

Xitron Raster Blaster Agfa Device Manual

*For use in configuring and using the Xitron Agfa
device for the Xitron Raster Blaster*

May 12, 1997

Overview

Devices for Xitron's Raster Blaster Rip 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 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 is the sole method of outputting data to an imagesetter or printer in the Xitron Raster Blaster. Each device supports a particular engine class or family. When the Xitron Raster Blaster is started it scans a directory called "devices" for device files. For each device it finds, it loads that device and begins to query the device 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 tells the Raster Blaster how to configure itself if it wants to output a bitmap to a recorder in its family.

Attaching the Agfa to the Raster Blaster Rip

The Xitron PB2 interface for Agfa recorders uses the APIS Interface Specification.. The Agfa PB2 interface requires a cable from the PB2 interface card to the 37-pin D-shell type connector on the back of the recorder. This cable should be a mini 50 pin SCSI-type connector on one end and a 37-pin D shell male connector on the other (Xitron part number 020-0424-025). All data and command information is sent on this cable, leaving the 9-pin D-shell connector on the back of the PB2 unused..

Device Messages

From the time a device is loaded for the purpose of setting up and outputting to one of its devices, it begins to send messages to the Raster Blaster's System Monitor window. These messages are typically informational but can also convey warnings and report errors from an engine. The quantity of these messages can be controlled by a setting called the "debug level". This can range from 0 (almost no messages) to 4 (very high message traffic).

Examples of informational messages are:

- PostScript job name.
- Commands being sent to the PB2 card to setup the engine.
- Output start and stop time.

Examples of warning messages are:

- A job being clipped to fit a recorder.
- Data being left at the end of the job.
- Certain settings in the .ini file overriding defaults.

When a device 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 will continue to periodically test the engine until the error has been cleared. During this time the user may disable output by checking the "Diasable 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 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 devices

The following table list the error messages that are common to all the devices developed by Xitron for the Raster Blaster Rip. These are from XDll32.dll:

<i>Message</i>	<i>debug level</i>	<i>Description</i>
BIFOpen	3	The device has opened the BIF (pci card) driver at the start of a page.
PB2Open	3	The device has opened the PB2 card driver at the start of a page.
BIFClose	3	The device has closed the BIF (pci card) driver at the end of a page.
PB2Close	3	The device 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 is using the specified Private Bus port on the BIF board.

The following table list the error messages that are common to all the devices developed by Xitron for the Raster Blaster Rip. These are from the device 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 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 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 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 has aborted output for any reason, it lists this message.
Enable PCI BIF port #	3	The device has requested that the listed Private Bus port on the PCI card be opened.

<i>Message</i>	<i>debug level</i>	<i>Description</i>
OpenPB2Card	3	The device has requested that the driver for the PB2 card be opened.
ClosePB2Card	3	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 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'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'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's configuration dialog box.
Height clipping set to # lines from device dimensions	3	Since a height clipping value was not entered in the device'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 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	2	When the device 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.
>>Warning: Failure loading a routine in Xdll32!	0	The device 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

<i>Message</i>	<i>debug level</i>	<i>Description</i>
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 # Set Resolution: # x # Do Punches(##,##,##) X Margins: lm: # rm: # Y Margins: tm: # bm: # Page Dimensions: iw: # ih: #	2	and the file on disk is not corrupted. 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.

Error messages common to all devices

The following table lists the error messages that are common to all the devices developed by Xitron for the Raster Blaster Rip.

<i>Short Message</i>	<i>Long Message</i>	<i>Description</i>
Invalid error	An unidentified error condition has	The error codes returned by the external

<i>Short Message</i>	<i>Long Message</i>	<i>Description</i>
code	occurred	device/devices are unintelligible.
PB2 read error	The device is having trouble reading the PB2 ISA board	The PB2 interface card has failed.
PB2 write error	The device 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 against the wrong PB2 card.
Wrong PB2 ver	This device 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	The device 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 "T" error code was received on the Pagebus interface.
Missed EOJ	While polling the buffers for empty (eoj), timed out	While waiting for output imaging to complete, a timeout occurred.
No driver	Could not access the hardware drivers for PCI and/or PB2	The drivers for the Raster Blaster Rip 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 Rip installation. The Rip 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 relocate 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.

