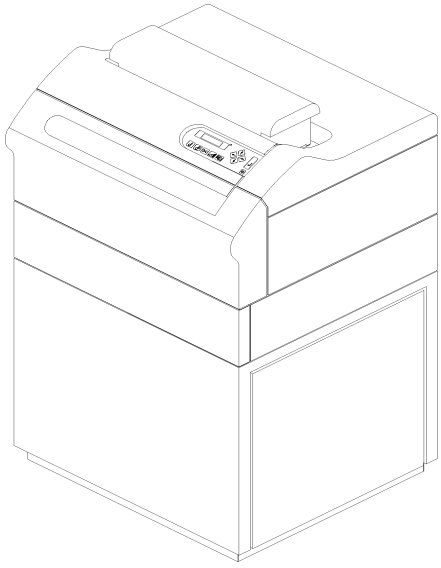
Ultre 5400 User Manual



ULTRE

a division in the Heidelberg group

This document was created with FrameMaker 4.0.4

Important notice!

We are dedicated to improving and enhancing the hardware and software of our typesetting and communication systems and equipment. Consequently, the information in this manual is subject to change without notice. Reference is made to this fact during training courses.

The contents of this documentation are correct at the time of going to press.

The information contained in this manual about performance and speed as well as technical data concerning application of our products is not legally binding as it does not constitute a written contract of features.

We point out that companies, trademarks and product names mentioned in this manual fall within the regulations regarding protection of trademarks and patents.

Other product names and brands not expressly mentioned in this manual are trademarks or registered trademarks of the corresponding manufacturers.

Edition October 1996

This document was created with FrameMaker 4.0.4

This manual (Ultre Part Number 5400.OM) covers the operation of the imagesetter.

Ultre 5400

The words film, photo material, and material are used interchangeably throughout this manual. Unless otherwise indicated, these words refer to any photo material that is suitable for use in the Ultre 5400 imagesetters.

■ Notes on this Documentation

This documentation contains:

- Notes on Technical Safety
- Introduction (with Installation)
- Control Panel
  Description of control panel (push button controls and LCD display) and machine operation
- Loading Photographic Material
  (including preparing the bulk load supply cassette)
- Change Default Settings
- Messages
  Status and error messages including corrective procedures
- Technical Data

This document was created with FrameMaker 4.0.4

Symbols in this Documentation

The text contains information which must be observed in order **to protect the user from danger!**

This information must be observed to protect the equipment, the software and the data from being damaged!

The text contains general or additional information about a certain subject.

Notes on Technical Safety 1

The equipment meets the standard safety regulations for information technology equipment including electrical office equipment.

Correct Use

The Ultre 5400 is a laser imagesetter for photographic material and is only to be used for this purpose in accordance with the user documentation.

Do not place any objects or liquids on the unit. Ventilation outlets must be kept clear at all times.

General Information

Pay attention to the notes on ambient conditions in Chapter 7, *Technical Data,* and to the conditions for installing the unit in Chapter 2, *Introduction,* section *Installation.*

Unit connectors and sockets must be easily accessible. This is to ensure easy removal of the power cord from the wall socket in the event of an emergency.

The unit does not contain any parts which require servicing by the operator.

ATTENTION: Unauthorized opening of the cabinet or improper repairs can expose the operator to great danger. Service work may only be performed by authorized personnel specialized in this field. The appropriate regulations for the prevention of accidents are to be adhered to when the equipment is serviced.

Failure to observe the safety regulations may result in the loss of accident insurance!

Cleaning the Unit

The unit must be disconnected from the power supply by pulling out the mains plug if cleaning the unit involves using liquids.

The unit surfaces can be cleaned using a dry cloth.

If the unit is very dirty, it may be cleaned with a damp cloth which has been dipped in a mild water soluable detergent and well drained. Make sure that no liquid gets inside the unit and keep moisture away from the connection sockets at the rear of the unit.

Never use abrasive cleansers or solvents!

Laser Safety

Standards and Regulations

The Ultre 5400 Laser Imagesetter is certified as a Class 1 laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. As such, this unit complies with 21 CFR Chapter 1, Sub-chapter J.

In addition, this product meets the requirements of EN60825

This means that this laser imagesetter does not emit hazardous laser radiation. Since radiation emitted inside the laser imagesetter is completely confined within protective housings and external covers, the laser beam cannot escape from the machine during any phase of user operation or maintenance.

Service

None of the parts within the protective housing require servicing by the user. Any servicing must be done only by factory-trained service technicians authorized by Ultre Division in the Heidelberg group.

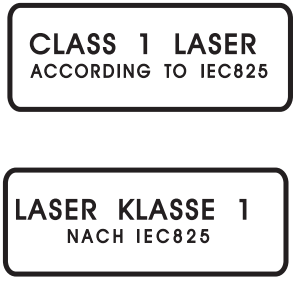
CAUTION: Do not remove the cover or housing of the imagesetter. Otherwise there is a risk that you will be exposed to laser radiation or injured by an electrical shock.

CAUTION: Use of controls or adjustments, or performance of procedures other than those specified herein, may result in hazardous radiation exposure

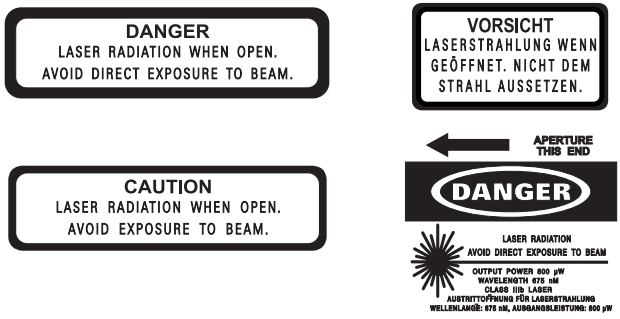
Position of Laser Safety Labels

Laser Label 1 in English and German on the unit Rear Side

.



Laser safety labels internal to the unit on the optical casting assembly .



Radio Interference

Notes for Users in the US

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case, the user at his own expense, will be required to take whatever measures may be required to correct the interference.

Notes for Users in Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

Le persent apparil numerique n'emet pas de bruits radio electriques depassant les limites applicables aux appareils numeriques de la Classe A prescrites dens le reglement sue le brouillage radio electrique edicte par le ministre des communications du Canada.

Notes for Users in Europe

Comply with radio interference suppression regulations when you connect other electrical equipment to this unit. Ensure compliance by following the instructions given by the manufacturer of this equipment, regarding correct installation and maintenance.

One can assume that the equipment you are going to connect complies with radio interference suppression regulations if it is marked with the conformity mark of the European Union (CE) and all instructions regarding installation, operation and maintenance are followed.

Safety Information

This device meets the safety regulations for information technology equipment including electrical office equipment. As such, it meets the European “low Voltage Directive” 73/23/EEC. It also complies with the EEC Directive 89/336/EEC concerning “electromagnetic compatibility” for residential, commercial and light industry.

Electrical/Mechanical Safety

- EN 60950 (Europe)
- UL 1950 (USA)
- CSA C22.2 No, 950 (Canada)

Electromagnetic Compatibility

- FCC Part 15, Subpart B, Class A (USA)
- DOC Radio Act SOR/88-475, Class A (Canada)
- Directive 89/336/EEC (Europe) (EN 55022, Class B; EN50081-1)

Electromagnetic Interference

- EN50082-1
- EN61000-4-8
- EN61000-4-11
- EN61000-3-2
- ENV50140
- ENV50141
- ENV50142
- ENV50204
- IEC 801-2
- IEC 801-4

Conformity Marks And Approvals

- CE (Europe)
- ETL (USA)
- ETL-C (Canada)

CE Conformity Declaration

Ultre Division in the Heidelberg group

CE-Declaration of Conformity

according to Council Directives 73/23/EEC and 89/336/EEC on the approximation of the laws of the Member States relating to low voltage and to electromagnetic compatibility

Suppliers Name:	**Ultre**
Address:	**145 Pinelawn Road**
	Melville, N ew York 11747

declares that the product

Product Name:	**Ultre 5400**
Product Class:	**Laser Imagesetter**
Type Designation:	**5400**

conforms to the above mentioned Directives.

Applicable Standards:

- EN60950 Safety of Information Technology Equipment

including electrical business equipment

- EN50081-1, Table 1 (EN55022, Class B) EMC Generic Emission Standard

- EN50082-1/-2 EMC Generic Immunity Standard

Place	Date	Name Signature Stamp
New York, USA,	Nov 1, 1996	

Introduction 2

Product Description

The Ultre 5400 is a high-resolution raster scanning device for producing type, graphic images, photographs, and tonal areas on silver photographic material. The light source is a laser diode operating in the visible red range (670nm). Resolution is selectable from the RIP.

