windows NT. version: 3.51. build(1057)	1	Lists the operating system, version and build number.
Job: "1. 10/22 Bird migration (C)" started at: Sun Aug 11 14:55:38 1996	1	When the Device Driver starts to output a page, it list the job name as well as the current date and time.
Job: "1. 10/22 Bird migration (C)" aborted at: Sun Aug 11 14:55:38 1996	1	When the Device Driver finishes outputting a page, the job name as well as the current date and time are listed.
Job: "1. 10/22 Bird migration (C)" aborted at: Sun Aug 11 14:55:38 1996	1	If the Device Driver has aborted output for any reason, it lists this message.
Enable PCI BIF port #	3	The Device Driver has requested that the listed Private Bus port on the PCI card be opened.
OpenPB2Card	3	The Device Driver has requested that the driver for the PB2

<i>Message</i>	<i>debug level</i>	<i>Description</i>
ClosePB2Card	3	card be opened. The PB2 card driver is being closed.
>>Warning -- # line(s) of raster data were not imaged	2	If the output device terminates the job early -- before all the data has been consumed, this message is printed. Check the output device for any errors.
Cut complete	2	The Device Driver has successfully completed a cut on the output device.
Width clipping set to # pixels from dialog	3	Any pages wider than the value listed will be clipped to this width. This value is from the Device Driver's configuration dialog box.
Width clipping set to %d pixels from device dimensions	3	Since a width clipping value was not entered in the Device Driver's configuration dialog box, the physical limit of the output device will be used to clip pages. This is typically the default.
Height clipping set to # lines from dialog	3	Any pages longer than the value listed will be clipped to this height. This value is from the Device Driver's configuration dialog box.
Height clipping set to # lines from device dimensions	3	Since a height clipping value was not entered in the Device Driver's configuration dialog box, the physical limit of the output device will be used to clip pages. This has no effect for capstan devices.
>>Warning: Positive right margin disabled through .ini file	2	The page has a positive right margin, but the installed hardware does not support positive margins.
>>Warning: Positive left margin disabled through .ini file	2	The page has a positive left margin, but the installed hardware does not support positive margins.
>>Warning: Positive top margin disabled through .ini file	2	The page has a positive top margin, but the installed hardware does not support positive margins.
>>Warning: Positive bottom margin disabled through .ini file	2	The page has a positive bottom margin, but the installed hardware does not support positive margins.
Clipping page width at # points	2	The page is wider than the clipping width and is being clipped.
Clipping page length at # points	2	The page is longer than the clipping length and is being clipped.
Negative topMargin; reducing imageHeight to #	2	The page has a negative top margin and the height of the page is being reduced to the length listed.
Negative bottomMargin; reducing imageHeight to #	2	The page has a negative bottom margin and the height of the page is being reduced to the length listed.
Negative leftMargin; reducing imageWidth to #	2	The page has a negative left margin and the width of the page is being reduced to the width listed.
Negative rightMargin; reducing imageWidth to #	2	The page has a negative right margin and the width of the page is being reduced to the width listed.
--- Xitron33.ini Settings --- Debug Level: 2 HW Margins: False Ignore Right Margin: False Ignore Bottom Margin: True	2	When the Device Driver is first loaded, various settings from the .ini file are listed. Seen here are various general flags, such as margin settings. Also listed are the settings for each of the PB2 cards installed in the system.

<i>Message</i>	<i>debug level</i>	<i>Description</i>
BoardType: PCI PB2 Board Count: 2 === PB2 Board A === PCI PB Port: 1 PB2 PB Port: 0 PB2 IO Base: 0x310 === PB2 Board B === PCI PB Port: 0 PB2 PB Port: 0 PB2 IO Base: 0x320		
>>Warning: Failure loading a routine in Xdll32!	0	The Device Driver has failed to locate a support routine in the helper dll, Xdll32. This is a fatal error. Check that the dll is the latest version and the file on disk is not corrupted.
Issue PB2 Reset Issue PB2 Abort Enable PB2 Port(#) Disable the PB Ports Warning: Unable to disable the PB Ports Recorder Pset(#) Mux String(#) Engine Specific cmd=#, length=# Get PB2 software revision Get PB2 hardware revision Get PB2 device type Issue the stop Printing Cmd Job Name(#) Send Start Page Send End Page Send End Job Is device online??? Get Device Name Get Device Error Clear Error Set Make Film:# Selecting spindle # Check Sta Set Tx Mode Issue the PB2 Get Footage Cmd Issue the PB2 Cut Cmd Set Advance Length(#) Tenths of Inches Issue the PB2 Advance Cmd Issue the PB2 SetReverseVideo Cmd Issue the PB2 SetWrongReading Cmd Set Exposure #	2	These are informational messages related to sending commands to the engine through the PB2 card. If they have parameters, like resolution or density, they are listed.