<i>Short Message</i>	<i>Long Message</i>	<i>Description</i>
Bad DMA channel	Bad or invalid DMA channel	Attempt to use an old-style (non-PB2) ISA card with the 32-bit device. 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 Rip'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.

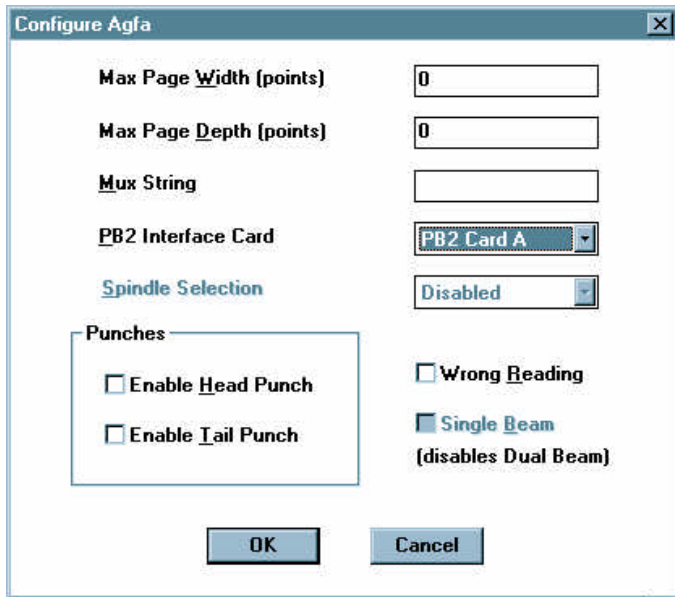
Agfa

Xitron supports the entire family of Agfa recorders. This includes the 9xxx and AccuSet capstan families and the SelectSet and Avantra drum families. These include:

- SelectSet 5000 (12/2400 dpi), 5000 (12/24/3600 dpi) and 7000
- ProSet 9400, 9550, 9600, 9700, 9800 and 9836
- Avantra 20, 25, 30, 36 and 44
- AccuSet 1000 and 1500

The Xitron PB2 interface for Agfa recorders uses the APIS interface. The Agfa PB2 interface requires a transition cable from the Agfa PB2 interface to the native Agfa recorder cable. This transition cable should be a mini 50 pin connector on one end and a 37-D shell female connector on the other. All APIS data and command information is sent on this cable; the DB-9 serial connector on the Agfa PB2 card is not used.

After installing the Agfa device, it should be configured using the Configure Engine Interface in the Raster Blaster, as described in the Raster Blaster Manual. After selecting the appropriate resolution and density, you should configure the options specific to the Agfa devices by pressing the "Driver Config" button under the Device Configuration dialog. 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. When this value is set to 0, the device 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 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.
- **Spindle Selection:** This listbox controls how spindle selection is handled on an Avantra series recorder. The three choices are “Disabled”, “Page Setup”, and “Flip-flop”. This setting will be greyed out if the selected recorder is not an Avantra. If the recorder is an Avantra, this feature may be disabled by selecting “Disabled”. “Page Setup” mode will set up an inference between the selected cassette and the supply spindle on the Avantra. In this mode, if cassette 1 is selected on the page setup, supply spindle 1 will be loaded on the recorder. Like wise, if cassette 2 is selected on the page setup, spindle 2 will be loaded on the recorder. Any other cassette selection causes no change in the selected spindle in this mode. The third mode, “Flip-flop”, will automatically switch from one spindle to the other (and back if possible) when an “Out of media” error is encountered on the recorder. This mode allows the user to load identical media on both spindles of the Avantra and switch automatically when one runs out.
- **Wrong Reading:** Check this box for wrong reading output. Again, this has the same effect as the same selection in Page Setup and choosing both will cause the effect to be canceled out.
- **For the ProSet 9800 series of imagers,** this check box controls the Single beam / Dual beam setting on the imager.
- **Enable Head/Tail Punch:** Checking these boxes causes the appropriate punches to be enabled on the recorder.

