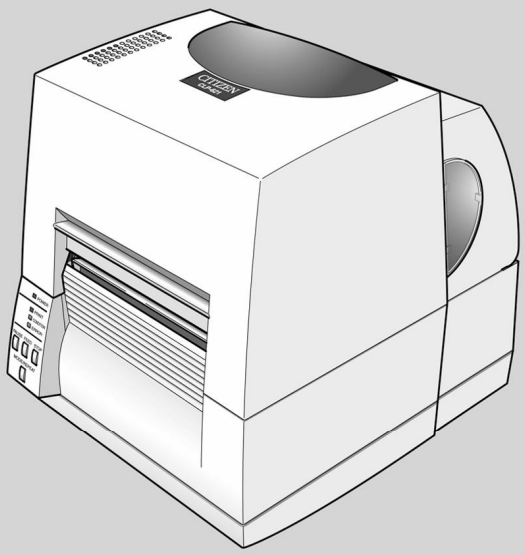
DATECS

USER'S MANUAL



Direct Thermal
and Thermo Transfer
Barcode & Label Printer

DLP-621

We wish you a pleasant work with DLP-621!

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Version: 02 / november 2008 г.

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Main Features

DATECS DLP-621 is a high-speed (up to 100 mm/s) and high-quality (resolution 203 dpi) direct thermal and thermal transfer printer designed to print labels, bar-cods and graphics. It is particularly useful when printing information, arranged in a template form, which has to be partially modified under customer demand.

DATECS DLP-621 gives you the opportunity to store into the consumer memory of the printer data for the arrangement and design of the separate text and graphic elements, easing your work considerably, when you have to print a greater number of labels. On the other hand, it supports the monochrome PCX format and it is possible for you to design the graphics of parts of the label with an appropriate program under Windows and store in the consumer printer memory in advance.

DATECS DLP-621 offers the possibility to define up to 8 (0 – 7) whole digit variables, named counters (with a length 1–24 bytes/characters) and up to 32 (0–31) variables (with a length 1– 63 bytes/characters).
When working with form, using counters, the possible value of identical labels, which will be printed out is 1 – 1000, and the possible value of absolutely identical labels for print is 1 – 1000, as well. After printing the certain number of labels the counters automatically change their value, according to the rules set, when they were defined and the new group of labels is printed with the new values.

DATECS DLP-621 supports 6 built in matrix fonts with different sizes, as well as freely selectable option for additional scaling and rotation (at an angle of 0^o, 90^o, 180^o and $270^{o)}$, that gives you freedom in designing the inscriptions on your labels. When using embedded (built in) fonts normal, invert, bold and invert-bold modes are possible. If these fonts don't satisfy your requirements you are free to load additional fonts, using appropriate program under Windows (for example, Soft Font Downloader Utility).
The printer supports practically all the most commonly used bar-cods in labels. The bar-cods can be rotated at an angle of 0^o, 90^o, 180^o and 270^o on the labels.

DATECS DLP-621 is easy to change the printer's settings on the operation panel, tanks to its simple menu system. Its high-lift printhead and mechanism means that media and ribbon can be loaded with ease and it is constructed for easy head cleaning, etc.
Media width adjustment, media thickness adjustment and media sensor adjustment can all be made easily by the user.
The adjustable media sensors allow the sensors to be positioned in different locations across the media. They are standard features, making the printer ideal for use with different media.

DATECS DLP-621 has a serial interface (RS-232), USBinterface and cable LAN port as a standard equipment.

DATECS DLP-621 corresponds to the European safety directives.

1 Technical Specifications

DATECS **DLP-621**

Item		Description
Printing	Printing method	Direct thermal Thermal transfer
	Resolution	203 dpi (8 dots/mm)
	Max. print width	104 mm
	Max. length	812 mm
	Print density	16 software adjustable sets
	Printing speed	50 – 100 mm/s

Media:

1. Roll label paper – for direct thermal or transfer thermal printing	Types of media	Continuous paper Labels with gaps Labels with black marker Labels with notches
	Media width	Min. – 19,5 mm ; Max. – 118 mm
	Label width	Min. – 10,00 mm ; Max. – 104 mm
	Label length	Min. – 6,35 mm ; Max. – 812 mm
	Liner width (if it is available)	Min. – 19,5 mm ; Max. – 118 mm
	Length of gaps between labels	Min. – 2,54 mm ; Max. – 250 mm
	Total media thickness	Min. – 0,06 mm ; Max. – 0,25 mm
	Liner thickness	Min. – 0,06 mm ; Max. – 0,125 mm
	Black mark width (if it is available)	Min. – 3,18 mm ; Max. – 17,80 mm
	Right edge of black mark (if it is available)	Min. – 15 mm ; Max. – 66,50 mm
	Left edge of black mark (if it is available)	Min. – 0 mm ; Max. – 51,50 mm
	Notch width (if it is available)	Min. – 2,54 mm ; Max. – 17,80 mm
	Position of right edge of notice (if it is available)	Min. – 3,60 mm ; Max. – 60,80 mm
	Position of left edge of notice (if it is available)	Min. – 0 mm ; Max. – 57,20 mm

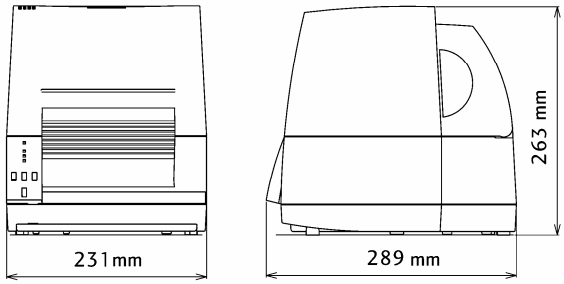
Item		Description
	Max. external diameter	127 mm
	Media core	25,4 – 76 mm
2. Transfer ribbon	Ribbon width	Мин. – 25,4 mm ; Макс. – 114 mm
	Max. ribbon length	360 mm
	Max. roll diameter	74 mm
	Inner diameter of the paper core	25,4 ± 0,25 mm
Bar codes	1D	Code 39 Code 39 with a control digit Code 93 Code 128 Code 128 – automatic A, B, C modes Codabar EAN 8 EAN 8 with 2 additional digits EAN 8 with 5 additional digits EAN 13 EAN 13 with an internal control digit EAN 13 with 2 additional digits EAN 13 with 5 additional digits German postal code Interleaved 2 of 5 (ITF) ITF with a control sum for module 10 ITF with a control digit, duplicated with text Postnet UCC/EAN 128 UPC A UPC A with 2 additional digits UPC A with 5 additional digits UPC E UPC E with 2 additional digits UPC E with 5 additional digits UPC interleaved 2 of 5 Plessey (MSI-1)
	2D	PDF417

1 Technical Specifications

DATECS **DLP-621**

Item		Description
Fonts	Built in	12x24 dots (bolded) 8x12 dots 10x16 dots 12x20 dots 14x24 dots 32x48 dots
	Loadable	The loadable fonts may contain from 1 to 256 symbols, not necessarily arranged in a fixed order. The user can create his own fonts, using the syntax of the command, described further on or use ready programs for the purpose (for example, **Soft Font Downloader Utility**).
Outlines of electronic devices	CPU	32Bits ARM7TDMI-S CPU core
	User Memory	1000 KB
	Input Buffer	50 KB
Movable media detection sensors	Transparent sensor	Detects media gap between labels, notches and media out.
	Reflective sensor	Detects reflective mark on back of media, and media out.
Interfaces	Serial	RS232 (9600 – 115200 bps)
	USB	USB (full speed CDC)
	Ethernet интерфейс – receives LAN transmission of data from a host computer.	100 Mbps (100 BASE-TX)

Item		Description
Power	220V	220V-240V (-10% +6%), 1,2A, 50/60Hz EN 60950-1, EN 55022 (ClassA), EN 55024,EN 61000-3-2, EN 61000-3-3
Environment	Operating temperature conditions: Storage temperature conditions:	Temperature 5°C to 35°C. Humidity 30% to 80%. Temperature -20°C до 60°C. Humidity 5% до 85%.
External dimensions (mm)	231 (W) X 289 (D) X 263 (H)	
Weight	**Approx. 4,9 kg**	



2 Safety Instructions

DATECS **DLP-621**

Warning

- Read carefully all of these instructions and save them for later reference.
- Unplug this product from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- Do not use this product near water.
- Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage to the product.
- Slots and openings on the cabinet and the back or bottom are provided for ventilation.
  To ensure reliable operation of the product and to protect it from overheating, do not block or cover these openings. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built in installation unless proper ventilation is provided.
- This product should never be placed near or over a radiator or heat register.
- This product should be operated from the type of power source indicated on the marking label.
- This product is equipped with a three-pronged plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet.
- Do not allow anything to rest on the power cord. Do not locate this product where the cord will be walked on.
- If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes for 120V outlet and 7.5 amperes for 220V-240V outlet.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
- Except as explained elsewhere in this manual, don't attempt to service this product yourself. Refer all servicing on those compartments to service personnel.
- The mains plug on this equipment must be used to disconnect mains power. Please ensure that the socket outlet is installed near the equipment and shall be easily accessible.
- Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  – when the power cord or plug is damaged or frayed.
  – if liquid has been spilled into the product orf the product has been exposed to rain or water;
  – if the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
  – if the product has been dropped or the cabinet has been damaged;
  – if the product exhibits a distinct change in performance, indicating a need for service.

This is a mark to call attention to the reader.

DATECS
NOTICE

- Before use, be sure to read this manual. And keep it handy for reference when needed.
- **DATECS** reserves the right to change the content of this manual without prior notice.
- Reproduction, transfer, or transmission of the contents of this manual without prior consent is strictly prohibited.
- **DATECS** is not liable for any problems resulting from the use of optional products and consumable supplies other than the designated products contained herein.
- Do not handle, disassemble or repair the parts other than those specified in this manual.
- **DATECS** is not liable for any damage caused by user's erroneous use of the printer and inadequate environment.
- Data residing in the printer is temporary. Therefore, all data will be lost if power is lost. **DATECS** is not liable for any damage or loss of profits caused by data loss due to failures, repairs, inspections, etc.
- Please contact us if there are any mistakes or ambiguities within this manual.
  We would be grateful!

SAFETY INSTRUCTIONS

which must be strictly observed!

⚠ **Warning**	**Indicates a situation, which if was not observed and handled properly, could result in serious injury.**
⚠ **Caution**	**Indicates a situation, which if was not observed and handled properly, could result in injury.**

⚠ Warning

Never perform the following. If not avoided, these may cause damage or trouble to the printer. If the printer is damaged or is malfunctioning, be sure to turn the printer off immediately and remove the power cord from the outlet, then consult our service personnel.

- Do not jolt or impact to the printer by stepping on, dropping or hitting the printer.
- Do not place the printer in a poorly ventilated area, or shut off the air vent of the printer.
- Do not place the printer where chemical reactions occur, such as in laboratories or where air is mixed with salt or gas..
- Do not use a power voltage or frequency other than those specified.
- Do not plug/unplug the power cord or attach/detach the interface cable by simply grabbing the power cord or interface cable. Do not pull or carry the printer when the tension of the power cord or interface cable is increased.
- Do not drop or put foreign matter such as clips and pins into the printer. This may cause problems.
- Do not plug the power cord into an outlet with many loads.
- Do not spill drinks such as tea, coffee and juice on the printer or spray insecticide on the printer. If drink or water is spilled, first be sure to turn the power off and remove the power cord from the outlet, then consult our service personnel.
- Do not disassemble or modify the printer.