The Ultre 5400 is strictly an output device. It requires a Raster Image Processor (RIP) to break images into sequential rasters (video data) ready for imagesetting.

Installation

General Information

The unit is to be connected to the power supply via the power cable included in the delivery. Pay attention to all warnings and instructions labeled or printed on the unit.

Make sure, that mains voltage and frequency of your power supply match with mains voltage and frequency as indicated on the serial number plate of the unit.

Installing

The unit should not be installed near air conditioning equipment and is to be protected from humidity and direct sunlight. Unit sockets and connection sockets should be near the unit and always be easily accessible.

Ventilation

Take care that the unit is installed at a sufficient distance from the walls (min. 80 cm) and other objects so that adequate ventilation can be ensured. Ventilation outlets must be kept clear at all times. The connectors located at the rear of the unit should be accessible.

If the unit is brought from a cold environment into the operation room, condensation can occur. In this case, the unit should be stored in the operation room for a minimum of six hours to aclimatize it.

Mains Connection

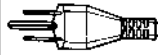
The Ultre 5400 can be connected to mains supplies as indicated on the unit serial number plate (nominal input 115 V or 230 V AC, 50 or 60 Hz). The unit power supply will automatically be switched to the matching supply voltage.

To connect the unit to the mains supply, use the power cord set provided with the unit or refer to the tables following to select a commercially available cord as specified.

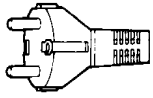
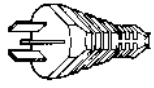
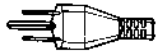
Switching off the Imagesetter from the rear panel does not disconnect the unit from the mains supply. To disconnect the Ultre 5400 from the mains supply, remove the power plug first. The mains outlet must be easily accessible.

Power Cord Instruction

If you will be using the 100-120 volts power source voltage, be sure to refer to the following list.

Plug Configuration	Plug Type	Voltage	Reference Standards	Power Cord
	North America 125V 10A	115-120V	ANSI C73.11 NEMA 5-15-P IEC 83	UL Listed, CSA Certified Type SJT, 18AWG

If you will be using the 200-240 volts power source voltage, be sure to refer to the following list.

Plug Configuration	Plug Type	Voltage	Reference Standards	Power Cord
	Europe 250V 10/16A	230V	CEE(7).II IV.VII IEC 83 IEC 127	<HAR>H05VV-F
	United Kingdom 240V 6A	220-240V	B.S. 1363 IEC 83 IEC 127	<HAR>H05VV-F
	Australia 240V 10A	240-250V	A.S. C112 IEC 127	<HAR>H05VV-F
	North America 250V 15A	240V	ANSI C73.20 NEMA 6-15-P IEC 83 UL 198.6	UL Listed, CSA Certified Type SJT, 18AWG

Note for Installations in the UK

The cores in the main leads are colored in accordance with the following codes:

- green and yellow earth
- blue neutral
- brown live

Data Connection

CAUTION: Connect the cables with the power disconnected! Only use shielded cables in keeping with the radio interference suppression regulations!

To comply with electromagnetic immunity requirements of EN50082-2, the length of the data cable is limited to 3 meters.

The rear of the unit has 3 connectors consisting of the Small Computer Systems Interface (SCSI), and two external RS232 ports (see page 2-7).

SCSI

The SCSI Interface is the standard video interface. A high density 50 pin to 25 pin SCSI-2 cable is utilized for the connection to the RIP.

RS232 (Port 1)

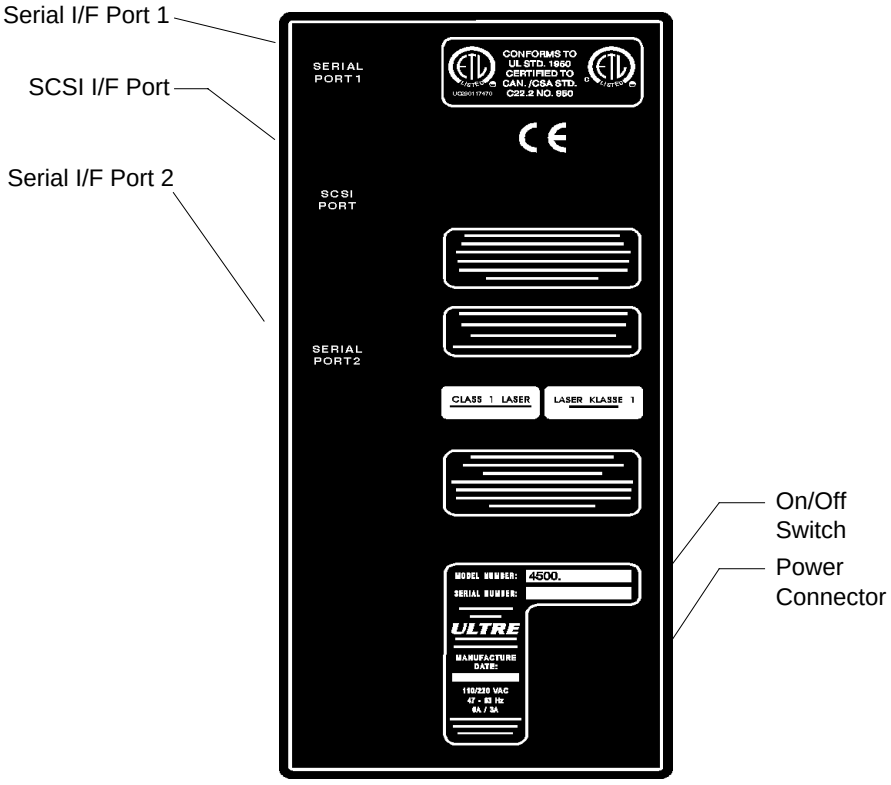
This external RS232 port is used for factory level external diagnostics and with software supplied by Ultre, it is used to download machine firmware.

RS232 (Port 2)

This external RS232 port is undefined

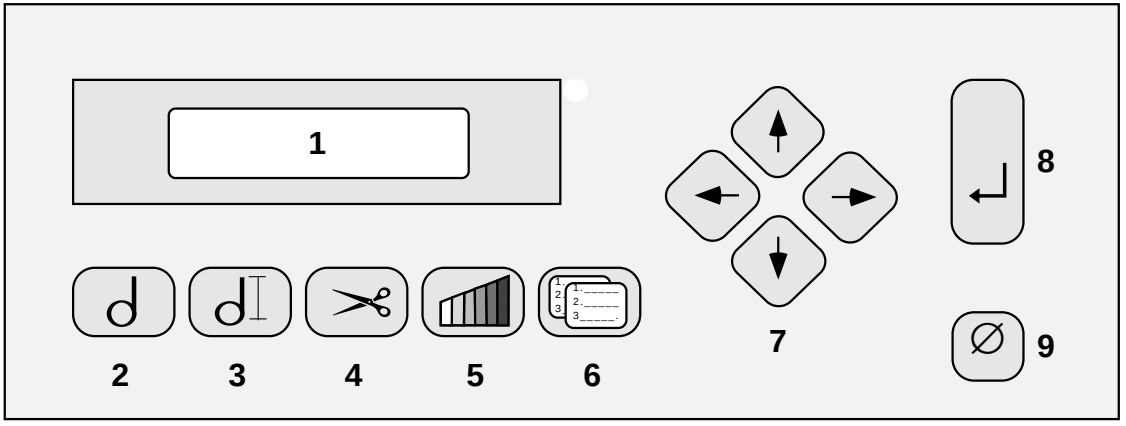
On/Off Switch

Power is controlled by the rocker switch located on the back panel above the power supply connector. When power is turned on, the machine will perform a brief diagnostic self-test. It will signal that it is ready by illuminating the green light emitting diode (LED) on the control panel and displaying"READY"on the liquid crystal display's (LCD) status line (LCD Display).



Control Panel 3

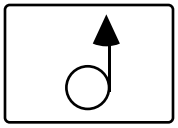
The control panel consists of push button controls, a green LED serving as a visual indicator, and an LCD. Together, these controls and indicators serve as a user interface providing machine status information and the ability to change machine default settings.