The following is a list of error messages that the Agfa device can generate. Most of these errors are generated by the Agfa 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>	<i>Description</i>
Engine failure	Engine hardware failure	The engine has reported a hardware failure and cannot continue. First take the engine off-line, then back on-line. If that does not clear the failure, power cycle the engine. If this still does not clear the error consult your Agfa engine manual or call for engine service.
Recorder idle	Recorder Idle (On line)	Normal state of the engine when not imaging.
Recorder busy	Recorder Busy	Normal state of the engine while imaging
Recorder paused	Recorder Off Line	The recorder has been taken off-line from the front control panel.
Media jam	Recorder has a Media Jam	Somewhere in the recorder there is a media jam.
Cutter jam	Recorder has a Cutter Jam	The cutter on the recorder has jammed.
No cassette	Recorder has no Cassette	The take-up cassette for the recorder is not in place.
No media	Recorder has no Media	The recorder is out of media.
Take complete	Take Complete	The job has completed imaging.
Missed breakpoint	Recorder Missed its Break Point	The recorder received more data than it expected.
Low media	Recorder Idle but Media is Low	Normal state of the engine when not imaging, but the media is low.
Cover open	Recorder Cover is Open	The cover of the recorder is open.
Nvram write done	Non-volatile memory write complete	The recorder has saved its settings in NVRAM.
No cutter	Recorder has no Cutter	A cut was issued but there is no cutter.
Data underrun	Recorder has experienced a underrun	The engine was not supplied enough data.
Processor off-line	External processor is not ready	The external processor has reported it's not ready.
Cmd state	Recorder is in Command Processing State	The recorder is processing a command.
eeeprom error	EEPROM has a Checksum Error	The EEPROM has failed.
Proc/Eng status	Processor/Engine Status Message	A status message from the processor or engine.
Buffer message	Buffer Status Message	A status message from the buffer
Developer message	Developer Status Message	A status message from the developer.
Comm error	There has been a Communications Error	An error in the communications has been reported.
Carriage jam	The Recorder has a Carriage Jam	The carriage has jammed on the recorder.
Sensor broken	The Recorder's Carriage Sensor is Broken	The sensor on the carriage has failed.
Page len error	Recorder's Carriage hit wall - Page length error	The page being imaged was too long.
Carriage not level	Recorder's Carriage out of level	The carriage is out of level.
Media not loaded	Recorder Media Not Loaded	The media is not loaded in the recorder.
Cassette full	Output cassette full/Cut done - Remove & Replace	The recorder has cut the film and the output cassette is ready to be removed.
Wrong cassette	Output Cassette/ Media width mismatch	The output cassette is incorrect.
Cutter in path	The Cutter in media path	The cutter has not completely retracted.
Output punch jam	Head clamp/punch jam (output side)	The head punch has jammed.

<i>Short Message</i>	<i>Long Message</i>	<i>Description</i>
Supply punch jam	Tail clamp/punch jam (supply side)	The tail punch has jammed.
Side door open	Side Door Open	The side door of the recorder is open.
Spindle jam	Spindle selector jam	The spindle selector has jammed.
Aperture jam	Aperture jam	There is a jam in the aperture.
Polarizer jam	Polarizer jam	There is a jam in the Polarizer.
Weak lens jam	Weak lens jam	There is a jam in the weak lens.
Cassette jam	Output cassette core jam	There is a jam in the output cassette core.
Spinner error	Spinner error	There is an error in the spinner motor.
Bridge error	Buffer/bridge error	The bridge has reported an error.
Cut not allowed	Cut Not Allowed	The recorder will not allow a cut.
Load not allowed	Load Not Allowed	The recorder will not allow a load.
Compressor jam	Beam compressor jam	There is a jam in the beam compressor.
Shields jammed	Inner shields jammed	The inner shields are jammed.
Agfa: illegal password	Someone entered a bad password	Some information on an Agfa marking engine can be password protected. The wrong password was entered.
Agfa: illegal code#	The AGFA received a command with an illegal code value	There was a bad value in a command sent to the Agfa.
Agfa: illegal parm	The AGFA received a command with an invalid parameter value	There was a bad parameter value sent in a command to the Agfa.
Agfa: cmd in process	The AGFA has a command currently in process	The previous command has not yet completed when a new command was received.
Agfa: illegal context	The AGFA received a command that is not valid in it's current state	The command received was invalid for the current mode.
Agfa: unsupported	The AGFA received a command that is unsupported on this machine	The command received is not supported on this particular model of AGFA marking engine.
Agfa: not in service	The AGFA marking engine is not in service	The recorder is down.
Agfa: command failed	The last command on the AGFA failed	The previous command failed.
Agfa: illegal address	The AGFA indicates that an illegal address was used	The address in the last command was invalid
Agfa: storage dev.down	The AGFA's storage device is temporarily not available	The internal storage device on the Agfa is not available for use.
Agfa: display busy	The AGFA's display is currently allocated to another message	A display command was not processed because the display is currently in use for another message.