Discard or safely store the plastic packing bag.

This bag should be kept away from children.

If the bag is pulled over a child's head, it may cause suffocation.

Warning	**Indicates a situation, which if was not observed and handled properly, could result in serious injury.**
Caution	**Indicates a situation, which if was not observed and handled properly, could result in injury.**

General Precautions

Caution

- Prior to operation, read the safety instructions carefully and observe them.
- Do not drop or put foreign matter such as clips and pins into the printer. This may cause problems.
- Be careful when moving or carrying the printer. Dropping the printer may cause injury or property damage.
- Make sure if you open the top cover, it is opened all the way. If only partially open, the cover could slam shut, possibly causing injury.
- When the cover is open, be careful of the corners of the cover. They could cause injury.
- Do not open the printer during printing.
- When cleaning the surface of the printer case, do not use the cloth that is soaked in thinner, trichloroethylene, benzine, ketone or similar chemicals.
- Do not use the printer where there is a lot of oil, iron particles, or dust.
- Do not spill liquids or spray insecticide on the printer.
- Do not jolt or impact to the printer by stepping on, dropping or hitting the printer.
- Operate the control panel properly. A careless, rough handling may cause problems or malfunction. Do not use such sharp-edged tool as a ballpoint pen for operation.
- If a problem occurs during printing, stop the printer immediately and unplug the power cord from the outlet.
- When printer trouble occurs, do not try to dissemble it. Instead, consult our service personnel..

Precautions When Installing the Printer

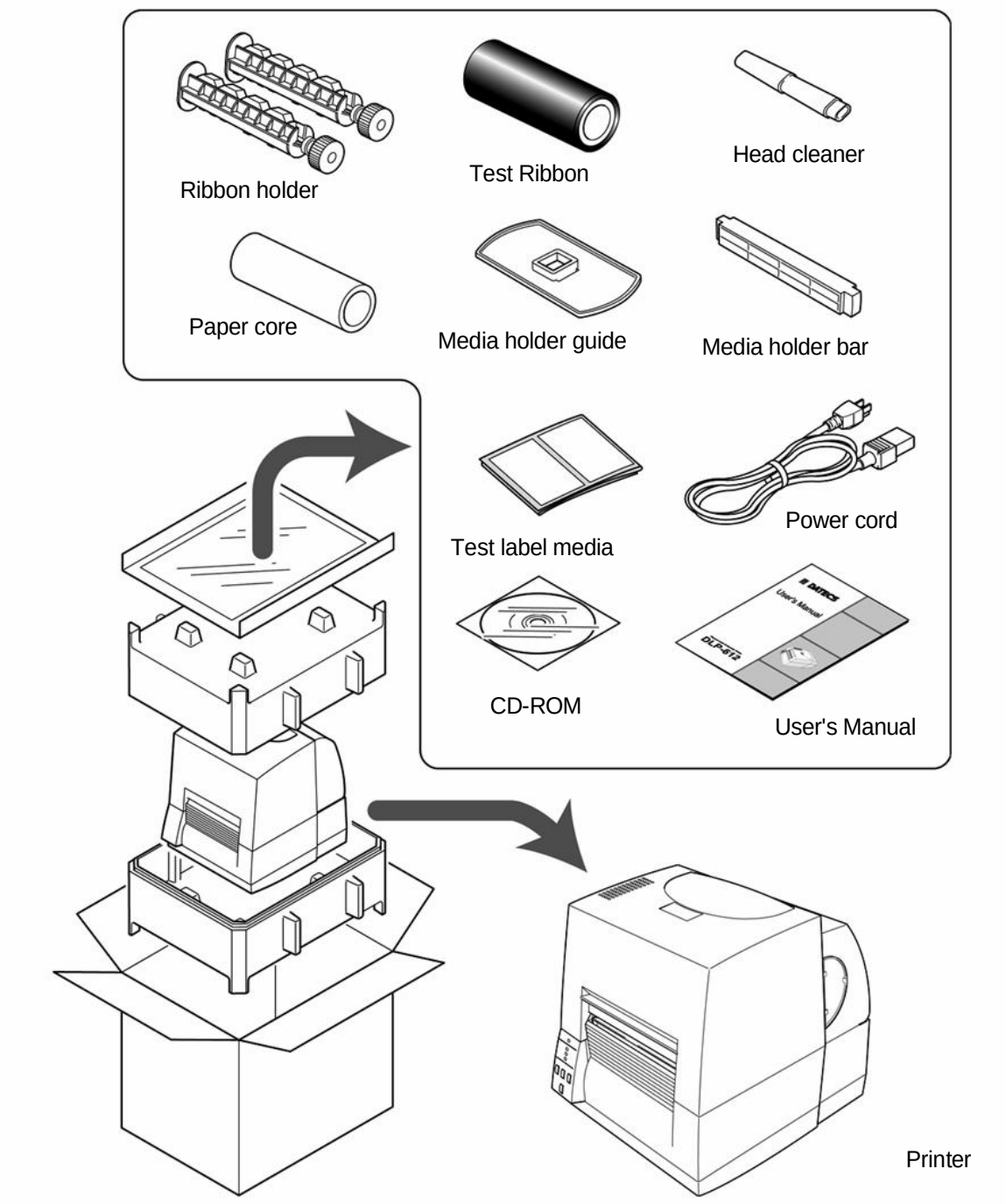
⚠ Caution

- Do not use or store the printer near fire, excessive moisture, in direct sunlight, near an air conditioner or heater or other source of unusually high or low temperature or humidity or excessive dust.
- Do not place the printer where chemical reactions occur, such as in a laboratory.
- Do not place the printer where air is mixed with salt or gas.
- The printer must sit on a firm, level surface where there is ample ventilation. Never allow the printer's air vent to be blocked by a wall or other object.
- Do not put anything on the top of printer.
- Do not place the printer near a radio or television, and do not use the same wall outlet for the printer and radio or television. Radio or television reception could be adversely affected.
- Do not use a power voltage or frequency other than those specified.
- Do not put anything on the power cord or step on it.
- Avoid plugging the power cord into an outlet with many loads.
- Do not bundle the power cord when inserting the plug. Always grip the plug housing, not the cord, to plug/unplug the power cord.
- Do not drag or carry the printer with the power cord or interface cable.
- Make certain the power is turned off before connecting/disconnecting the interface cable.
- Place the printer near the outlet where the power cord can be unplugged easily to shut off power.
- Avoid lengthening the signal cable or connecting it to any noise-producing device. If it is unavoidable, use the shielded cable or twisted pair for each signal.
- Use the AC outlet that accepts a three-pronged plug. Otherwise, static electricity may be generated and there will be danger of electric shock.

4 Confirmation of Carton Contents

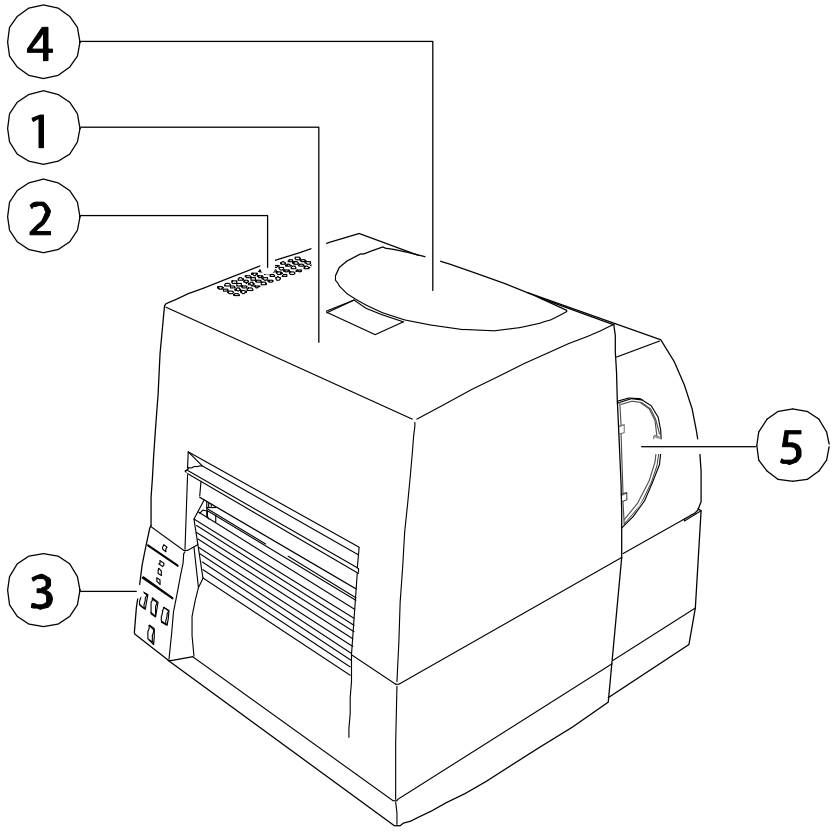
DATECS **DLP-621**

When unpacking the printer, check carefully that the following accessories are included in the carton:



Note: *The empty carton and packing materials should be stored for future shipping of the printer*

Front View



① **Top cover**
It opens vertically to set media or ribbon.

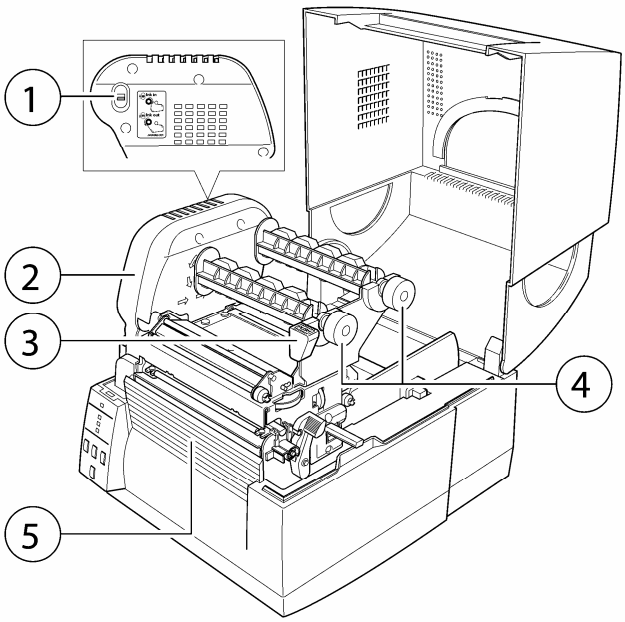
② **Heat discharge vent**
It allows warm air to vent from the printer.
Be sure not to block it with media

③ **Operation panel**
This is used to make changes and adjustments to the printer and its configuration.

④ **Ribbon window**
The amount of ribbon remaining can be checked through this window.

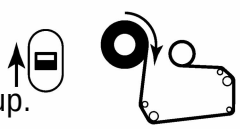
⑤ **Media window**
The amount of media remaining can be checked through this window.

Inside the printer



① **Ribbon winding selection switch**
This switch allows selection of inside-wound ribbons (also known as "ink in") and outside wound ribbons ("ink out"). **Remember, the inked surface should be facing AWAY from the printhead surface!**

- To use an inside would ribbon, push the switch up.





- To use an outside would ribbon, push the switch down.