1	**LCD Display**	**7**	**Arrows**
	Buttons:	**8**	**Enter**
2	**Jog**	**9**	**Reset**
3	**Film Advance**		
4	**Cut**		
5	**Density**		
6	**Menu**		

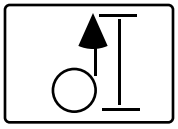
Push Button Controls

Jog Button

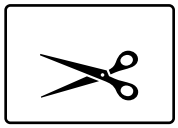


The Jog Button permits the manual operation of the film advance. As long as the button is held depressed, the film will advance, the LED will be blinking on and off, and the LCD will display "FILM ADVANCE". Releasing the Jog Button will cause the film to stop advancing, the LED to stop blinking, and the LCD will display "READY". This can be used for added inter-job spacing, for checking on film feeding when reloading film, and for confirmation of the operational status of the drive circuit.

Film Advance Button

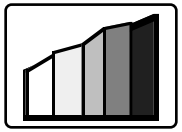


Depressing the Film Advance Button will automatically advance the film by the number of inches that has been programmed into the film advance register (See "Changing Default Settings" on page 5-1, for setting film advance length). While the film is advancing, the LED will be blinking and the LCD will display "FILM ADVANCE". When the film has stopped advancing, the LCD will display "READY" and the LED will stop blinking. The OOMS (Out Of Media Sensor) and the JAM Sensor are ignored when a Film Advance is performed during the film loading procedure (described in section 4).



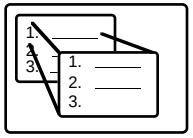
Cut Button

Depressing the Cut Button will activate the motorized knife assembly thereby cutting the film. The cutter cannot be activated while the film is in motion. Following the cut a short film advance will occur during which time the output cassette must not be removed. When the advance is complete the LCD will display "REMOVE CASSETTE" at which time the output cassette may be removed without loss of exposed film. No further functions can be performed at the control panel until the output cassette has been removed and replaced.



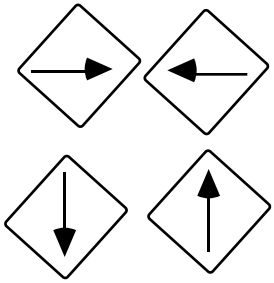
Density Button

The Density Button is depressed when there is a need to change the current density setting. Using the Right or Left Arrow Button, the density can be increased or decreased while viewing the value on the LCD (See Chapter 5, "Changing Default Settings", for changing Density setting).



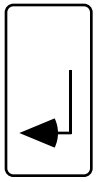
Menu Button

Depressing the Menu Button will bring up the Menu Selection Display on the LCD which permits the programming and changing of the machine's default settings. Operating the Horizontal and Vertical Arrow Buttons, will display the submenus and functions on the LCD. For each setting that is changed, it is necessary to depress the Enter Button to save the new value. When reprogramming is completed, depress the Menu Button to return to the Machine Status Display.



Arrow Buttons

The control panel contains Right Arrow, Left Arrow, Up Arrow, and Down Arrow Buttons. These buttons serve dual functions as controls and cursor keys. As controls, they are used for menu selection and density adjustment. They are also used for moving the cursor on the LCD when selecting default values to be changed.



Enter Button

The Enter Button is depressed after selecting a new density value and for each new setting or value that is selected while in the Menu Selection Display.

Reset Button

Depressing the Reset Button will re-initialize the system. It will have the same effect as turning the power to the machine off and turning it back on again. The reset function has no effect on the stored default setup values.

WARNING: Depressing the Reset Button during printing will cause the job to abort.

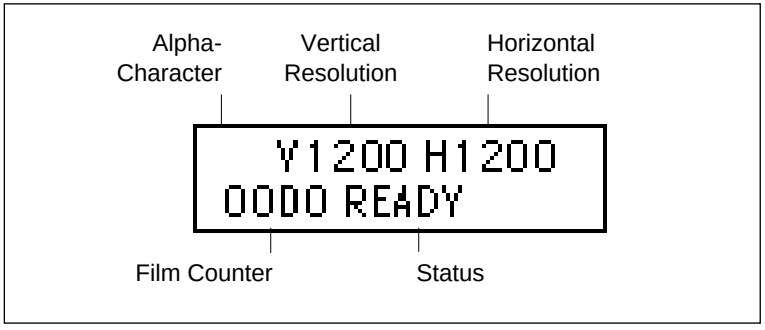
LCD

The LCD provides the user with machine status information and displays the menus used to change machine default settings and perform other functions. Initial machine power-on or depressing the Reset Button will show the Machine Status Display. This display is also the starting point for accessing the Density Value Display and the Menu Selection Display.

Machine Status Display

The Machine Status Display has five fields consisting of an:

- Alpha Character
- Horizontal Resolution
- Vertical Resolution
- Film Counter
- Status



Alpha Character

The Alpha Character field is located in the upper left corner. In normal operation this field will be blank but when the machine is being serviced it may display one of the following letters:

- S - Serial mode active.
- A - Artificial start of line enabled.
  This mode is used for testing only and should not be seen in normal operation.
- J - OOMS, JAM, or NOCASS signals disabled
  (see Chapter 6, *Messages*).
  This mode is used for testing only and should not be seen in normal operation.

Horizontal Resolution

The Horizontal Resolution field, located on the top line, shows the programmed horizontal resolution in dots per inch (dpi). "H1200", for example, indicates that the horizontal resolution has been set for 1200 dpi (See Chapter 5, "Changing Default Settings", for changing resolution).

Vertical Resolution

The Vertical Resolution Field, located on the top line, shows the programmed vertical resolution in dots per inch (dpi). "V1200", for example, indicates that the vertical resolution has been set for 1200 dpi (See Chapter 5, "Changing Default Settings", for changing resolution).

Film Counter

The Film Counter Field, located in the lower left corner indicates the amount of film that has been advanced into the Take-up Cassette. The film counter resets every time the film is cut. The film count can be maintained in feet or meters selectable from the service menu.

Status

The Status Field, located in the center of the bottom line, indicates the current status of the machine. "READY", for example, indicates that the machine is ready to receive commands from the host system or via the control panel. If the machine is otherwise engaged, the status display might read, "CUT", "FILM ADVANCE", "PRINTING", "REMOVE CASSETTE"; or it might display an error message (See Chapter 6, "Messages", for a description of LCD status messages).

Density Value Display

The Density Value Display provides the current density value in percentage. It is called up by depressing the Density Button while the LCD is showing the Machine Status Display. Access is not available from the Menu Selection Display. The first line contains the word "DENSITY" and the value as a signed (+ or -) number. The second line shows the value as a bar graph where each bar represents a 1% increment. See Chapter 5, "Changing Default Settings", for changing the Density setting.

Menu Selection Display

The Menu Selection Display provides access to all of the submenus and functions, with the exception of density, to permit reprogramming of the machine's default settings. It can be called up on the LCD by depressing the Menu Button while the LCD is showing the Machine Status Display. See Chapter 5, "Changing Default Settings", for making changes to the default settings.

LED

The green LED will light up when power is turned on. It will also blink continuously as the film is advancing through the machine.

Machine Operation

Power is turned on by depressing the rocker switch on the machine's back panel (see "On/Off Switch" on page 2-8). The green LED on the control panel will be lit and the LCD will display "READY". If it does not, refer to "Error Messages and Corrective Procedures" on page 6-5.

In normal operation, the Ultre 5400 is controlled by the host system, and operational procedures are limited to the removal of exposed film in the Take-up Cassette and replacement of the Take-up Cassette on the machine.

While printing is taking place, the Primary Drive Roller will be advancing the film through the machine. The LED will be blinking and the LCD will display "PRINTING".

When the job is finished, depress the Film Advance Button. This will automatically advance the exposed film by the number of inches that has been programmed into the film advance register (the default advance is 12 inches; See Chapter 5, "Changing Default Settings" for setting film advance length). This amount should be enough to place the last exposed copy safely inside the Take-up Cassette. Wait until the LCD displays "READY" and the LED stops blinking before proceeding to the next step.

Operate the knife by depressing the Cut Button. The LCD will display "CUT" for less than 1 second. The film will then advance inside the machine past the upper rollers, the LCD will display "FILM ADVANCE", and the LED will begin blinking. When the film stops advancing, the LED will stop blinking and the LCD will read "REMOVE CASSETTE".

The Take-up Cassette may be removed by lifting straight up. The LCD will display "NO CASSETTE". Approximately 2 inches of film will be protruding from the cassette as a leader for processing. Follow the manufacturer's instructions for preparing the leader for threading into the processor.

ATTENTION: Wait until the LED has stopped blinking and the LCD reads "REMOVE CASSETTE" before removing the Take-up Cassette. Failure to do so may result in **exposing** the film in Take-up Cassette.