<i>Message</i>	<i>debug level</i>	<i>Description</i>
Set Resolution: # x # Do Punches(##,##,##) X Margins: lm: # rm: # Y Margins: tm: # bm: # Page Dimensions: iw: # ih: #		

Error messages common to all Device Drivers

The following table list the error messages that are common to all the Device Drivers developed by Xitron for the Raster Blaster Raster Blaster.

<i>Short Message</i>	<i>Long Message</i>	<i>Description</i>
Invalid error code	An unidentified error condition has occurred	The error codes returned by the external device/devices are unintelligible.
PB2 read error	The Device Driver is having trouble reading the PB2 ISA board	The PB2 interface card has failed.
PB2 write error	The Device Driver is having trouble writing to the PB2 card	The PB2 interface card has failed.
PB2 unsupported	An attempt was made to run an unsupported command on the PB2	The most likely source of this problem is trying to run a specific Device Driver against the wrong PB2 card.
Wrong PB2 ver	This Device Driver does not support the installed PB2 card	The incorrect type or version of PB2 card is installed.
Version problem	The PB2 firmware is too old to run with this Device Driver	The Device Driver requires a version of firmware newer than that installed on the PB2 card.
No eng. response	The imaging engine is not responding	Check that the cable from the PB2 to the recorder is plugged in and the recorder is powered on.
Data buffer not full	During image startup, PB2 data buffers were not full	When the page is being prepared for output, all buffers must be full before the recorder is activated. One of these buffers, on the PB2, failed to go-full in preparation for output imaging. Most likely, the 26-pin ribbon cable is installed incorrectly. Run PB2diag.
Bad eng. response	The recorder gave in invalid response for the previous operation	A correctly formatted response was received but was completely out of context for the command issued.
Invalid PB2 state	The PB2 has entered an invalid state	An internal error occurred in the PB2 interface software.
Invalid PB2 context	The PB2 has run in an invalid context	An internal error occurred in the PB2 interface software.
Pagebus U error	An UNSUPPORTED indication was received on the Pagebus interface	A Pagebus "U" error code was received on the Pagebus interface.
Pagebus Invalid	An invalid frame was received on the Pagebus interface.	A Pagebus "I" error code was received on the Pagebus interface.
Missed EOJ	While polling the buffers for empty	While waiting for output imaging to