***DATECS Hint**: To test which surface of the ribbon has ink on it, gently stick a small piece of adhesive label to the surface of the ribbon. When you remove the label, you should see ink on the adhesive label - if the label was touching the inked surface.*

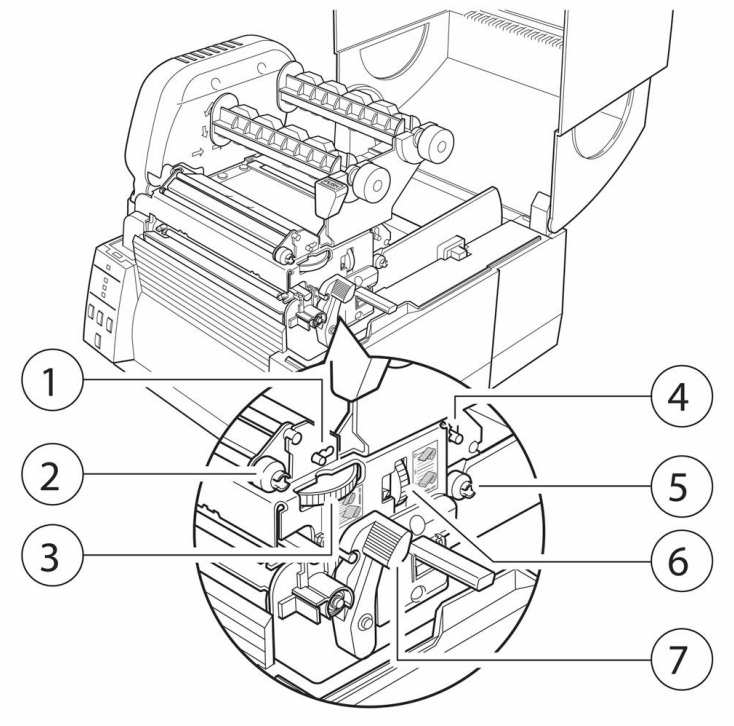
② **Ribbon drive unit**

③ **Head close knob**
Push the head close knob to lock the mechanism closed. If you push on another part of the mechanism, the printer may not lock closed correctly.

④ **Ribbon holder**
It is used to attach the ribbon and paper core.

⑤ **Front cover**
It is removed to install optional units such as the peeler or cutter.

Inside the printer – adjustments



① **Front (winding side) ribbon tension adjustment knob**
This is adjusted according to the width of the ribbon that is used. It is also used when the ribbon is wrinkled or slips.

② **Front (winding side) ribbon left-right balance adjustment knob**
It is used to perform an adjustment when the ribbon is wrinkled. Normally set it to the center position.

③ **Media width adjustment dial**
It is adjusted to match the width of the media.

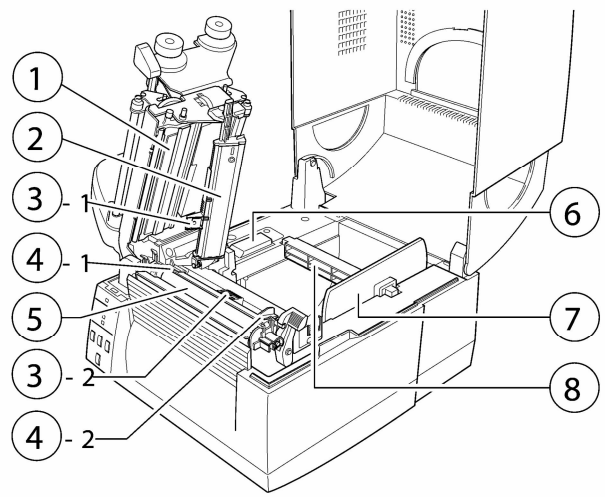
④ **Back (feeding side) ribbon tension adjustment knob**
This is adjusted according to the width of the ribbon that is used. Use it basically in the same way as the front adjustment knob.

⑤ **Back (feeding side) ribbon left-right balance adjustment knob**
It is used to perform an adjustment when the ribbon is wrinkled. Normally set it to the center position.

⑥ **Media thickness adjustment dial**
It is adjusted to match the thickness of the media.

⑦ **Large blue-head open lever**
The head unit can be raised to install media by pushing this lever. It locks the head unit during printing.

Inside the printer – thermal head, sensors, guides



① **Thermal head**
This is the printhead. Avoid touching this with your fingertips and leaving grease or dirt on the printhead surface.

② **Sensor arm**
The media can be installed by raising this arm.
The media can be held in place by lowering this arm.
The upper sensor **(③-1)** is mounted on it. When loading the paper it should pass over the bottom sensor **(③-2)**.

③ **Upper sensor (③-1) and bottom sensor (③-2)**
When used as a transparent sensor (for labels and tags with notches), it is used by matching the sensor mark of the upper sensor and the white sensor mark of the bottom sensor. When used as a reflective sensor, it is used by matching the black sensor mark on the bottom sensor with the position of the black mark on the liner or media backing.

④ **Media guides – left fixed media guide (④-1) and right movable media guide (④-2)**
The end of the media is matched to the left fixed media guide, then the right side movable media guide is moved horizontally to match it to the media size. And the movable media guide is used as a guide to match the upper sensor and bottom sensor when using the transparent sensors.

⑤ **Platen**
Interlocked with the thermal head, it feeds media backwards or forwards.

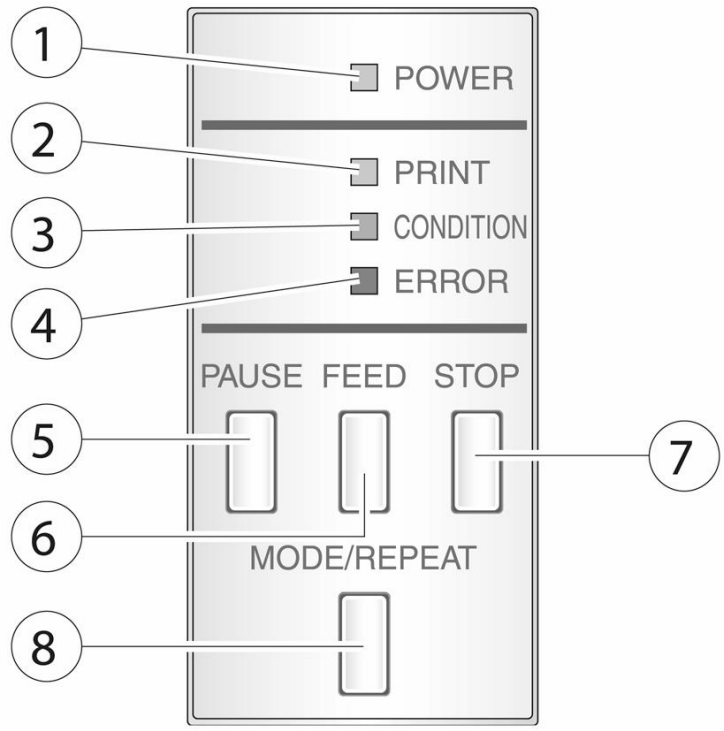
⑥ **Optional unit connector cover**
It is opened when the cables of the cutter unit and the peeler unit are connected. Do not remove during normal use.

⑦ **Media holder guide**

This guide is moved horizontally to match the media size. The guide can be sliding it from the holder bar.

⑧ **Media holder bar**
The media is supported by the media holder bar when installed in the printer.

Operation Panel



① **POWER LED**
It lights in green when the printer power is on.

② **PRINT LED**
It lights in green when the printer is able to print.

③ **ERROR LED**
It lights or flashes in red when the printer is in an alarm or error status.

④ **CONDITION LED**
It flashes in red when the printing is stopped by user or interrupted because of printer error.

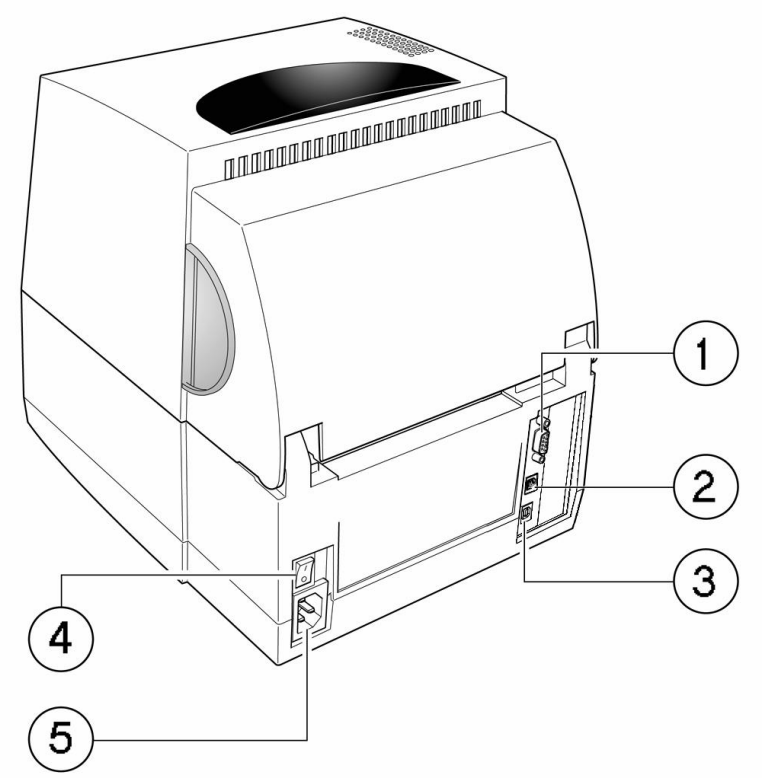
⑤ **PAUSE key**
This temporarily stops printing.

⑥ **FEED key**
This key feeds the media to the top of the next label or form.

⑦ **STOP key**
This stops printing or cancels the alarm.

⑧ **MODE/REPEAT key**
Pushing this key in PRINT status reissues the last label. Turning printer power on while pushing the MODE/REPEAT key enters HEX dump mode.

Rear View – power supply and interfaces



① **Serial interface (RS232)**

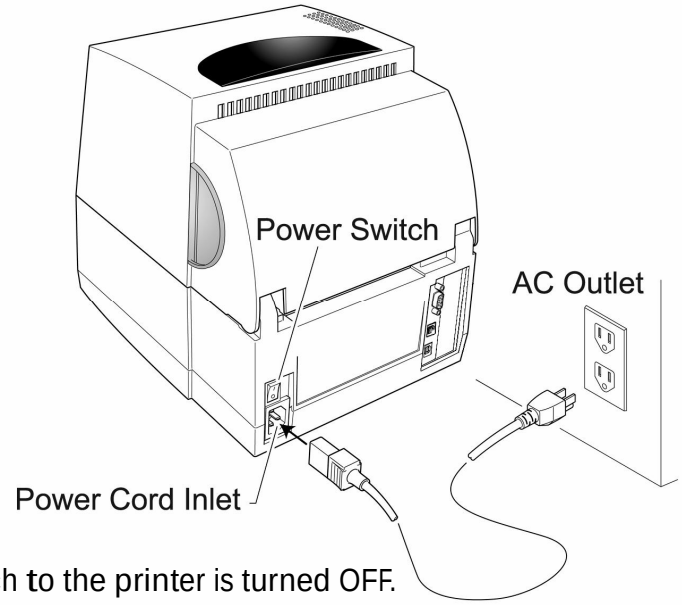
② **Ethernet интерфейс – receives LAN transmission of data from a host computer.**

③ **USB interface**

④ **Power switch (ON/OFF)**

⑤ **Power cord inlet**

Connecting to Power



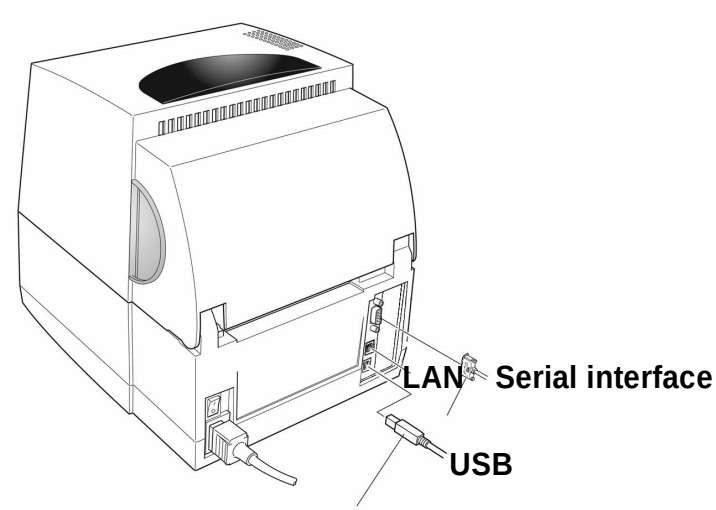
1. Check that the power switch to the printer is turned OFF.
2. Connect the connector of the power cord to the power cord inlet on the printer.
3. Insert the plug of the power cord in the AC outlet.