After processing the exposed film, the copy may be evaluated for density. If required, the current programmed density can be changed (See Chapter 5, "Changing Default Settings", for changing density setting).

When the input film supply is exhausted, the LCD will display "OUT OF MEDIA". If the film has jammed, the LCD will display "JAM".

Loading 4

The Ultre 5400 imagesetter requires photo material sensitive in the 670 nanometer range (visible-red). Some of the suitable materials are identified in a list of tested materials available from Ultre.

The maximum capacity of the Bulk Load Supply Cassette is 250 feet (75 meters) for material thickness of 4.5 mil.

Preparing the Bulk Load Supply Cassette (Daylight Load) *(Ref: Figures 1-4)*

1. Place the supply cassette on a table with the material exit slot facing you. Loosen the four quarter-turn fasteners counterclockwise and lift off the cassette lid. (Ref:Fig.1)

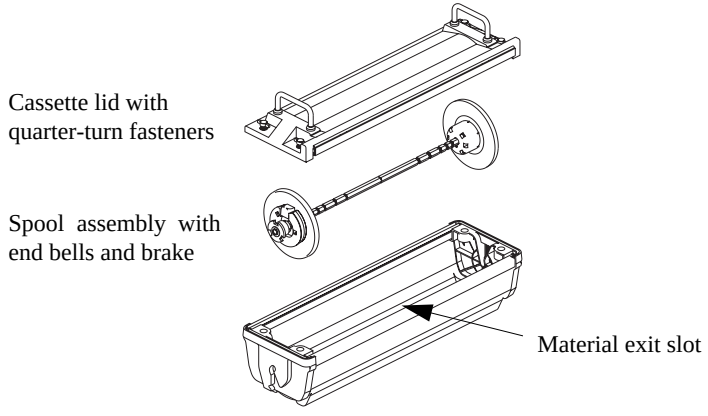


Fig.1

2. Remove the spool assembly from the supply cassette. The shaft of the spool assembly is notched to accommodate the following media widths: 150, 200, 250, 280, *305, 310, 338, 355, 380, *400, *406 mm.

   On the left side of the spool assembly is a brake mechanism and an end bell assembly. On the right side is a spring loaded end bell assembly. As you depress the thumb release button, remove the right side end bell from the shaft. (Ref:Fig.2)

3. Push the thumb release button on the left end bell (next to brake) and adjust the end bell for the desired media width. **(Note special instructions for 305,400 and 406 mm media widths on page 4-4 and 4-5.)** .Make slight adjustments with the thumb release button until the end bell assembly locks into the appropiate notch on the shaft. (Ref:Fig.2)

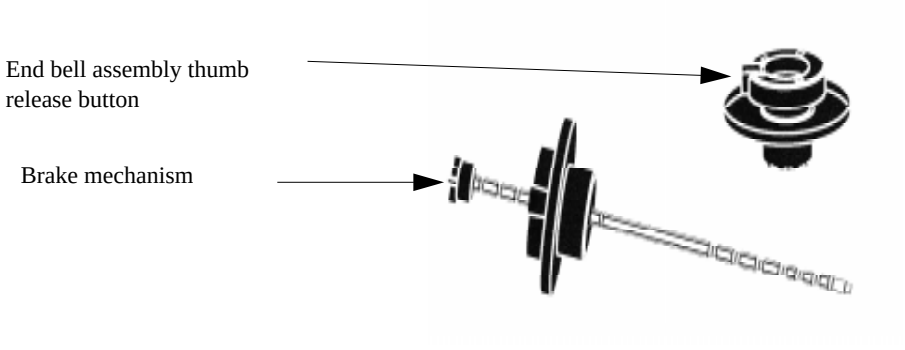


Fig. 2

Special End Bell Instructions for 305 mm, 400 mm and 406 mm media widths :

*When loading 305 mm media width, move the left side end bell to the engraved 310 mm indicator on the spool assembly shaft.

*When loading 400 mm media width, remove the left end bell from the shaft and position it so that the thumb release button is opposite from the engraved 400 mm indicator on the spool assembly shaft. (Ref: Fig. 3)

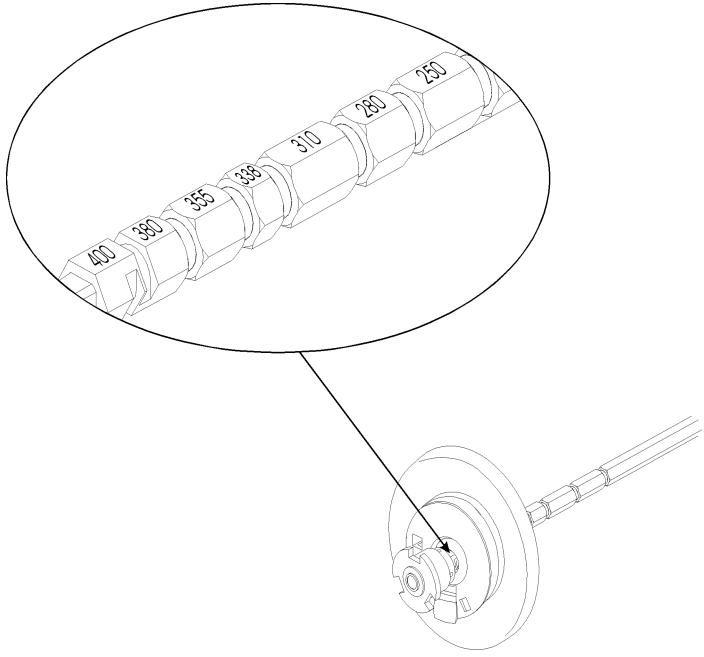


Fig.3

*When loading 406 mm media width, remove the left end bell from the shaft and position it so that the thumb release button is opposite from the engraved 406 mm indicator on the spool assembly shaft.(Ref: Fig. 4)

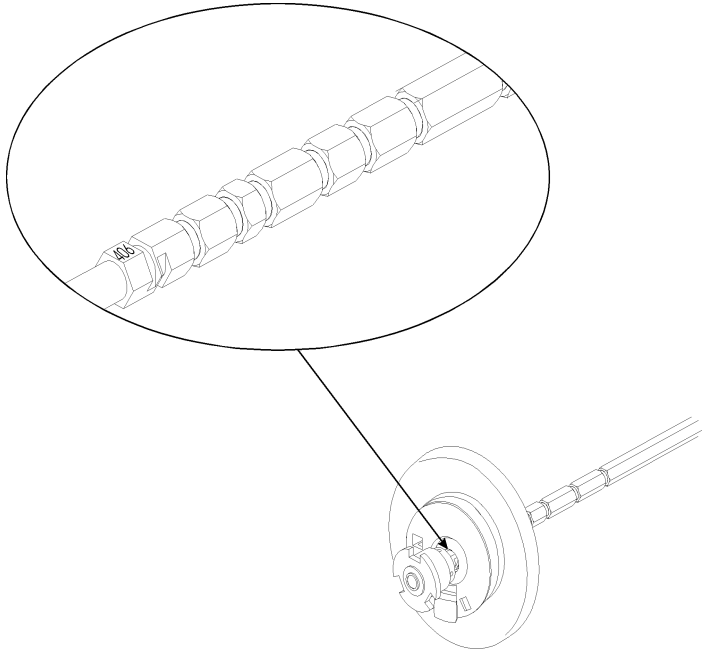


Fig.4

4. Slide the roll of film onto the spool assembly and push it up against the left end bell. Note: Push the material against the end bell with the utmost care. Ensure that the film is flush with the end bell. Otherwise registration accuracy cannot be guaranteed.

5. Depress the thumb release button and slide the right side end bell onto the right end of the shaft. Ensure that it has reached the material roll and locks into position.

6. Place the right side of the film and spool assembly into the cassette and then lower the left side into the cassette. The emulsion should be down and the curl of the film over the felt side of the supply cassette. With the film and spool assembly in the cassette, turn the film roll to ensure the brake mechanism is seated in the cassette. Pull the leader (protective wrap) out a few inches without exposing any film.

7. Replace the lid on the supply cassette with the material protruding from the felt exit slot. Push down and turn all four quarter-turn fasteners clockwise until secured. Note: Cassette lid must be secured before lifting it!

8. Pull the leader of the film until the protective wrap can be totally removed. Allow 6-8 inches of film to be exposed out of the cassette.