<i>Short Message</i>	<i>Long Message</i>	<i>Description</i>
No driver	(eoj), timed out Could not access the hardware drivers for PCI and/or PB2	complete, a timeout occurred. The drivers for the Raster Blaster Raster Blaster are either not installed correctly or have not been started
No Xitron DLL	Couldn't find or load Xitron DLL	There is a problem with the Raster Blaster installation. The Raster Blaster cannot locate the file XDLL32.DLL, which should be located in the sw\devices directory.
No PB2 card	Can't find the PB2 card	There does not appear to be a PB2 card installed in the computer at the address specified in the XITRON33.INI file. Run the PB2Diag program, which will attempt to re-locate the PB2 card and update the XITRON33.INI file.
Data underrun	There was an underrun in the driver while imaging	An underrun, and corresponding loss of image integrity, occurred on the PCI card.
Start failed 1	Imaging start failed because of memory/driver problems	A driver error or memory allocation problem caused imaging startup to fail.
Bad DMA channel	Bad or invalid DMA channel	Attempt to use an old-style (non-PB2) ISA card with the 32-bit Device Driver. Not allowed.
Left marg. too wide	Left margin too wide	The requested left margin is so wide, it causes the image to be shifted outside the imaging area of the recorder.
Top marg. too long	Top margin too long	The top margin is set such that it will be the only thing on the page.
Neg. margin error	A negative margin is set larger than the image	A negative margin cannot be set larger than the image being set.
too much margin	Memory needed to expand right/left margins exceeds Printer Buffer	Memory, a vital system resource, is needed to expand margins when imaging. The amount of memory needed to expand the margins on this job exceeds the memory used for the Raster Blaster's print buffer.
PB2 already open	The driver to access the PB2 is already open	An internal error caused the PB2 driver to be opened more than once.
Can't alloc mem	Couldn't allocate dynamic memory	Additional memory needed while imaging was not available. Check system resource.
PB2 unsupported	The previous command is not supported by the PB2	A command was run on a PB2 card in an IPU that is unsupported.
PB2 failure	One of the PB2 boards in the PBRI has failed	PB2 cards in the IPU are in failure mode.
No GO signal	The video GO signal was not received from the remote	The IPU failed to get a Video "GO" signal on the Pagebus interface, timeout.
Devices busy	There are no available output devices on the PBRI	When attempting to mux/select in the IPU, all requested devices were busy.
Illegal error	Illegal error	An unintelligible error code was received.

Linotronic Device Driver Messages

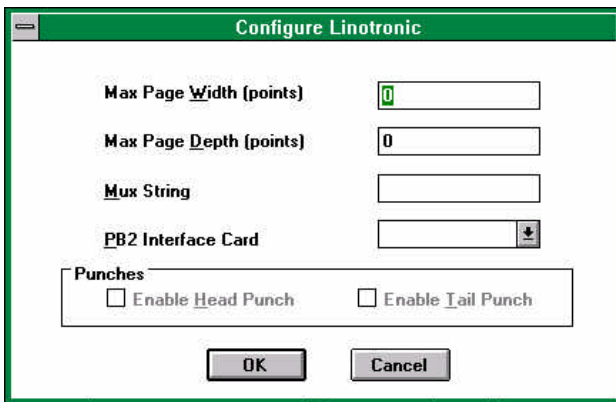
Xitron supports some members of the Linotronic family of recorders. These include:

- Linotronic 200 series

- Linotronic 300 series
- Linotronic 500 series

The Xitron PB2 interface for Linotronic can be configured to use either LI2 only or LI2/LI5 combined interfaces. See the section below titled “Attaching the Linotronic recorder to the Raster Blaster Raster Blaster” for more information on cabling options..

After installing the Lino Device Driver, it should be configured using the Device Manager as described above. Once it is configured, and devices are created, you should be able to create Page Setups using the Lino Device Driver. Select the appropriate resolution, density and page orientation from the main window of Page Setup. You should also configure the options specific to the Lino Device Drivers by pressing the “Configure Device” button under the Device Type list box. The following dialog box will appear:



From this dialog box you may configure the following options:

- Max Page Width: This value is used to override the built in width clipping in the Device Driver. When this value is set to 0, the Device Driver will always clip images at the maximum width of the imager. If this value is non-zero, it will be used as the clip width.
- Max Page Depth: This value is used to set the maximum length of an imaged job. If this value is set to 0 on a capstan-type imager, the length clipping feature is essentially disabled. If this value is set to 0 on a drum or cutsheet type imager, images will be clipped at the maximum length allowed by the imager. Non-zero values will cause the Device Driver to clip images over the set length.
- Mux String: This is used in an environment with a multiplexor to select one or more output devices to scan for a connection. This may be left blank.
- PB2 Interface Card: If more than two PB2 cards are in the PC, you may select from this box which interface to use. The default for this box is blank, signifying that the 1st configured card will be used.
- Enable Head/Tail Punch: This option is grayed out because it is currently not available on any of the supported Linotronic imagesetter models. At a later time this option may be available on some of the Linotronic drum-type recorders.

Linotronic General Notes:

In order for the Xitron Raster Blaster Raster Blaster to function correctly, the following **imager setup** must be performed. After the LI2 and LI5 cables have been attached between the Xitron Linotronic PB2 interface and the imager, use the Linotronic’s front panel to select the LI5 interface. An indication that the imager is in LI5 mode is an “L” in the upper left hand corner of the LCD on the front panel. At this point, the system should be ready for initial testing.