⚠ Caution

Use an AC outlet that accepts a three-pronged plug. Otherwise, static electricity may be generated and there will be danger of electric shock.

Do not use a power voltage or frequency other than those specified.

Connect to a Computer

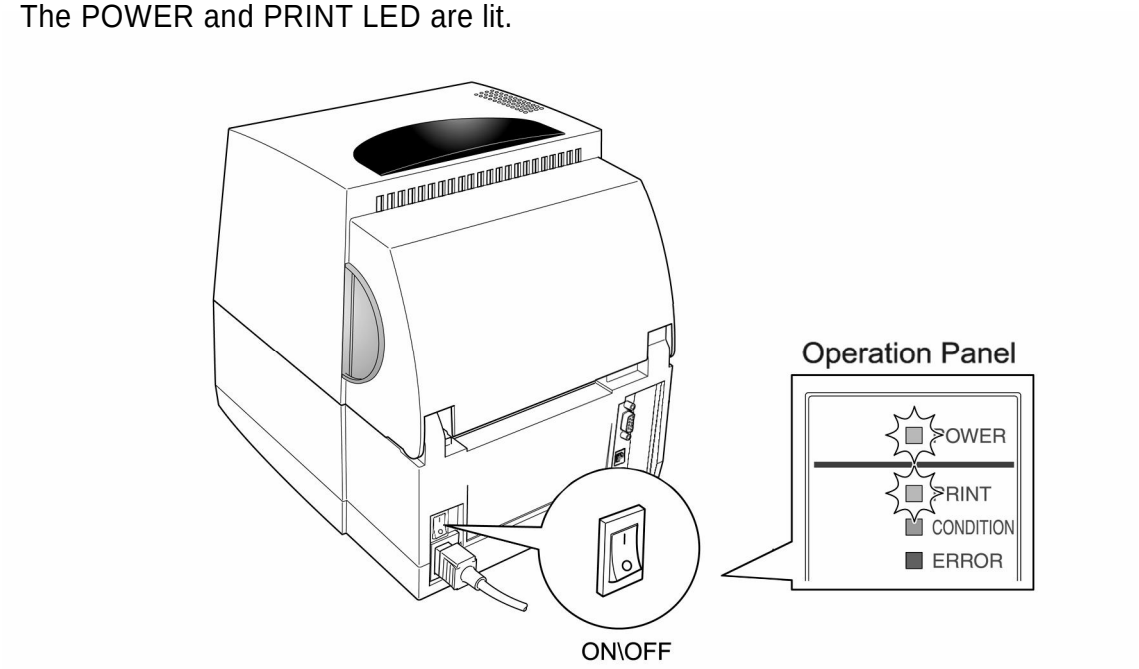


1. Turn OFF both power switches of the printer and the computer.
2. Connect the interface cables to the interface connectors on the back of the printer and to the interface connectors on the computer. Secure them with lock or locking screws, where available.

Power ON/OFF

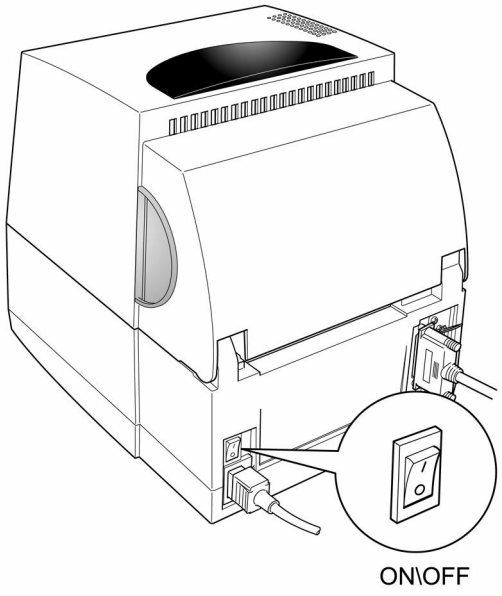
Turning on the power

1. Turn on the power switch on the back of the printer.
2. The POWER and PRINT LED are lit.



Turning off the power

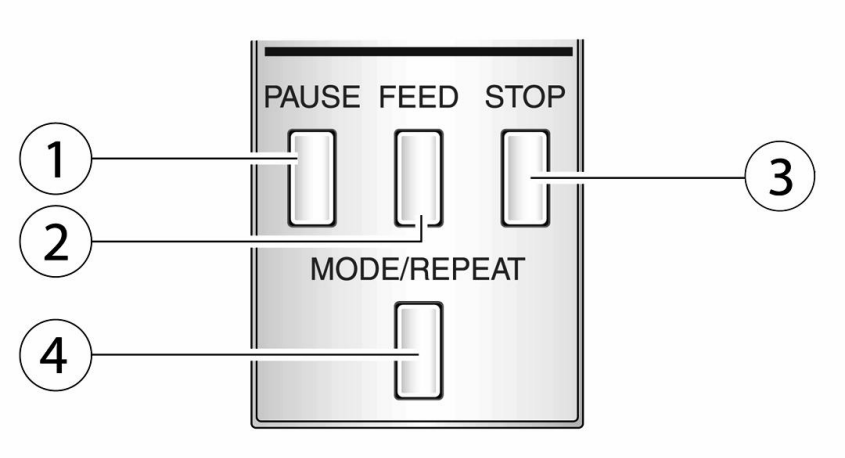
1. Turn off the power switch on the back of the printer.
2. The POWER and PRINT LED go off.



6 Printer Operation

Control Keys Functions in a Normal Operating Mode

When the power is turned on, the printer enters normal operating mode. The control keys activate the following functions:



① **PAUSE key:** Temporarily pauses printing.

When this key is pushed once, the PRINT LED turns off and the printer temporarily pauses. When it is pushed during printing, the printer pauses after the label currently being printed is issued. The CONDITION LED starts to flash. Pressing the key a second time restarts printing and the remaining number of designated labels are printed. After that the printer status is READY to PRINT (the PRINT LED is lit).

② **FEED key:** Feeds media.

Pressing this key feeds media to the print start position. The distance that is fed is determined by automatically detecting front end of the media, when using label media, and then continuous media has been designated, while FEED key is pressed, then feeding stops.

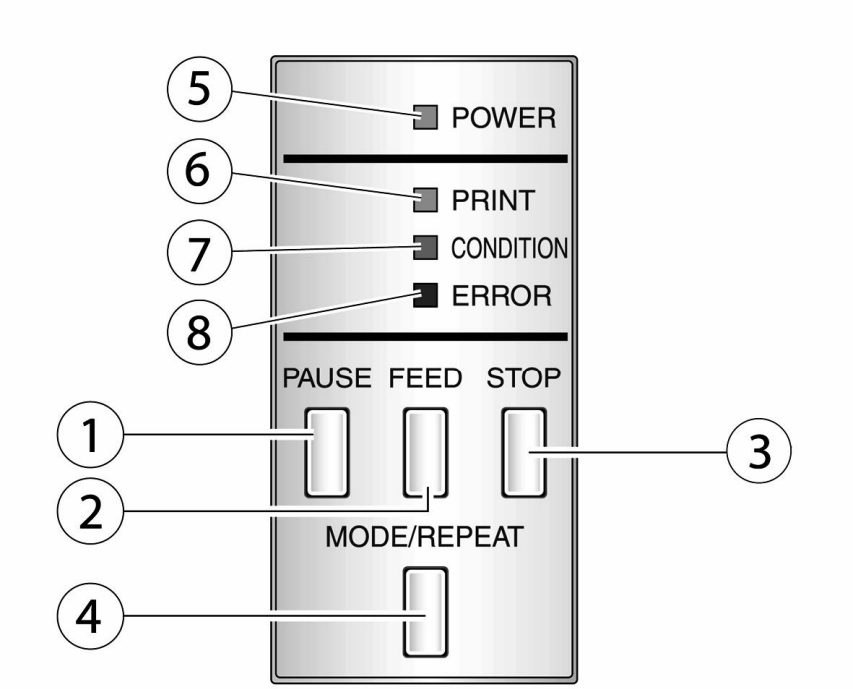
③ **STOP key:** Stops printing and cancels the alarm.

Pushing this key once during printing puts the printer in PAUSE mode after the label is issued. The CONDITION LED starts to flash. When pressing the PAUSE key the remaining number of designated labels is printed. It is possible to cancel 1 batch of label issuing data by pressing the STOP key for 5 seconds or longer in pause status. (The PRINT LED flashes at high speed during cancel). This key also cancels the alarm, if an alarm is occurred.

④ **MODE/REPEAT key:** Reprints the last label.

Pushing the MODE/REPEAT key in PRINT status (when the PRINT LED is lit) reissues the last label. The last label is issued by setting MODE/ REPEAT on the menu.

LED Functions



⑤ POWER LED

It lights in green when the printer power is on.

⑥ PRINT LED

It lights in green when the printer is able to print.

⑦ ERROR LED

Lights or flashes in red when the printer is in an alarm or error status.

⑧ CONDITION LED

It flashes in red when the printing is stopped by user or interrupted because of printer error.

Table of possible combinations of LED Indications depending on the printer status

LED indication	Printer states when no error indication					
	Ready to print	Print	PAUSE / STOP key has been pushed during printing	PAUSE / STOP key has been pushed during pause	Ready to print	Cooling*
PRINT	●	○	○	○ / ●○	●	●○
CONDITION	○	○	●○	○ / ○	○	○●
ERROR	○	○	○	○ / ○	○	○

6 Printer Operation

Led Functions

LED indication	Printer states when there is any error indication				
	Ready to print	Print	STOP key has been pushed because of error indication	PAUSE / STOP has been pushed after eliminating of error	Ready to print
PRINT	●	○	○	○ / ●○	●
CONDITION	○	○	○	○ / ○	○
ERROR	○	●	○	○ / ○	○

***** *The temperature of the motors and thermo element rise during the printing. When it reaches maximum value the printer stops after printing the current label. In this case, PRINT LED and CONDITION LED alternately blink on the operation panel (as shown in the table above). When the temperature falls to the normal value (less than 80°C for the ribbon motor, for example), LEDs stop blink and printing resumes.*

Table of Alarm Indications

In addition to normal operating mode, when an abnormal condition is detected in the printer, each LED either lights or flashes to indicate the type of error (as shown in the table below).