9. Ensure that the material does not bind in the exit slot.

Preparing the Bulk Load Supply Cassette (Dark Room Load) (*Ref: Figures 1-4)*

1. Place the supply cassette on a table with the material exit slot facing you. Loosen the four quarter-turn fasteners counterclockwise and lift off the cassette lid

2. Remove the spool assembly from the supply cassette. The shaft of the spool assembly is notched to accommodate the following media widths: 150, 200, 250, 280, *305, 310, 338, 355, 380, *400, *406 mm. On the left side of the spool assembly is a brake mechanism and an end bell assembly. On the right side is a spring loaded end bell assembly. As you depress the thumb release button, remove the right side end bell from the shaft.

3. Push the thumb release button on the left end bell (next to brake) and adjust the end bell for the desired media width **(Note special instructions for 305,400 and 406 mm media widths on page 4-4 and 4-5)** . Make slight adjustments with the thumb release button until the end bell assembly locks into the appropriate notch on the shaft. (Ref:Fig.2)

4. In a totally dark room, or safe-lit room (using green safelight filters), remove the material from its wrapping.

5. Slide the roll of film onto the spool assembly and push it up against the end bell. Note: Push the material against the end bell with the utmost care. Ensure that the film is flush with the end bell. Otherwise registration accuracy cannot be guaranteed.

6. Depress the thumb release button and slide the right side end bell onto the right end of the shaft. Ensure that it has reached the material roll and locks in position.

7. Place the right side of the film and spool assembly into the cassette and then lower the left side into the cassette. The emulsion should be down and the curl of the film over the felt side of the supply cassette. With the film and spool assembly in the cassette, turn the film roll to ensure the brake mechanism is seated in the cassette. Pull the leader out 6-8 inches.

8. Replace the lid on the supply cassette with the material protruding from the felt exit slot. Push down and turn all four quarter-turn fasteners clockwise until secured. Note: Cassette lid must be secured before lifting it!

9. Ensure that the material does not bind in the exit slot.

Loading Photo Material *(Ref: Figures 5-11)*

The supply cassette for the Ultre 5400 can hold up to 75 meters of 4.5 mil photographic material. If using thicker media the amount will be less. Photographic material in either darkroom or daylight packaging can be used. Both loading procedures are described respectively in pages 4-2 Loading Photographic Material (Daylight Packaging) and 4-7 Loading Photographic Material (Darkroom Packaging).

Ensure that main power is on.

1. Remove the Take-up Cassette from the top of the machine by lifting it straight up. (Ref: Fig.5)

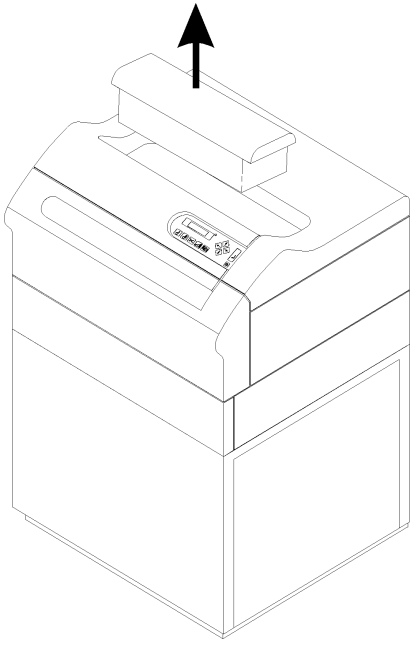


Fig.5

2. Open the Film Access Door. (Ref: Fig.6)

Fig.6

Facing the recorder, note that there are two metal pins protruding from the left and right side plates (Ref: Fig.7). The spring loaded pin on the left side plate and the pin on the right side plate are used to mount the Supply Cassette in the loading compartment.

Side plates showing metal mounting pin

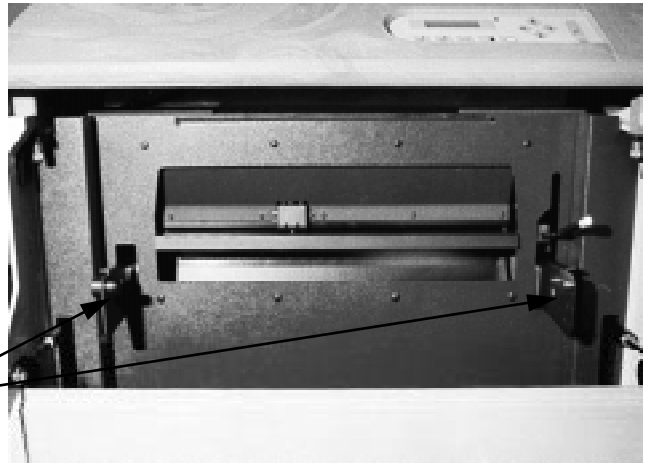


Fig.7

Holding the cassette by the handles, guide the cassette into the film loading compartment as shown below with the left side of the cassette engaging the left side mounting pin. Guide the right side of the cassette inward and lower the cassette onto the right side mounting pin (Ref: Fig.8).The cassette is free to pivot on the mounting pins and should be positioned so that the exit slot is facing upward.

Fig.8

NOTE: Before proceeding, make certain that the Pressure Roller Lever is in the **down** (engaged) position as shown in Fig.9. Attempting to load the media into the machine with the Pressure Roller lever in the “up” position will result in a “Rollers Open” error message displayed on the LCD display.

Pressure Roller Lever

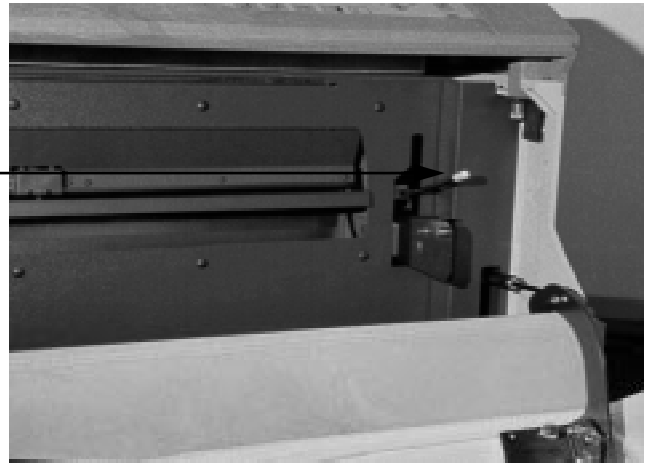


Fig.9

3. With approximately 8 inches of material protruding from the Supply Cassette and the exit slot facing upwards, place both hands on the film and guide it forward under the feed slot and into the material feed rollers. Depress the Film Advance Button on the control panel and guide the film into the feed slot. The LCD will display "FILM ADVANCE", and the LED will begin blinking. (Ref: Fig.10)

Fig.10

The film will continue to advance and the Supply Cassette will pivot on its mounting pins resulting in the cassette handles facing upwards. (Ref: Fig.11) The length of film that is advanced is determined by the programmable film advance length. See also "Changing Default Settings" on page 5-1. for setting film advance length.

Fig.11

ATTENTION: Before proceeding to the next section, ensure the following:

- The film is being **fed straight** (skewed film will track to one side).
- The are no **wrinkles** or **slack** in the film exiting the Supply Cassette.
- The film is centered as it protrudes from the exit guides.

If everything is in order, skip the next section and proceed to step 4. If corrective action is required, proceed to the following step .

Perform these steps if there are wrinkles or slack in the film, or if the film requires repositioning.

- Raise the Pressure Roller Lever to the **up** (disengaged) position.
- Grasp and straighten the film at the top of the machine.
- Ensure that the supply cassette is positioned properly.
- Push the Pressure Roller Lever to the **down** (engaged) position.

4. Close the Film Access Door.

5. Depress the Film Advance Button. The exposed film will move upward through the exit guides. While this is occurring, the LCD will display "FILM ADVANCE" and the LED will begin blinking.

   The Primary Drive Roller will stop turning when sufficient film has advanced through the exit guides. Wait until the LCD displays "NO CASSETTE" and the LED stops blinking before proceeding to the next step.

6. Operate the knife by depressing the Cut Button. The electric knife will cut the film and the LCD will display "CUT" for about one second. The Primary Drive Roller will advance the film through the upper rollers and out of the exit guides. At the same time, the LCD will display "FILM ADVANCE" and the LED will begin blinking.

   After the film advance is completed, the LCD will display "NO CASSETTE" and the LED will stop blinking. Remove the cut film from the exit guides and discard.