The **LI2-Only** device type is provided for Linotronic machines that do not have an LI5 interface. Since the setting of all imager parameters like resolution and density is handled through LI5, the LI2-Only device type will not take advantage of much of the Raster Blaster's configurability. This mode will allow image data to be recorded on the engine correctly only if parameters are set to match on the Raster Blaster and the engine. For LI2-Only mode, the Linotronic should be set for "**panel**" interface and before imaging can start, the engine must be placed in imaging mode by pressing the "Start" button on the Lino's front panel. When the Lino is in the imaging mode, a reverse video "P" will appear on the left hand side of the LCD on the imager. To feed and cut output, the "Stop" button (shift-stop) on the front panel must first be pressed, followed by the cut button.

Care should be taken to take the imager out of imaging mode before the Raster Blaster is shutdown or when the Raster Blaster is not powered.

The error message "**LI5 OVERRUN**" will occasionally appear on the Linotronic's console during imaging. This is a normal occurrence and should be ignored. In order to receive up to date status and error information from the imaging engine, it is necessary to poll the engine periodically while it is imaging. At certain points during the startup of the imaging process, the engine will stop responding the status polls momentarily to perform time critical adjustments. These "LI5 OVERRUN" messages occur during those periods. The Raster Blaster will timeout and retry the status request 2 seconds later without any indication that the overrun has occurred.

On certain models of the 300 series of Linotronic imagers there is a known problem with setting the exposure between 300 and 419. The imager will display the message "**Error<Density**" and will not image. This error is undetectable by the Raster Blaster, status polls simply show the engine to be in record mode, no error. Eventually the Raster Blaster will time out with a "Missed EOJ" error (see Error Messages Common to all Device Drivers, above). Avoid these resolutions where this behavior is a problem.

Additional setup on the Linotronic recorder.

The Linotronic recorder has some features that may interfere with the operation of the Raster Blaster. Specifically, there is a front panel group of settings that control the width of the imageable area and a hardware left margin setting. These options are available under the key labeled "X/Y" on the recorder's front panel. Make sure that the setting labeled "X-Measure" correctly reflects the width of the imager, 12 inch for 300 series, 18 inch for 500 series and "X-LeftMargin" is set to 0. This will enable the recorder's maximum imaging area and allow margins and image width to be controlled from the Raster Blaster for maximum configurability.

Attaching the Linotronic recorder to the Raster Blaster

The Xitron PB2 interface for Linotronic recorders uses the LI2 and LI5 ports on the back of the recorder. For almost all installations, both the LI2 and LI5 ports are connected (for exceptions, see the next paragraph). The Xitron cable part number 020-0423-010 is used to attach the 50-pin mini-scsi connector on the back of the PB2 card to the LI2 port on the back of the recorder. This cable will carry the video data to be imaged on the recorder. Command and status information to control the recorder is carried on the LI5 interface via Xitron cable number 020-0422-010, which is attached from the 9-pin D-shell type connector on the back of the PB2 card to the LI5 port (25-pin D-Shell) on the back of the recorder.

For some installations where LI5 is not available, it is possible to configure the output Device Driver to drive the recorder with only the LI2 interface. In this mode, setting of resolution and density (and others) is not possible, therefore, these parameters will have to be configured on the recorder's front panel. Also remember to select the device type "Linotronic LI2 Only" from the supported devices listed in device manager. When running LI2 Only mode, the recorder must be "started" before the rip can image on it.

This is done by hitting the “Start” button on the front panel of the recorder. For this type of installation, only the LI2 cable is used (Xitron part number 020-0423-010).

Linotronic Error Messages:

The following is a list of error messages that the Lino Device Driver can generate. Most of these errors are generated by the Lino recorder. Listed first is the error message as it is echoed to the Throughput controller of the Raster Blaster. The long messages are output to the Raster Blaster’s monitor window.