Item	ERROR LED	CONDITION LED	PRINT LED
When the STOP key has been pushed	OFF	OFF	OFF
Media end	●○1	OFF	OFF
Bad media	●○2	OFF	OFF
Ribbon end	●○3	OFF	OFF
Ribbon feed error	●○4	OFF	OFF
Head open	●	●○1	OFF
No calibration	●	●○2	OFF
Ribbon present (in direct thermal print method	●	●○3	OFF
RAM reset	●	●○4	OFF
Communication error	●	●	●○1
Abnormal motor temperature	●	●	●○2
Abnormal head temperature	●	●	●○3
Abnormal head resistance	●	●	●○4

●: ON , ○ : OFF

On/Off marks indicate slow LED flashing, and the number indicates the flashes number between the pauses.

Mode Settings

Turning power on while pressing keys in the following combination starts various functions:

Mode	Key operation
HEX dump mode	Turning power on while pushing the MODE/REPEAT key.
INFO mode	Turning power on while pushing the PAUSE key.

For normal printing in HEX and INFO mode you need use the media with minimum 78 mm width.

HEX Dump Mode

Turn on power while pushing the MODE/REPEAT key. When the PRINT, CONDITION and ERROR LEDs start to flash, release the MODE/REPEAT key, and then the printer enters HEX DUMP mode. While pushing the FEED key, the contents of the receive buffer is printed (keep the key pressed while the contents of the receive buffer is printed). If the receive buffer contains more than 10 KB of the data, automatically printing starts (while buffer contents more than 10 KB).
To exit HEX DUMP mode, turn off the power to the printer, then turn the power on again.

INFO mode

Turn on power while pushing the PAUSE key. When the CONDITION и ERROR LEDs starts to flash, release the PAUSE key, and then the printer enters INFO mode and automatically prints the contents of settings. Press PAUSE key if you want to print the content of settings again.

Example of printing of contents of settings:

-Machine Information-		Remarks
Model	**DLP-621**	printer model
Version	**1.00 Ian-2008**	printer version
User Memory	**998.3/1000.0k**	free/total user flash memory
Image Buffer	**659.7k**	graphical buffer size
Bad Dot(s)	**0**	head bad dot(s)
Temperature	**26°C**	head temperature
-Current Settings-		current settings:
Print Speed	**100 mm/s**	S4
Print Darkness	**12**	D12
Print Method	**Direct Thermal**	mT
Print Orientation	**Bottom**	ZB
Condensed Printing	**Off**	j0
Code Page	**Bulgarian 856**	I1

HEX Dump and INFO modes

Error Reporting	**Disabled**	UN (US0 -Enabled 0, US1 -Enabled 1)
Media Type	**Continuous**	lC
Left Margin	**0**	R0,m
Top Margin	**0**	Rn,0
Label Width	**300**	Q300,n[+p]
Label Length	**200**	q200
Notch Offset	**-2**	Qm,n-2
Black Offset	**0**	Qm,[B]n or Qm,n+0
Continuous Media Gap	**10**	Qm,10
AutoCal Mode	**On**	a+
PowerOn Head Check	**Off**	h-
PowerOn Ribbon Init	**Off**	y-
Label temporary Out	**On**	x+
Buzzer Select	**On**	e+
Ribbon End Detection	**Normal**	rN
Media Sensor Level	**80%**	v80
RS-232 Baude Rate	**115200**	s115200
RS-232 Protocol	**Xon/Xoff**	pS
Gateway IP	**192.168.0.254**	IPG192.168.0.254
Printer IP	**192.168.0.99**	IP192.168.0.99
TCP Port	**2000**	
Cable Connection	**Cross-over**	cCROSS
Date	**19-DEC-2007**	date format TDdd-me-y4
Time	**11:06:12**	time format TTh:m:s

In INFO mode **FEED** key is active (is working).
To exit INFO mode, turn off the power of the printer then turn the power on again.

Note: *you may print content of settings in normal operation mode, using* ***a U*** *command*.

Setting the Media

DLP-621 works with roll label paper (direct thermal or thermal transfer, depending on the printing method). The following kinds of papers can be used:

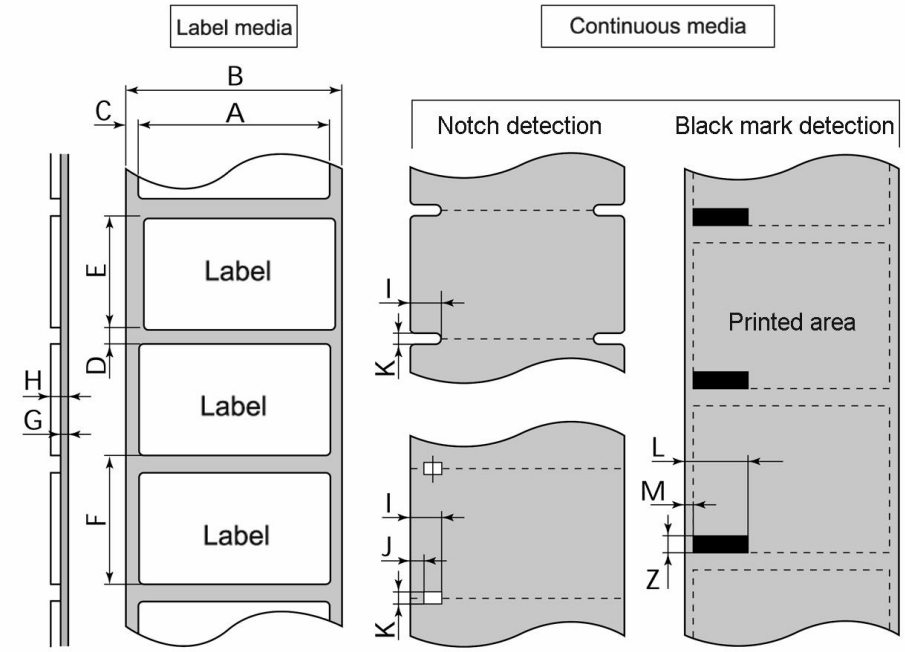
– labels with gaps;

– continuous media;

– labels with notches;

– labels with black mark on the back .

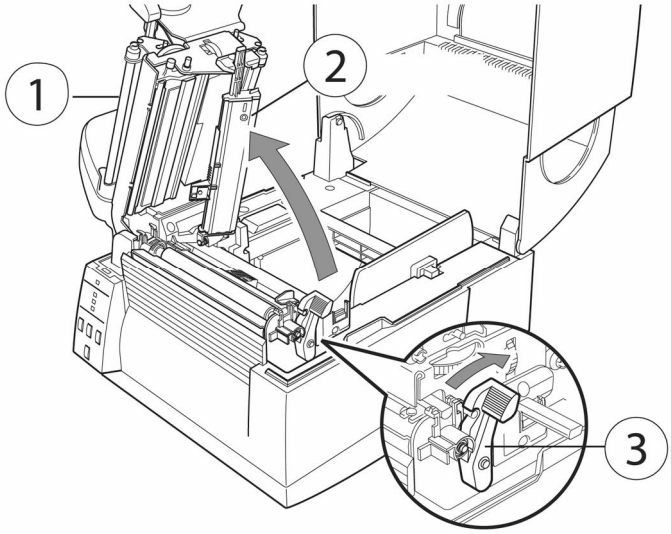
Media Sizes



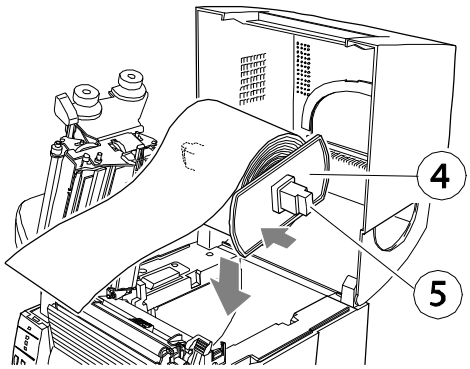
A	Label width	Min. – 10,00 mm;	Max. – 104 mm
B	Liner	Min. – 19,50 mm;	Max. – 118 mm
C	Label left edge position	Min. – 0,00 mm	Min. – 2,54 mm
D	Length of gap between labels	Min. – 2,54 mm;	Max. – 250 mm
E	Label length	Min. – 6,35 mm;	Max. – 812 mm
F	Label pitch (D+E)	Min. – 8,89 mm;	Max. – 1062 mm
G	Liner thickness	Min. – 0,06 mm;	Max. – 0,125 mm
H	Total media thickness	Min. – 0,06 mm;	Max. – 0,25 mm
I	Position of right edge of notch	Min. – 3,60 mm	Min. – 60,80 mm
J	Position of left edge of notch	Min. – 0,00 mm	Min. – 57,20 mm
K	Notch length	Min. – 2,54 mm;	Max. – 17,80 mm
L	Right edge of black mark	Min. – 15,00 mm	Min. – 66,50 mm
M	Left edge of black mark	Min. – 0,00 mm	Min. – 51,50 mm
N	Black mark width	Min. – 3,18 mm;	Max. – 17,80 mm

Installing the Media

1. Push the large blue-head open lever ③ to release the head unit①. Then lift the sensor arm ② by hand as shown below.



2. Firstly, slide the two black plastic parts of the media holder assembly together. Ensure correct alignment of the guide ④ with the bar ⑤ as it can only be installed in one direction.



3. Slide the roll of media over the media bar ⑤. The media guide ④ must be on the right side of the roll of media (as viewed from the front of the printer) with the flat surface of the media guide touching the roll.
4. Set the media roll and media holder on the printer as shown above. It is advisable to pull a length of media forwards and through the mechanism ready for later positioning.
5. Move the media roll so it is touching the left side of the housing. Then slide the black media guide so it is touching the media on the right side.

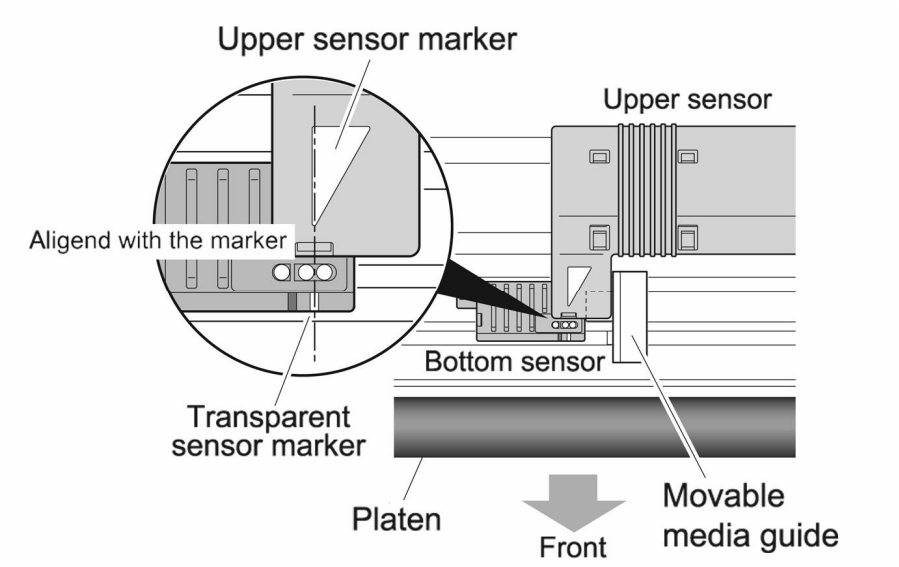
Note: *Do not try to hold the media too tightly with these guides as it will cause the printer to jam during printing.*

6. Setting sensor positions.

When using a transparent sensor

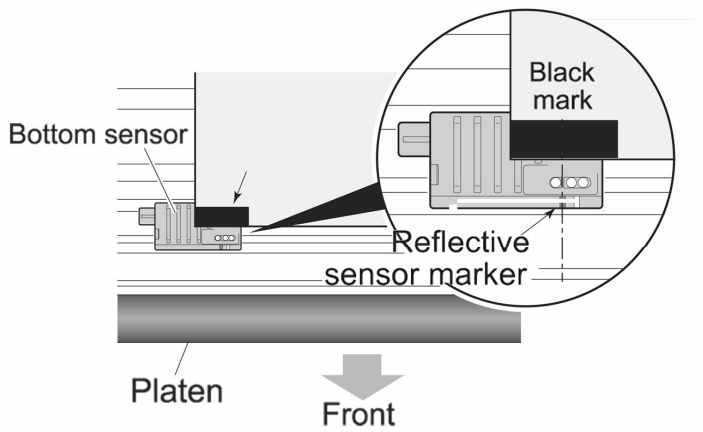
Move the bottom sensor close to the center of the width of the media, then align the upper sensor marker and the bottom sensor marker (white) using the movable media guide.