7. Replace the Take-up Cassette on the machine by aligning the slot in the cassette with the exit guides. Note the raised mark on the front side of the Take-up Cassette to identify the slot side. Place the Take-up Cassette on the foam covered mounting surface. The machine is now ready to receive data from the host system.

   For best results and to ensure repeatability after a media cut , perform one eight inch film advance into the Take-up Cassette prior to imaging color separations. This can be done automatically by programming the Auto Advance feature in the Control Panel user menu.

   The LCD will display "NO CASSETTE" if the Take-up Cassette has been removed or improperly installed on the machine.

Using Paper Photomaterials

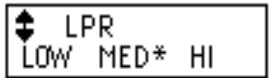
Since paper photographic materials are not as stiff as film, it is necessary to follow an additional procedure when loading paper. The paper should be folded back at a 45° angle on both corners of the material for approximately one third of its width before it is loaded. This will add sufficient strength to prevent media jams when loading paper into the imagesetter.

Changing Default Settings 5

**Asterisk denotes settings for units equipped with optional film punch*

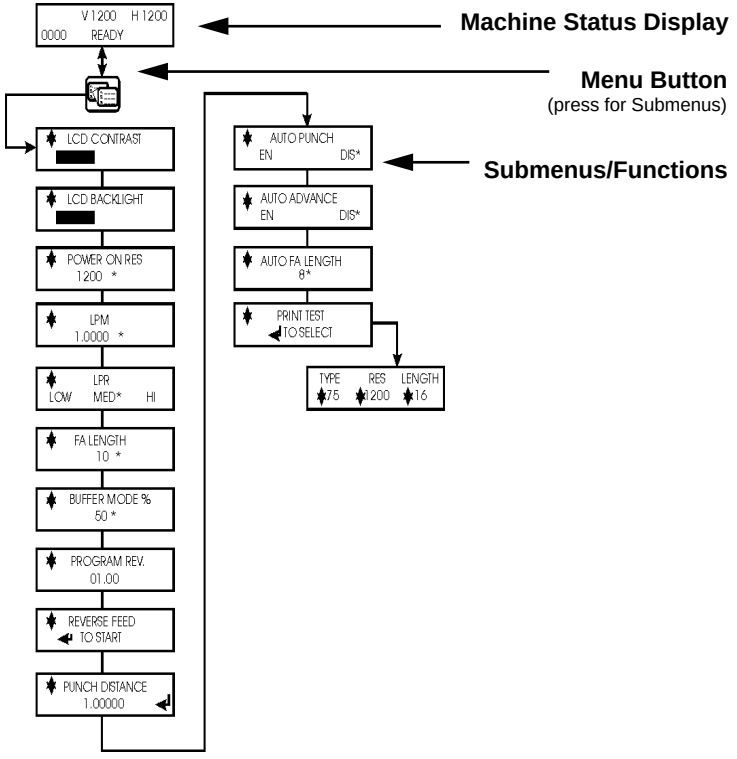
While at the Machine Status Display (as shown at top of following page), depress the Menu Button on the Control Panel to gain access to the submenus. The UP and DOWN arrow in the top left corner of the LCD indicates that the Up Arrow Button or the Down Arrow Button can be used to scroll through the submenus. The current default value for a menu item is followed with an * character.

Example:
In this figure the LCD display shows the submenu ”LPR“ (Laser Power Range). The current default value is set to ”MED“ (medium).



The submenus and their related settings are shown in the Menu Matrix on the following page.

Menus and Functions



Density

With the LCD showing the Machine Status Display, depress the Density Button. The LCD will show the Density Value Display that provides the current density setting in percentage.

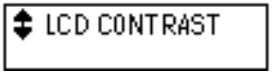
The first line contains the word "DENSITY" and the current value as a signed (+ or -) number. The second line shows the value as a bar graph where each bar represents a 1% increment in power. The adjustable range is -16% to +16%.

To increase the density, depress the Right Arrow Button as often as necessary. As the density increases, the number will increase and the bar graph will shrink from the left and grow to the right.

To decrease the density, depress the Left Arrow Button as often as necessary. As the density decreases, the number will decrease and the bar graph will shrink from the right and grow to the left. Depressing the Enter Button will set the new density value and return the LCD to the Machine Status Display.

LCD Adjustments

Adjust LCD Contrast



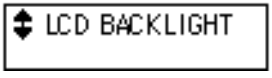
Adjusts the contrast on the LCD for better viewing.

1. Depress Menu Button and the UP or DOWN Arrow Buttons until the LCD CONTRAST function is displayed.

2. Depress either the LEFT Arrow Button or the RIGHT Arrow Button until the desired contrast is obtained on the LCD.

3. Depress the Enter Button. Depress the Menu Button to return to the Machine Status Display.

Adjust LCD Backlight



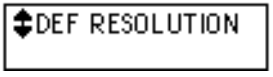
Adjusts the brightness of the LCD backlight for better viewing.

1. Depress Menu Button and the UP or DOWN Arrow Buttons until the LCD BACKLIGHT function is displayed.

2. Depress either the LEFT Arrow Button or the RIGHT Arrow Button until the desired backlighting is obtained on the LCD panel.

3. Depress the Enter Button. Depress the Menu Button to return to the Machine Status Display.

■ Set Power On Resolution



Sets the printer resolution.

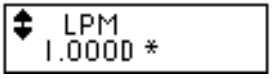
1. Depress Menu Button and the UP or DOWN Arrow Buttons until the DEF RESOLUTION function is displayed.

2. Depress either the LEFT Arrow Button or the RIGHT Arrow Button until the desired resolution is displayed on the LCD.

3. Depress the Enter Button. Depress the Menu Button to return to the Machine Status Display.

NOTE: During operation UltreRIP will set the job resolution to a specified value which will override any resolution value set through the Control Panel.

Set Laser Power Multiplier (LPM)



Adjusts laser power so as to achieve proper density on different photo materials.

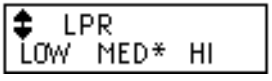
1. Depress Menu Button and the UP or DOWN Arrow Buttons until the LPM function is displayed.

2. Depress either the LEFT Arrow Button or the RIGHT Arrow Button until the desired LPM is displayed on the LCD.

3. Depress the Enter Button. Depress the Menu Button to return to the Machine Status Display.

NOTE: During operation UltreRIP will set the LPM to a specified value. This RIP specified value will over-ride any LPM value set through the control panel and will set a new LPM.

Set Laser Power Range (LPR)



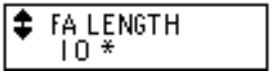
Since the Ultre 5400 has a much wider power range than other Ultre imagesetters, the LPR function has been added so that compatibility can be maintained for the LPM function. The LPR function selects a range, either low, medium or high.

1. Depress Menu Button and the UP or DOWN Arrow Buttons until the LPR function is displayed.

2. Depress either the LEFT Arrow Button or the RIGHT Arrow Button until desired LPR range is displayed on the LCD.

3. Depress the Enter Button. Depress the Menu Button to return to the Machine Status Display.

■ Set Film Advance Length



Sets the amount of film that will be automatically advanced when the FILM ADVANCE BUTTON is depressed.

1. Depress Menu Button and the UP or DOWN Arrow Buttons until the FA LENGTH function is displayed.

2. Depress either the LEFT Arrow Button or the RIGHT Arrow Button until the desired film advance is displayed on the LCD. The display indicates the film advance length in inches.

3. Depress the Enter Button. Depress the Menu Button to return to the Machine Status Display.

Buffer Mode

The Ultre 5400 Imagesetter is configured with a large buffer memory (16 to 32MB). This function is used to determine the minimum amount of data that will be buffered before imaging begins.

The value can be varied to eliminate delays in imaging jobs. Setting the value low will initiate imaging more quickly but if it is set too low the job may abort if the RIP is not able to maintain the necessary data transfer rate on complex jobs.

1. Depress Menu Button and the UP or DOWN Arrow Buttons until the BUFFER MODE function is displayed.

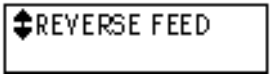
2. Depress either the LEFT Arrow Button or the RIGHT Arrow Button until the desired buffer fill percentage is displayed on the LCD.

3. Depress the Enter Button. Depress the Menu Button to return to the Machine Status Display.

Program Revision

This message displays the current revision of the machine firmware

Reverse Feed



Reverse Feed is used to remove film from the transport in the event of a film jam condition.

1. Depress Menu Button and the UP or DOWN Arrow Buttons until the REVERSE FEED function is displayed.

2. Depress the Enter Button to reverse feed approximately 4 inches of film. If necessary, depress the Enter Button again to reverse feed an additional 4 inches

3. Depress the Menu Button to return to the Machine Status Display.

Punch Distance

*When the optional film punch is installed, this parameter is used to set the distance in inches from the middle punched hole to the first line of video data.