<i>Short Message</i>	<i>Long Message</i>
Command OK	Command Accepted
LI5 present!	When in LI2 interface mode, received LI5 traffic
Backend Busy	Backend Busy
Rev Lead Buf Full	Reverse Leading Buffer Full
Page Underflow	Page Underflow
Rule Buf Full	Page Overflow
Page Overrun	Page Overrun (vertical justify)
NO Take-up	Take-up Cassette not Available
Change Cassette	Change Cassette
End of Film	End of Film
Take-up Full	Take-up Cassette Full
Halt at EOJ	Halt at End of Job
bad font Info	Illegal Font Information
setter internal err	Process Error in setter Control Task
bad Text Length	Wrong Text Length
Advance too far	Overshot the ymax on Vert. Advance
Point Size Err	Point Size Error
X-pos overflow	Overflowed maximum xpos value
Y-pos overflow	Overflowed maximum ypos value
H.adv too far	Overshoot measure on Horizontal Adv
font # overflow	Overflowed Maximum Font Number
bad Slant Value	Illegal Slant Value
Indent > measure	Total Indent Value Exceeds Measure
rv or lv Error	RV or LV Coordinates Error
decode overflow	Internal Decoding Buffer Overflow
Negative xpos	Negative xpos value
Ref Line overflow	Active Ref Lines Overflow
fonthandler error	Fonthandler Process Error
char buf overflow	Character Buffer Overflow
rev vid incompat	Rev. Vid/Rev. Lead Incompatibility
Too much rev. vid density, bad format	Too many Reverse Video Areas Density Test Job - Illegal format
OLP process error	OLP Process Error
Tint Overflow	Tint Overflow
missing tint/pattern	Missing Reference to Tint/Pattern
missing tint map	Missing Tint Raster Map
too many positions	Too Many Form Superpositions
no tint option	Missing Tint Hardware Option
tint/pattern err	Tint/Pattern Error Interrupt
plotter mode error	Plotter Mode Error
too many tint areas	Too many Tint Areas

<i>Short Message</i>	<i>Long Message</i>
Width Overflow	Raster Width Overflow
no plotter option	Missing Plotter Hardware Option
Ref. line overflow	Local Ref. Line Overflow
cutter pos. error	Cutter isn't placed at the border
Cutter Error	Cutter Error
Illegal Font	Illegal Font
job mode changed	Job Select Mode Changed
page underflow	Page Underflow with Text Rotation
Item clipped	Item clipped,bad rotate/displacement
CRT primitive err	Parameter Error in CRT Primitive
object exceeds len	Object Exceeds Galley Length
laser error	Laser Error (no Start of Line)
illegal object	Illegal Object Constellation
LIC hard error	LIC Hardware Error
lic bitmap overflow	LIC Bitmap Overflow
sheet fonts err	Duplicate Sheet Fonts at one Device
Job Error PTU	Job Error PTU
text line overflow	Text Line Overflow
text line underflow	Text Line Underflow
scanline error soft	Scanline Error Software
scanline error hard	Scanline Error Hardware
Process Error PTU	Process Error PTU
cassette changed	TU Cassette changed while setting
cassette changed	TU Cassette changed while Feeding
finished to err.loc	Typesetting finished to Error Loc.
text transfer err	Text Transfer Error
font transfer err	Font Transfer Error
in typesetting task	Process in Typesetting Task
bad cntrl-code	Undefined Cntrl-Code in Text Buffer
Justify error	Justification Error
setter task err	Program Error in Typesetting Task
undefined code	Undefined Code:Suffix of Text Line
film too small	Film too small for point size
queue dir full	Queue Directory Full
job # assigned	Job Number ... Assigned
no multiple load	No Multiple Backend Load
Command Rejected	Command Rejected
Job Queue Full	Job Queue Full
wrong parameter	Typeview, Wrong Parameter
wrong dressing	Typeview, Wrong Dressing
Typeview in Use	Typeview in Use
Typeview Idle	Typeview Idle
text truncated	Direct Mode, Text Truncated
no more entries	No More Entries
font dir changed	Font Directory Changed
abort in process	Typeview, Abort in Process
aborted	Typeview, Aborted
bad Job Type	Illegal Job Type
Job not found	Job not found
Parameter Error	Parameter Error
Illegal Error	Illegal Error
output truncated	Typeview, Output Truncated