Note: *When using media that is 4 inches wide, position the upper sensor and the bottom sensor all the way to the right (large blue-head open lever side).*



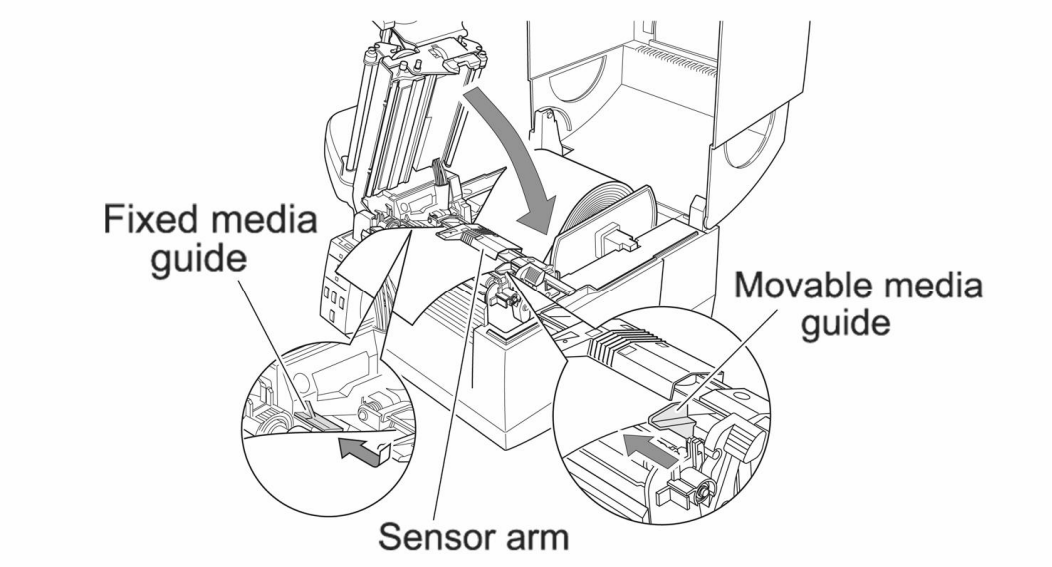
When using a reflective sensor

Adjust the position of the sensor so that the reflective sensor marker of the bottom sensor is at the center of the black mark of the media as shown below.

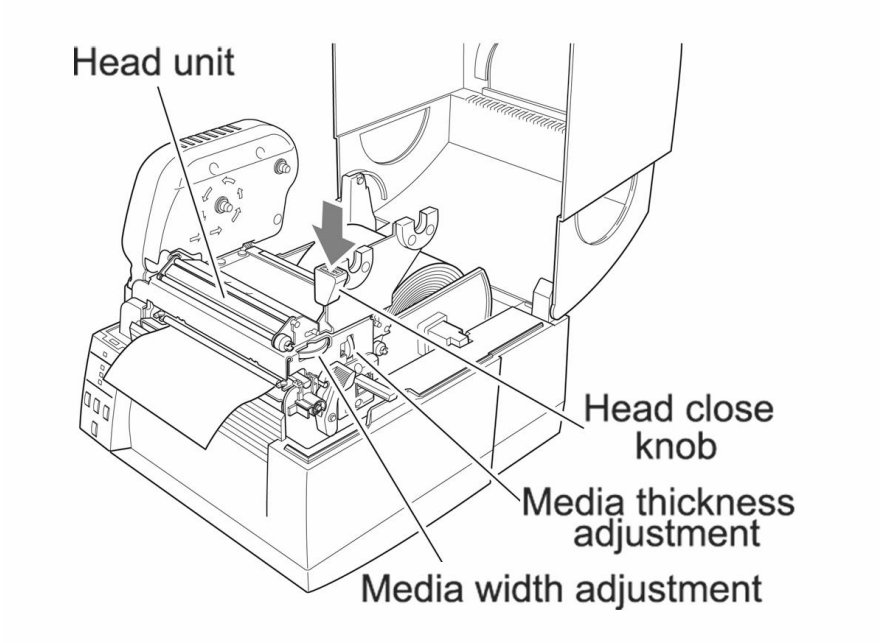


Regardless of the type of paper used, the sensors must be positioned so that the upper sensor marker and the white marker of the bottom sensor must be aligned. It is necessary for a normal printer operation and adequately reaction to a presence and an end of the paper.

7. Align the media with the left fixed media guide (2 locations), align the right movable media guide with the media width, and lower the sensor arm.



8. Push the head close to lower and lock the head unit. Be sure to always push the head close knob to lock the head unit. Align it with the width of the media that has been set, then set the media width and media thickness adjustment dials. See chapter Printer Adjustments.



9. With the power switched on, push the FEED key to feed the media.
It will halt at the next print start position.

Setting the Ribbon

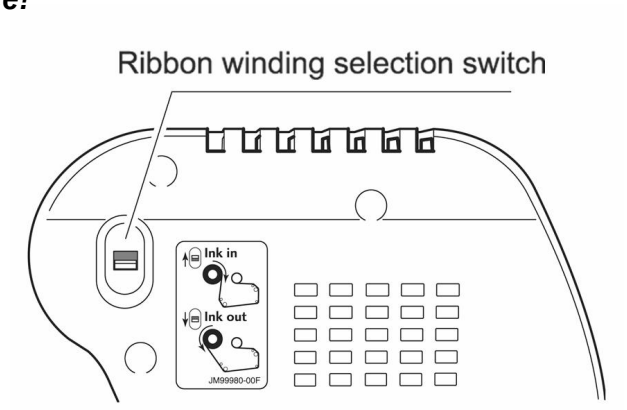
The following kinds and sizes of ribbon can be used:

Types	Inside wound and outside wound ribbon
Max. Ribbon width	114, 0 mm
Min. ribbon width	25,4 mm
Max. ribbon length	360 mm
Max. ribbon diameter	74,0 mm
Inner diameter of the paper core	25,4 ±0,25 mm

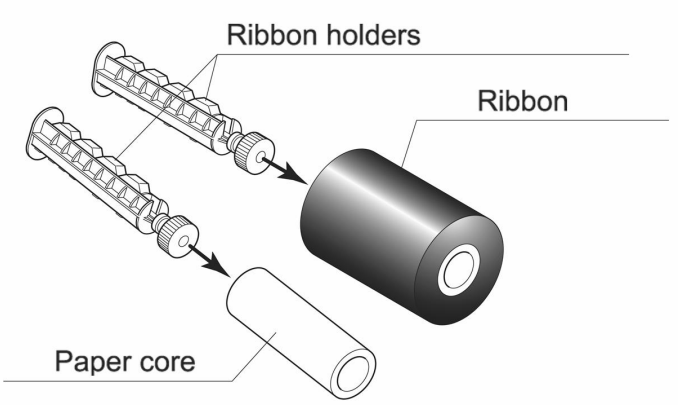
Setting method

1. Check the kind of ribbon used and set the ribbon winding selection switch. This is the method for installing an outside wound ribbon.

   This switch allows selection of inside-wound ribbon (also known as "ink in") and outside wound ribbon ("ink out"). ***Remember, the inked surface should be facing AWAY from the printhead surface!***

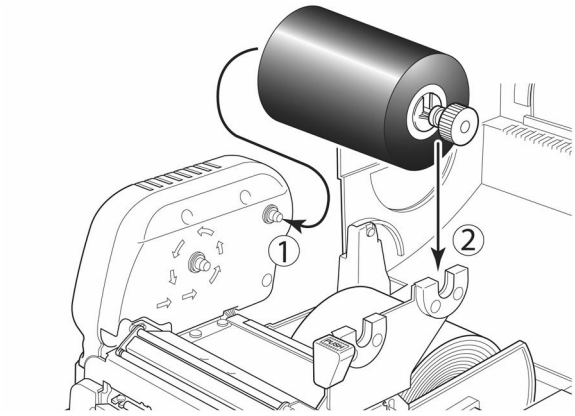


2. Place the attached ribbon and paper core separately on one of the two attached ribbon holders. Insert the two ribbon holders into the ribbon and paper cores ensuring that they are pushed in all the way.

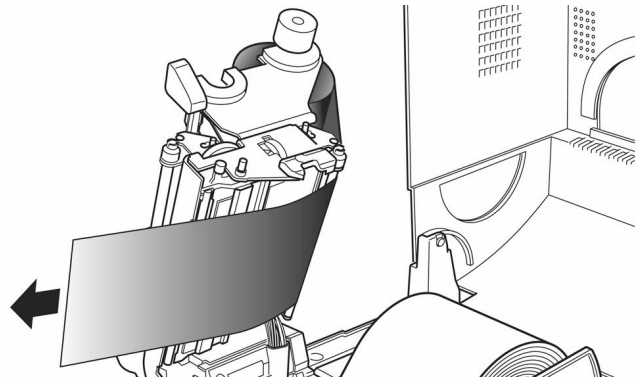


Setting the Ribbon

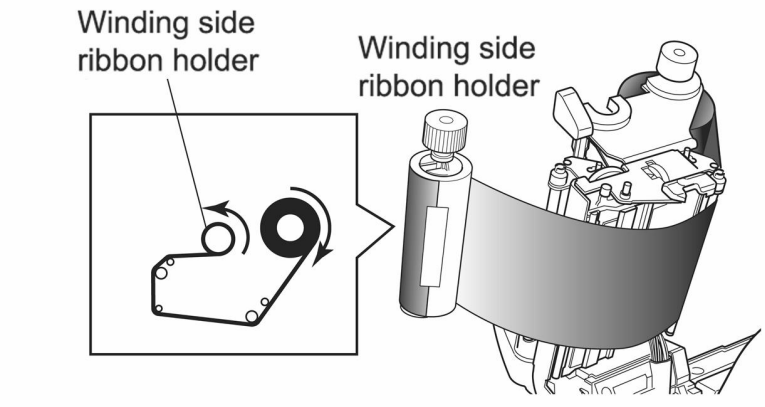
3. Install the unused ribbon and holder in to the rear ribbon drive unit. The splines on the ribbon drive gear mechanism engage with the end of the ribbon holder.