1. Depress Menu Button and the UP or DOWN Arrow Buttons until the PUNCH DISTANCE function is displayed.

2. Depress the RIGHT Arrow Button until the cursor is positioned over the parameter to be changed on the LCD. The UP or DOWN Arrow Buttons can now be used to select the desired parameter.

3. Depress the ENTER Button. Depress the Menu Button to return to the Machine Status Display.

Auto Punch

*When the optional film punch is installed, this parameter will allow a user to enable or disable the film punch.

1. Depress Menu Button and the UP or DOWN Arrow Buttons until the AUTO PUNCH function is displayed.

2. Depress either the RIGHT Arrow Button or the LEFT Arrow Button to enable or disable the optional film punch.

3. Depress the ENTER Button. Depress the Menu Button to return to the Machine Status Display.

Auto Advance

This function is used to enable or disable the automatic advance feature. When enabled, the machine will automatically advance a pre-programmed amount of

media into the Take-up Cassette after the cassette is replaced following a media cut. This is necessary to guarantee registration repeatability when producing color separations.

1. Depress Menu Button and the UP or DOWN Arrow Buttons until the AUTO ADVANCE function is displayed.

2. Depress either the RIGHT Arrow Button or the LEFT Arrow Button to enable or disable the Auto Advance feature.

3. Depress the ENTER Button. Depress the Menu Button to return to the Machine Status Display.

■ Auto FA Length

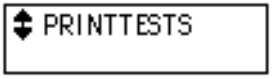
This setting is used to program the length of Film Advance if the Auto Advance feature is enabled as described above. The range of programmable length is from four to thirty-six inches.

1. Depress Menu Button and the UP or DOWN Arrow Buttons until the AUTO FA LENGTH function is displayed.

2. Depress either the LEFT Arrow Button or the RIGHT Arrow Button until the desired automatic film advance is displayed on the LCD. The display indicates the automatic film advance length in inches.

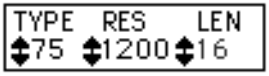
3. Depress the Enter Button. Depress the Menu Button to return to the Machine Status Display.

Print Test



The Print Test function activates a number of machine self-tests that can be run without having a RIP connected to the imagesetter. These self-tests can be utilized to ensure output quality and proper machine functionality.

1. Depress Menu Button and the UP or DOWN Arrow Buttons until the PRINTTESTS function is displayed.



The LCD panel will display three parameters, TYPE, RES and LEN that may be selected and modified.

- TYPE indicates the type of test that will be performed (sample at left indicates 75% halftone).
- RES indicates the resolution at which the test will performed (sample at left indicates 1200 dpi).
- LEN indicates the length over which the test will be performed (sample at left indicates 16 inches).

2. Depress either the LEFT Arrow Button or the RIGHT Arrow Button until the cursor is positioned over the parameter to be changed on the LCD. The UP or DOWN Arrow Buttons can now be used to select the desired parameter.

3. Depress the Enter Button. This will initialize the programmed self-test. To return to the Machine Status Display, depress the Menu Button twice .

Messages 6

LCD Status Messages

The following messages provide machine status and error information and are displayed in the status field of the Machine Status Display (see “LCD” on page 3-6)

PUNCH NOT FOUND

This message indicates that during boot-up, the machine software failed to detect the film punch “home” position (**Note:** This message can appear only on units equipped with the optional film punch)

ROLLERS OPEN

This message indicates that the Pressure Roller lever is in the disengaged (up) position.

CUT

Displayed for less than one second after depressing the Cut Button indicating that the film is being cut. It is immediately followed by the "FILM ADVANCE" message as the film is automatically advanced a few inches.

FILM ADVANCE

Indicates that the film is being advanced in the machine. It is displayed when either the Jog Button, Advance Button, or Cut Button is depressed.

MEDIA JAM

An error message indicating that the photo material has jammed in the machine. The film will stop advancing and the current print job will abort. This message is cleared by removing the Jam condition and depressing the RESET Button.

KNIFE JAM

Indicates that the motorized knife did not return to its “home” position after a material cut. This message is cleared after a successful media cut.

NO CASSETTE

Indicates that the Take-up Cassette has either been removed or has not been properly installed on the machine.

OUT OF MEDIA	Out of Media error message indicating that the Supply Cassette has run out of film. This message is cleared when the Supply Cassette is reloaded.
PHOTO ERROR	Photo Error message generated by the machine indicating that the Start Of Line (SOL) sensor failed to detect the laser beam. Note that the error message is generated only when the optics system is active.
POWER SUPPLY FAULT	One or more of the power supply voltage levels is incorrect.
PRINTING	Machine is printing as film is being advanced.
READY	Machine is ready to accept commands from the host system or the control panel.
REMOVE CASSETTE	Indicates that printing is completed, the exposed film has been cut and is in the Take-up Cassette and ready for processing.
SELF TEST	This message is displayed during self test mode.
LASER FAULT	This message indicates a fault in the laser drive.
SPINNER FAULT	This message indicates an error in the laser spinner or spinner drive.
FILTER FAULT	This message indicates an error in the laser power and filter wheel assembly.
TRANSPORT FAULT	This message indicates an error in the transport drive system.

DATA UNDERRUN This message indicates the host system did not maintain the necessary data rate during printing.

EEPROM FAULT This message indicates the EEPROM has a check sum error.

CASSETTE ABORT This message indicates the machine received a no cassette indication during printing.

Error Messages and Corrective Procedures

The are a number of situations where the machine will halt normal operation and display error messages on the LCD. The following describes the possible causes and corrective action to be taken for each error before normal operation can resume.

JAM

Possible Cause

The photo material has jammed in the machine.

Corrective Action

Clear the jammed photo material by opening the front cover, releasing pressure roller lever and pulling out the jammed material. If it is difficult to clear the JAM you may invoke the REVERSE FEED function described in section 5-10.

NO CASSETTE

Possible Cause

The Take-up Cassette has been removed or has not been properly installed on the machine.

Corrective Action

No corrective action is required if the Take-up Cassette has been removed as part of the film loading procedure (see Chapter 4). When replacing the Take-up Cassette, place it on the machine by aligning the slot in the cassette with exit guides protruding from the top of the machine and place down against the foam covered mounting surface. Note the raised mark on the front of the Take-up Cassette to identify the slot side.

OUT OF MEDIA

Possible Cause

Out Of Media. The Supply Cassette has run out of film.

Corrective Action

Reload supply cassette.

PHOTO ERROR

Possible Cause

SOL sensor failed to detect laser beam. This may be caused by a malfunction in the optics assembly.

Corrective Action

Reset the machine by depressing the Reset Button on the Control Panel. If condition reoccurs or a malfunction is suspect, refer problem to a qualified technician.

POWER SUPPLY FAULT

Possible Cause

This error indicates a failure within the power supply.

Corrective Action

Reset the machine by turning the power off, waiting approximately 20 seconds and turning the power back on. If condition reoccurs or a malfunction is suspect, refer problem to a qualified technician.

LASER FAULT

Possible Cause

This error indicates a fault in the laser drive.

Corrective Action

Reset the machine by depressing the Reset Button on the Control Panel. If condition reoccurs or a malfunction is suspect, refer problem to a qualified technician.

SPINNER FAULT

Possible Cause

This error indicates an error in the laser spinner or spinner drive.

Corrective Action

Reset the machine by depressing the Reset Button on the Control Panel. If condition reoccurs or a malfunction is suspect, refer problem to a qualified technician.

FILTER FAULT

Possible Cause

This error indicates an error in the laser power and filter wheel assembly.

Corrective Action

Reset the machine by depressing the Reset Button on the Control Panel. If condition reoccurs or a malfunction is suspect, refer problem to a qualified technician.

TRANSPORT FAULT

Possible Cause

This error indicates a faulty transport drive system.

Corrective Action

Reset the machine by depressing the Reset Button on the Control Panel. If condition reoccurs or a malfunction is suspect, refer problem to a qualified technician.

PROCEDURE FOR UPGRADING ULTRE 5400 CONTROL PROGRAM *(UTILIZING A PC)*

Items Required:

5400 imagesetter

5400 Upgrade Software Program

Control Program Software

Null Modem Cable (Ultre Part Number 2289.01)

PC running Windows 95 or NT Operating System

This procedure is used to upgrade the existing Control Program in the Ultre 5400.