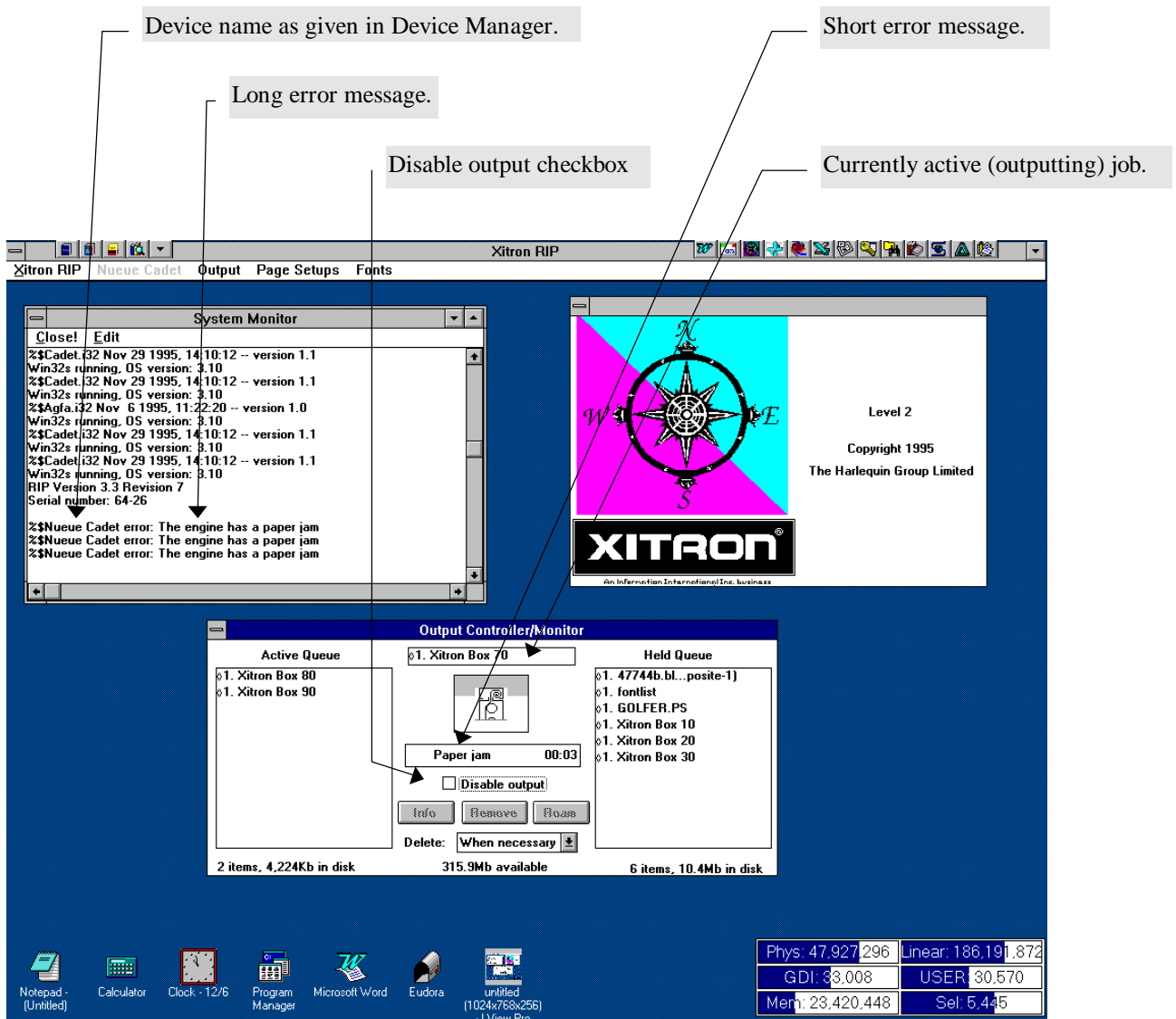


Figure 1. Xitron Raster Blaster with a device displaying an error message.