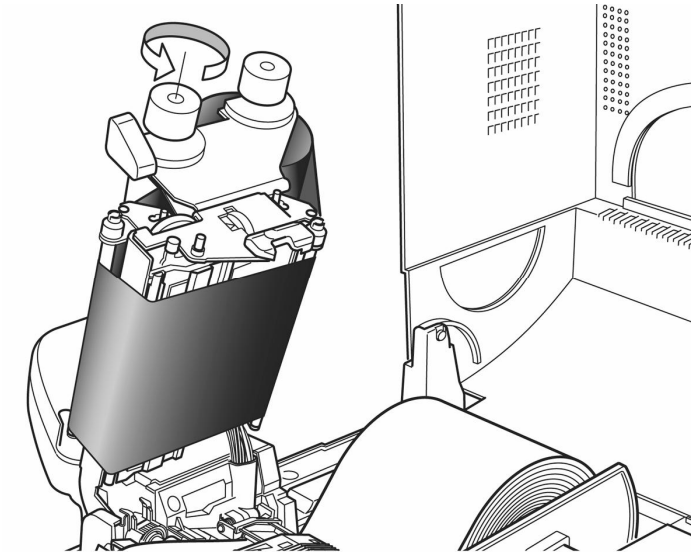
4. Push the large blue-head open lever to release the heat unit. Pull out the ribbon from the bottom of the head unit to the ribbon winding side.



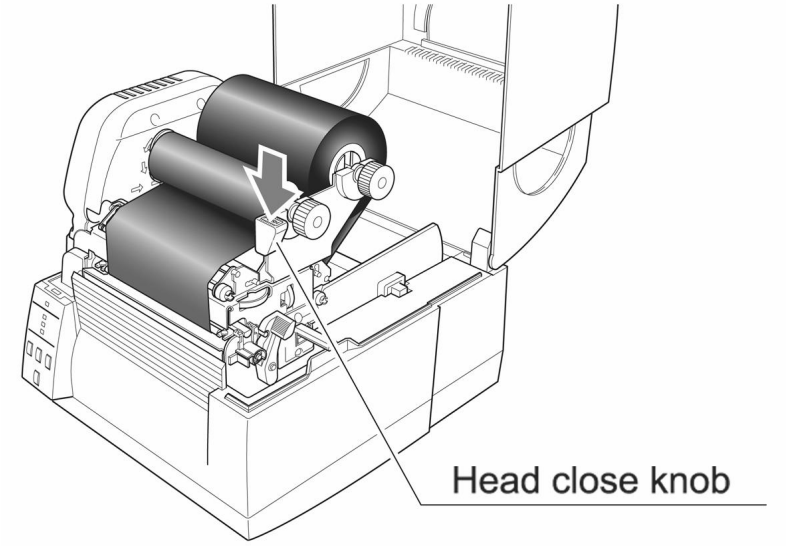
5. Using tape etc., fix the ribbon that you have pulled out on the ribbon holder on which the paper core has been set and wind it on the ribbon holder.



6. Set the ribbon holder, on which the paper core has been set in the ribbon drive unit, then rotate it in the direction shown by the arrow to remove slack and wrinkles the ribbon.



7. Push the head close knob to lower and **lock the head unit.** Be sure to always push the head close knob to lock the head unit. If the ribbon is wrinkled, pus the FEED key until the wrinkles disappears. If the wrinkles do not disappear or if it slips, perform ribbon balance adjustment and ribbon tension adjustment. See Chapter "Printer Adjustment" for these adjustment methods.



Media Thickness Adjustment

It may be necessary to adjust the printer according to the thickness of the media being used. This can be done easily by rotating the media adjustment dial to improve the print quality.

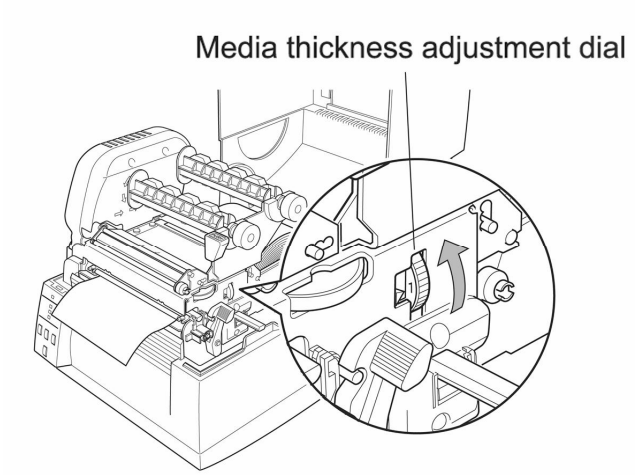
- Poor print quality across the complete printout means wrongly set media thickness. See this section.
- Poor print quality on one side of a printout means wrongly set media width. See next section.

When using standard label media, high quality media or direct thermal media

Adjust while performing test printing by turning the dial from the smallest number (1) on the dial to the largest number (9) on the dial one step at a time.

When using thicker media (tags, card, etc.)

Adjust while performing test printing by turning the dial from the largest number (9) on the dial to the smallest number (1) on the dial one step at a time.



Recommended dial positions, depending on the media thickness

Media thickness dial position	Suggested media type
0	- - - - - - -
1	Standard Label media, Direct thermal media
3-5	Thicker backing paper labels
6-9	Cards, tags, thicker media stock

** These values are guidelines. The exact media being used must be matched with the correct media thickness adjustment position.*

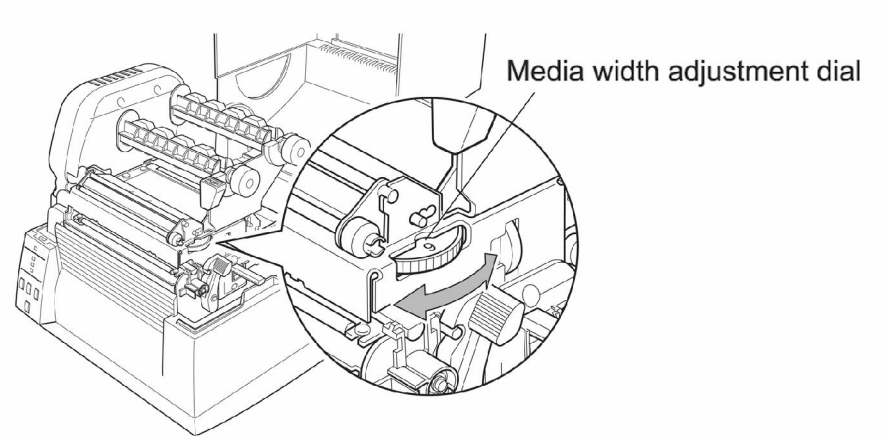
When shipping from the factory, it is set at dial 1. The offset adjustment varies according to the thickness and the hardness of the media

Media Width Adjustments

The head pressure varies according to the width of the media being printed. The head pressure balance must be adjusted according to media width so that constant head pressure is applied to the head. With this printer, it can be adjusted easily by turning the media width adjustment dial.
If the printing is blurred or lightly printed on one side or the media moves in a zigzag pattern adjust the head pressure balance.
After making an adjustment, confirm the output quality with a test print.

⚠ Caution

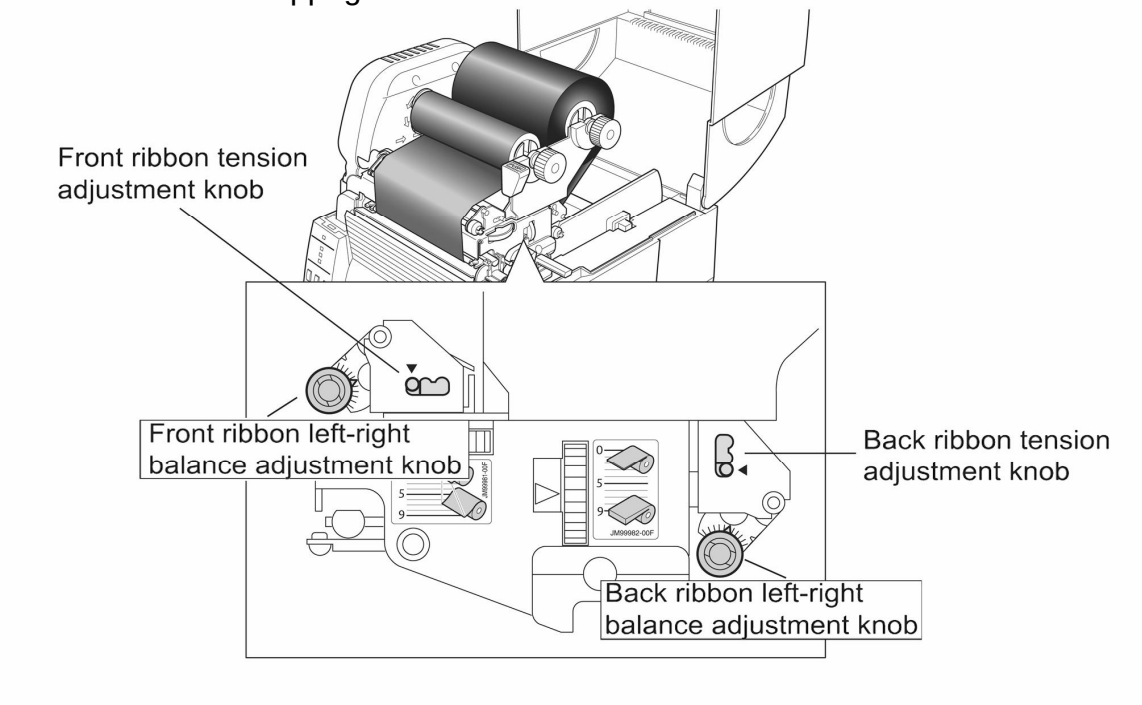
When using narrow media, be sure to MAKE this adjustment (If you do not, the head may be damaged by jamming, etc.)



Dial position	Media width (mm)	Head pressure
0	от 19.5 mm до 23.0 mm	Low ↓ High
1	от 23.0 mm до 30.0 mm	
2	от 30.0 mm до 39.0 mm	
3	от 39.0 mm до 49.0 mm	
4	от 49.0 mm до 62.0 mm	
5	от 62.0 mm до 76.0 mm	
6	от 76.0 mm до 88.0 mm	
7	от 88.0 mm до 99.0 mm	
8	от 99.0 mm до 108.0 mm	
9	от 108.0 mm до 118.0 mm	

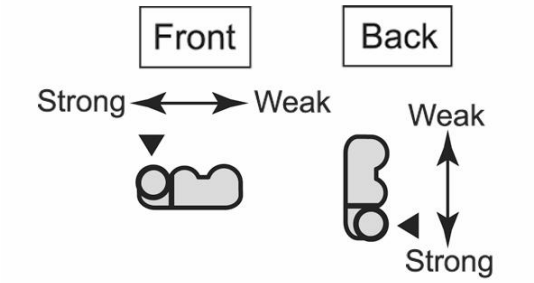
Adjusting the Ribbon

When using narrow-width ribbon or very specialist thermal ribbon material, it may be necessary to adjust the ribbon tension and ribbon balance adjustments to avoid ribbon wrinkle or slippage.



Ribbon Tension Adjustment

The ribbon tension has three adjustment positions on both the feeding side (back side) and winding side (front side).



First make a test print and then adjust the printer as required:

- Slippage of the ribbon causes a dirty film to be seen on the media.
  Reduce the tension adjusters.
- Ribbon wrinkle (diagonal lines across printout):
  Increase the ribbon tension.