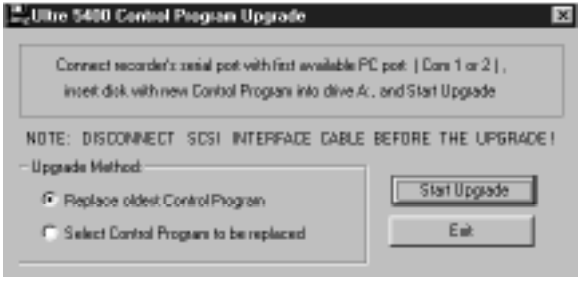
1. Turn main power off to the Ultre 5400 imagesetter.

2. Disconnect SCSI interface cable.

3. Connect imagesetters top serial port with the FIRST available PC port. (Com 1 or Com 2)

4. Power on imagesetter.

5. Launch the ‘5400upgr’ application by double clicking on its icon. The Ultre 5400 Control Program Upgrade screen will be displayed.

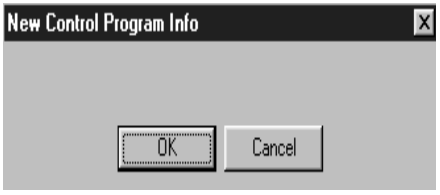


6. Insert disk with new Control Program into drive A: and click the ‘Start Upgrade’ button.

7. An ‘Open’ dialog box will be displayed.

Select the Control Program and click the ‘Open’ button.

8.A ‘New Control Program Info’ dialog box will be displayed.

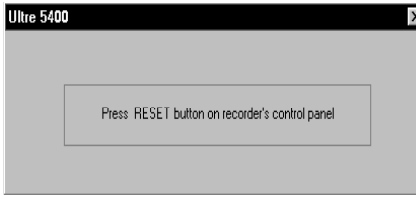


This dialog box will display a brief description of changes incorporated into the new Control Program.

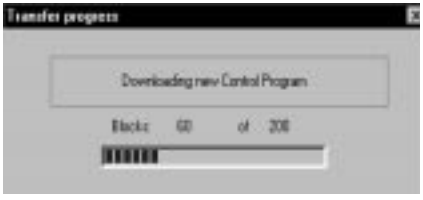
-Click the ‘OK’ to accept this Control Program and continue with the upgrade.

-Click the ‘Cancel’ button to abort the upgrade and return to the Main Screen.

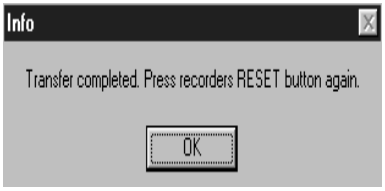
9. Once the ‘Ultre 5400’ dialog box is displayed press the ‘RESET’ button on the recorder’s control panel.



10. The imagesetter will display DOWNLOADING on the control panel and a ‘Transfer Progress’ dialog box will be displayed indicating the control program is being downloaded to the imagesetter.



Once the new Control Program has been downloaded to the imagesetter, an ‘Info’ dialog box will be displayed indicating that the transfer is completed.



Press the ‘RESET’ button on the recorder to initiate the new Control Program. Click the ‘OK’ button to return to the main screen of the upgrade program. Click the ‘Exit’ button to quit the Ultre 5400 Upgrade application.

PROCEDURE FOR UPGRADING ULTRE 5400 CONTROL PROGRAM *(UTILIZING A MACINTOSH)*

Items Required:

5400 imagesetter

5400 Upgrade Software

Control Program Software

Null Modem Cable (Ultre Part Number 2290.01)

Macintosh Computer

This procedure is used to upgrade the existing Control Program in the Ultre 5400.

1. Turn main power off to the 5400 imagesetter.

2. Disconnect SCSI interface cable.

3. Connect imagesetters top serial port with the Modem ‘A’ serial port icon (shown below) on the rear of the Macintosh computer.

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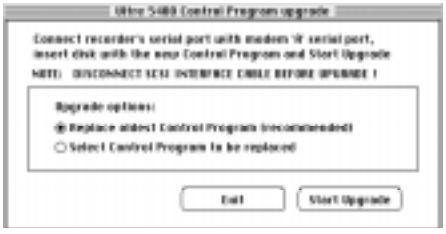
4. Power on imagesetter.

5. Launch the ‘5400upgr’ application by double clicking on its icon. The Ultre 5400 Control Program Upgrade screen will be displayed.



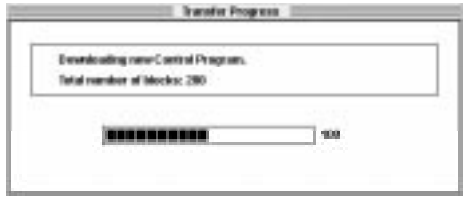
6. Insert disk with new Control Program into floppy drive and click the ‘Start Upgrade’ button.

7. A dialog box will be displayed.

Select the Control Program and click the ‘Open’ button.

8. When the following dialog box is displayed press ‘RESET’ on the recorders Control Panel.

9. The imagesetter will display DOWNLOADING on the control panel and a ‘Transfer Progress’ dialog box will be displayed indicating the control program is being downloaded to the imagesetter.



Once the new Control Program has been downloaded to the imagesetter, a dialog box will be displayed indicating that the transfer is completed.

Press the ‘RESET’ button on the recorder to initiate the new Control Program and return to the main screen. Click the ‘Exit’ button to quit the Ultre 5400 Upgrade application.

Technical Data 7

System description	The Ultre 5400 is a prepress imagesetter based on a raster scanning mechanism with a laser light source in the visible red wavelength. The laser diode is modulated by incoming data and is scanned across the media by a spinning 45 degree mirror. The media movement is synchronized with the scanned laser beam by the film transport
Light source	Visible red laser diode, emission wavelength 670 nm
Imaging principle	Rotating monogon, Continuous moving transport of photographic material
Imaging width	406 mm (16 inches), (imaging length dependent on application program)
Maximum screen frequency	Up to 78L/cm (200 lpi) at 3386 dpi
Repeat accuracy	*Typ. ± 1 mil or 25 µm , Max. ± 1.5 mil or 40 µm (within the ambient conditions defined below with constant environmental conditions for 4 successive pages of 406 mm x 406 mm *Typical shall mean that 80% of all machines produced will meet this specification.
Photographic material in bulk roll form	VR-sensitive imagesetting material with a peak sensitivity at 670nm, 0.10 to 0.18 mm thick, anti-static emulsion, roll material wound emulsion in on a 50.7 mm (2") core. Both daylight and darkroom loading films are supported. Disposable daylight film is not supported.
Material width*	150mm (5.9”), 200mm (7.9”), 250mm (9.8”), 280mm (11”), 305mm (12”), 310mm (12.2”), 338 mm (13.3”), 355mm (14”), 380mm (14.9”), 400mm (15.7”), 406mm (16”) *The Supply Cassette is adjustable to support a wide variety of media widths

Capacity of feed cassette	Approx. 75 m (250 feet) film depending on material thickness
Capacity of takeup cassette	Approx. 10 m (30 feet) depending on material thickness
Mains voltage	90 - 130 V (AC), 180 - 250 V (AC) autoranging, 47 - 63 Hz
Nominal voltage	115/230 V (AC)
Nominal frequency	50/60 Hz
Power consumption	Approximately 0.5kW under operating conditions
Dimensions	720 mm wide x 895 mm high x 635 mm deep (WxHxD)
Weight	130 kg, 280 lbs.
Interfaces	SCSI interface, SCSI Level 2 compatible. 16 MB data buffer standard, optional 16 and 32MB data buffers available. Buffer memory utilizes industry standard 72 pin SIMM memory and is field replaceable.
Noise emission	LpA ≤ 70 dB(A) (Noise measuring DIN 45635-19-01-KL2)

Ambient conditions (operation)

Temperature Range	+18 - +30 °C
Relative Humidity	45 - 85 %, non condensing

Ambient conditions (transport)

Temperature	-10 - +50 °C
Humidity	35 - 85 %, non condensing

Resolution and recorder speed

Resolution pixel/cm	Max. Speed cm/min	Resolution dots/inch	Max. Speed inch/min
394	64.6	1000	25.4
400	62.5	1016	24.6
472	56.1	1200	22.1
500	50.1	1270	19.7
630	42.2	1600	16.6
667	37.6	1692	14.8
787	32.3	2000	12.7
796	31.2	2032	12.3
945	28	2400	11.0
1000	25.2	2540	9.9
1180	18	3000	7.1
1332	14	3386	5.5