<i>Short Message</i>	<i>Long Message</i>
width table full	Width Table is full of Locked Fonts
Tachometer error	Tachometer Correction not Successful
Illegal Interrupt	Illegal Interrupt
IP-RAM Defect	IP-RAM Defect
preprocess load err	Preprocessor Load Error
Irregular Cut	Irregular Cut
No Font Disk	No Font Disk
disk type conflict	Disk Type Conflict
Font not Found	Font not Found
ATP not Found	ATP not Found
font already exists	Font already exists
ATP already exists	ATP already exists
MCPU Defect	MCPU Defect
MCPU mem error	MCPU Memory Error
Floppy Changed	Floppy Changed
setter config n/a	Typesetter Config. not Available
cfg file not avail	Preprocessor Config. File not Avail
lic hard defect	LIC Hardware Defect
transfer error	Width Table Transfer Error
mem alloc error	Memory Allocation Error
"# not assigned	Logical Font Number not Assigned
laser intensity err	Deficient Laser Intensity
insufficient mem	Insufficient Bit Map Memory
no japanese chars	Japanese Character not Available
raster too small	Tint Raster Width too small
table transfer error	More Code Table Transfer Error
OLP not Ready	Online Processor not Ready
Undefined	Undefined
setter not ready	Typesetter not Available (Boot)
X-drive defect	X-Drive Defect
high voltage bad	High Voltage Defect
light servo bad	Light Servo Defect
Hardware Defect	PTU Hardware Defect
density CA timeout	Density Coarse Adjustment Timeout
density FA Timeout	Density Fine Adjustment Timeout
rev adjust Timeout	Polygon Revolution Adjust Timeout
SCABUF mem bad	SCABUF Memory Defect
Stack Overflow	Stack Overflow
Heap Overflow	Heap Overflow
Nil Pointer	Nil Dispose Pointer
bad dispose ptr	Illegal Dispose Pointer
Heap Defect	Heap Defect
BDS unit Failed	BDS System Unit Failure
Adapter Routine	Adapter Routine Error
Op-Sys Error1	Operating System Error Flags
Op-Sys Error2	Operating System Error Flags
Op-Sys Error3	Operating System Error Flags
“	“
“	“
“	“
Op-Sys Error14	Operating System Error Flags
Op-Sys Error15	Operating System Error Flags

<i>Short Message</i>	<i>Long Message</i>
Op-Sys Error16	Operating System Error Flags
Bus Error: CPU	Bus Error from CPU
Address Error:CPU	Address Error from CPU
Illegal Instr:CPU	Illegal Instruction from CPU
Zero Divide	Zero Divide
Chk Instr: CPU	Check Instruction from CPU
Illegal Trap Error	Illegal Trap Error
Privilege Violation	Privilege Violation
range checking err	Pascal Error Range Checking Option
runtime routine err	Pascal Error Runtime Routines
bad/insuff mem	Memory Defect/Insufficient Memory
Reduced Memory	Reduced Memory
No User Rights	No User Rights
setter Ready	Typesetter Ready
Preproc. Ready	Preprocessor Ready
Preprocess Ready	Preprocess Rdy (CSP info incorrect)
command n/a	Command N/A: (Syntax failure)
End of Film	Warning, End of Film
LI5 interface off	LI5 Interface Disabled
x measure too big	x-value measure exceeds format
x measure too big	x-value measure exceeds media
Backend Active	Backend Active
(EE)	(EE)
channel not avail	Physical Channel not Available
Timeout	Timeout
Parity Error	Parity Error
Undefined	Undefined
Framing Error	Framing Error
Overrun	Overrun
block synch error	Block Synchronization Error
Buffer Overflow	Buffer Overflow
Cycle Variation	Cycle Variation
bad internal format	Internal Format Incorrect
Operator Abort	Operator Abort
Comm Link Error	Computer-Computer Link Error
Error:Learn Job	Error while processing Learn Job
Error:Load Group	Error while processing Load Group
Error:Kill Group	Error while processing Kill Group
backend disk error	Backend Disk System Error
cmd in parm field	Command supplied in parameter part
offline - reboot	Disabled - Reinitializing...
unknown lino error	Unknown Lino Error message number