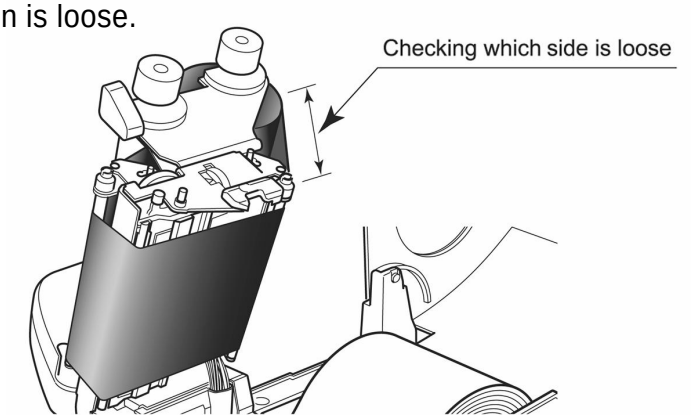
After making any adjustments, print another test print or two to make sure the ribbon is feeding correctly.

Ribbon Balance Adjustment

Do this adjustment by turning the front and back balance adjustment knobs. If the ribbon is wrinkled, adjust it as follows. The scale is usually aligned with the center:

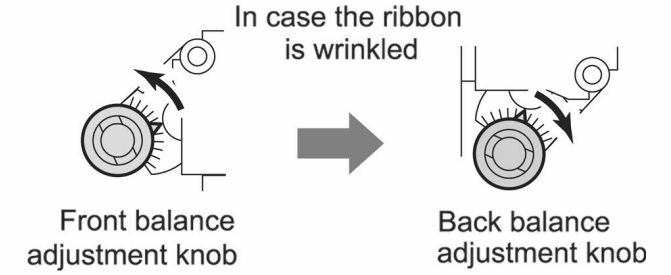
Adjustment procedure

- Check between the supply side ribbon and the back balance adjustment knob to find out which side the ribbon is loose.



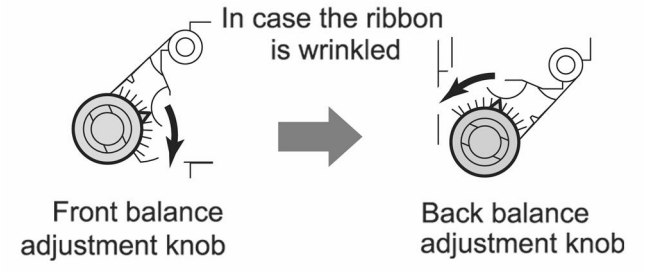
Case of looseness on the side opposite the adjustment knob

- Turn the front adjustment knob to the left to remove the looseness, then make a print test to ensure that the ribbon is not wrinkled.
  If it is wrinkled, turn the back adjustment knob to the right and do the test printing again and check to make sure that the ribbon is not wrinkled.



Case of looseness on the adjustment knob side

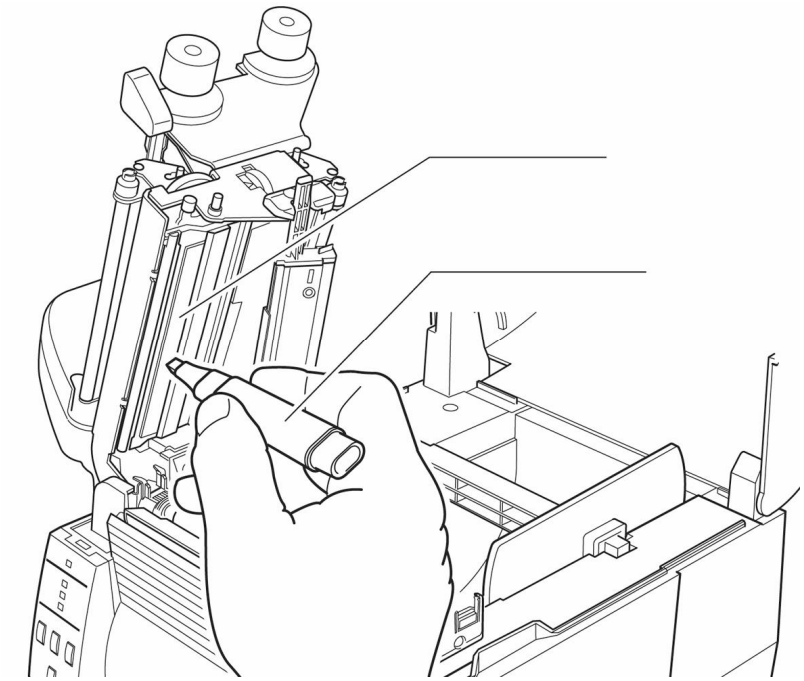
- Turn the front adjustment knob to the right to remove the looseness, then make a print test to ensure that the ribbon is not wrinkled.
  If it is wrinkled, turn the back adjustment knob to the left and do the test printing again and check to make sure that the ribbon is not wrinkled.



7 Printer Adjustments

Cleaning

Wipe off any foreign matter such as media dust, dirt and adhesive substances built up around the prinhead with the head cleaning pen (head cleaner) provided, and use a soft cloth soaked in ethyl alcohol for the platen etc.
It is particularly important to clean the printhead after printing on thermal media for long periods, which will guarantee the print quality and extend the life of the printhead.



⚠ Caution

Do not use any solvent other than ethyl alcohol. Solvents such as benzene, acetone and thinner will dissolve plastic parts and destroy the printhead, platen and much of the printer!
Try to avoid using "excessive amounts" of ethyl alcohol to clean the platen. Excessive use will harden the platen surface prematurely.

List of Commands by Categories

A. Setting the functional mode of the printer

Setting the printing density		**D**
Selecting a code table		**I**
Setting the page length		**Q**
Setting the page width		**q**
Setting the starting point of the print		**R**
Setting the printing speed		**S**
Setting the date/hour	*	**TS**
Setting the date format		**TD**
Setting the hour format		**TT**
Disable error and printing reporting	*	**UN**
Enable error and printing reporting	*	**US**
Setting the print direction		**Z**
Setting the paper sensor level (in %)	*	**v**
Enable/Disable auto calibration	*	**a**
Paper sensor calibration	*	**cal**
Setting the printing of condensed text		**j**
Setting the print method type	*	**m**
Setting the media type	*	**l**
Enable/Disable sound		**e**
Enable/Disable power on head test	*	**h**
Enable/Disable power on ribbon initialize	*	**y**
Setting the ribbon end detection time	*	**r**
Setting the protocol type (for RS-232 interface)	*	**p**
Setting RS-232 interface speed (bps)	*	**s**
Setting IP addresses	*	**IP**
Setting the LAN cable type	*	**c**
Label temporary out		**x**
Factory defaults	*	**d**

B. Working with counters and variables

Defining counters		**C**
Defining a text variable		**V**
Setting values for counters/variables	*	**?**
Deleting the counters and variables contents	*	**VC**
Keeping the counters and variables contents into the Flash memory	*	**H**

C. Generation a graphic image

Generating a line of text		**A**
Generating a bar code		**B**
Drawing a rectangle in XOR mode		**LE**
Drawing a rectangle in black		**LO**
Drawing a rectangle in white		**LW**
Drawing a diagonal line		**LS**
Drawing a frame		**X**
Generating a two-dimension bar code (PDF417)		**b**

D. Working with forms (command files)

Start of a new form	*	**FS**
End of a new form	*	**FE**
Loading a form	*	**FR**
Deleting a form	*	**FK**
Returning the name of the active form	*	**FA**
Returning a list of the loaded forms	*	**FI**

E. Working with graphic files (monochrome PCX format)

Saving a new graphic file	*	**GM**
Deleting a graphic file	*	**GK**
Direct printing of graphic data	*	**GW**
Returning a list of the loaded graphic files	*	**GI**
Drawing out a loaded graphic file		**GG**

F. Working with loadable fonts

Loading a font	*	**ES**
Deleting a font	*	**EK**
Returning a list of the loaded fonts	*	**EI**

G. Clearing the memory

Clearing the flash memory	*	**M**
De-activating the current form and clearing the graphic buffer	*	**N**
Reset printer		**^@**

H. Print

Printing a label	*	**P**
Resuming an interrupted printing session	*	**PC**

I. Information and diagnostics

Info on an interrupted printing session	*	**PI**
Returning data on the engaged and free printer memory		**TI**
Printing out of diagnostic information	*	**U**
Returning of diagnostic information	*	**U@**
Info on the occupied memory	*	**UM**
Returning a list of the loaded forms	*	**UF**
Returning a list of the loaded graphic files	*	**UG**
Returning a list of the loaded fonts	*	**UE**

Note: *The commands marked with '*' can not be used when working with a form (command file).*

List of Command in Alphabetical Order

Description		**Command**
Setting values for counters/variables	*	**?**
Reset printer	*	**^@**
Generating a line of text		**A**
Generating a bar code		**B**
Defining counters		**C**
Setting the printing density		**D**
Returning a list of the loaded fonts	*	**EI**
Deleting a font	*	**EK**
Loading a font	*	**ES**
Returning the name of the active form	*	**FA**
End of a new form	*	**FE**
Returning a list of the loaded forms	*	**FI**
Deleting a form	*	**FK**
Loading a form	*	**FR**
Start of a new form	*	**FS**
Drawing out a loaded graphic file		**GG**
Returning a list of the loaded graphic files	*	**GI**
Deleting a graphic file	*	**GK**
Loading a new graphic file	*	**GM**
Direct printing of graphic data	*	**GW**
Keeping the counters and variables contents into the Flash memory	*	**H**
Selecting a code table		**I**
Setting IP addresses	*	**IP**
Drawing a rectangle in XOR mode		**LE**
Drawing a rectangle in black		**LO**

8 List of Commands

List of Commands in Alphabetical Order

Drawing a diagonal line		**LS**
Drawing a rectangle in white		**LW**
Clearing the flash memory	*	**M**
De-activating the current form and clearing the graphic buffer	*	**N**
Printing a label	*	**P**
Resuming an interrupted printing session	*	**PC**
Info on an interrupted printing session		**PI**
Setting the page length		**Q**
Setting the starting point of the print		**R**
Setting the printing speed		**S**
Setting the date/hour	*	**TS**
Setting the date format		**TD**
Setting the hour format		**TT**
Returning the current hour and date		**TI**
Printing diagnostic information	*	**U**
Returning of diagnostic information	*	**U@**
Returning a list of the loaded fonts	*	**UE**
Returning a list of the loaded forms	*	**UF**
Returning a list of the loaded graphics	*	**UG**
Returning data on the engaged and free printer memory	*	**UM**
Disable error and printing reporting	*	**UN**
Enable error and printing reporting	*	**US**
Defining a text variable		**V**
Deleting the counters and variables content	*	**VC**
Drawing a frame		**X**
Setting the print direction		**Z**
Enable/Disable auto calibration	*	**a**
Generating a of two-dimension bar code (PDF417)		**b**
Paper sensor calibration	*	**cal**
Setting the LAN cable type	*	**c**
Factory defaults	*	**d**
Enable/Disable sound		**e**
Enable/Disable power on head test		**h**
Setting the printing of condensed text		**j**
Setting the media type	*	**l**
Setting the print method type	*	**m**
Setting the protocol type (for RS-232 interface)	*	**p**
Setting the page width		**q**
Setting the ribbon end detection time	*	**r**

Setting RS-232 interface speed (bps)	*	**s**
Setting the paper sensor level (in %)	*	**v**
Label temporary out		**x**
Enable/Disable power on ribbon initialize	*	**y**

Note: *The commands marked with '*' can not be used when working with a form (command file).*