R-Series Technical Manual

Rev. 1.02

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1. GENERAL INTRODUCTION

1.1 Scope

This manual contains the information necessary for the proper maintenance Refine series label printers of ARGOX. Most of the information included relates to hardware and mechanical parts.

1.2 Printer description

The ARGOX R-Series printer is a high-performance low-cost direct thermal and thermal transfer label printer. Its user-friendly design and affordable price set new standard for the heavy-duty label printer in retail, office and industrial applications.

The printer is designed with the most efficient memory management technology- *True Speed*, prints up to 4 inches/second for R-200/R-200Kand R-600; 6 inches/second for R-400/R-400K and R-400plus/R-400Kplus. When bundled with its smart printer driver, the user can easily print a label by using any Windows applications, e.g. Microsoft Word, ArgoBar, Codesoft, Bar Tender, Nicelabel under Windows XP/2000/98/95, Me, and NT. All popular bar codes and fonts are resident in the printer memory to handle versatile application.

The solidly designed mechanism allows quick and easy media and ribbon loading. The optional dispenser and cutter provide the alternatives of fan-fold label and continuous media handling.

1.3 Related manuals

- User's manual (Part No. 49-R4002-003).
- Programmer's manual.

2. PRINTER SPECIFICATION

2.1 Printing

	R-200	**R-200K**	**R-400**	**R-400K**
Type	Thermal transfer and direct thermal			
Resolution	203 dots/inch (8 dots/mm)			
Max print width	4.25" (108mm)		4.25"(108mm)	
Max print length	8" (203mm)		43" (1066mm)	
Max print speed	4"(102mm) per second		6" (152mm) per second	
Memory	512K bytes DRAM		2M bytes DRAM	
Ribbon	Inside coating ribbon	Outside coating ribbon	Inside coating ribbon	Outside coating ribbon
Emulation	PPLB		PPLA and PPLB	

	R-400plus	**R-400Kplus**	**R-600**
Type	Thermal transfer and direct thermal		
Resolution	203 dots/inch (8 dots/mm)		300 dots (12 dots/mm)
Max print width	4.25" (108mm)		4.16"(104mm)
Max print length	43" (1066mm)		30" (762mm)
Max print speed	6"(152mm) per second		4" (102mm) per second
Memory	2M bytes DRAM		
Ribbon	Inside coating ribbon	Outside coating ribbon	Inside coating ribbon
Emulation	PPLA, PPLB and PPLZ		PPLA and PPLB

2.2 Fonts

Text fonts:

➢ Printer Programming Language A (R-400/R-400K, R-400plus/R-400Kplus, and R-600):
Courier (including PC set, Legal, ECMA94 and Roman-8), 7 alphanumeric fonts, OCR-A/B, ASD smooth font. All fonts sizes are expandable by 24x24 (Refer to the programmer's manual).

➢ Printer Programming Language B (R-200/R-200K, R-400/R-400K, R-400plus/R-400Kplus, and R-600):
5 alphanumeric fonts. All fonts sizes are expandable by 24x24. (Refer to the programmer's manual).

➢   Printer Programming Language Z (R-400plus/R-400Kplus):
      15 internal bitmap fonts (including OCR A/B and SYMBOL) and one scalable
      font (CG Triumvirate Bold Condensed). (Refer to the programmer's manual).

Character rotation: 0, 90, 180 and 270 degree, 4-direction rotation.

2.3 Bar code

Bar code type:

➢   Printer Programming Language A:
      Code39, Code93, Code128/subset A, B and C, Codabar, Interleave 2 of 5, UPC
      A/E/2 and 5 add-on, EAN 13/8, UCC/EAN-128, UCC/EAN-128 Random Weight,
      Postnet, Plessey, HIBC, Telepen, FIM. MaxiCode, PDF-417, Data matrix.

➢   Printer Programming Language B:
      Code39, Code93, Code128/subset A, B and C, Codabar, Interleave 2 of 5, UPC
      A/E/2 and 5 add-on, EAN 13/8, UCC/EAN-128, Postnet, Matrix 2 of 5,
      Code-128UCC, PDF-417 and MaxiCode.

➢   Printer Programming Language Z:
      Code11, Interleave 2 of 5, Code39, Code93, EAN 13/8, UPCA/E, Code128/subset
      A, B and C, Industrial 2 of 5, Standard 2 of 5, Codabar, UPC/EAN Extensions,
      MSI, Plessey, PostNet, PDF-417, MaxiCode, DataMatrix, and QR code.

2.4 Media

Media type:

➢   Thermal direct:
      Direct thermal paper or vinyl, visible light and infrared scannable label, tag stock,
      butt cut or die cut, with various adhesives.

➢   Thermal transfer:
      All above media, plus thermal transfer paper and tags, butt cut or die cut with
      various adhesives.

Max label roll diameter: 6" (152mm) outside diameter.

Label indexing: Black stripe and gap.

2.5 Electrical and operating environment

Electrical (R-200/R-200K):
        19V AC, 50~60Hz.
        4 Amps

Electrical (R-400/R-400K, R-400plus/R-400Kplus and R-600):
        90V AC to 250V AC, 50~60Hz.
        2 Amps/110V AC, 1 Amps/220V AC.

Environment: Operation 40°~140℉ (4°~38℃), 10~90% non condensing.
             Storage -40℉~140℉(-4°~60℃)

2.6 Physical dimension

Weight: 8.4lbs(3.85kg) ~ 9.3lbs(4.2kg).

Size: W12.4" x D9.1" x H8.6" (W314 x H231 x L218mm).

2.7 Agency list

CE, FCC class A, CCC, UL and CUL.

2.8 Communication interface

Serial interface: RS-232 serial (1200~38400BPS), 8 data bits, 1 stop bit, no parity.

Parallel interface: Centronics parallel port.

USB interface: USB 2.0 Full Speed (R-400plus/R-400Kplus only).

2.9 Communication specifications

Argox R-Series Label printers send and receive messages through serial, parallel or USB (R-400plus only) communication interface. Printer checks each interface for incoming message automatically.

2.9.1 Serial interface specification

The serial interface of R-Series printer is a standard RS-232C port with standard 9-pin (DB9-S) connector located at the rear of the printer. The baud rate is user selectable by sending command to the printer. Data bit number can be set as 7/8 data bits one/no parity for both sending and receiving.
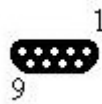
Figure 2-1

Pin No.	Direction	Description
1		Shorted to Pin – 6
2	IN	RxD
3	OUT	TxD
4		N.C.
5		GROUND
6		Shorted to Pin – 1
7	OUT	RTS
8	IN	CTS
9	OUT	+5V

Table 2-1   Pin assignment and description of serial port

For recommended connection details between host and printer, please refer to the user's manual (Part No. 49-R4002-003).

2.9.2 Parallel interface specification

The parallel interface of the R-Series printer is standard Centronics port with standard 36-pin connector located at the rear of the printer. A standard parallel cable can be used for the interconnection between the host controller and the R series label printer.

Pin No.	Direction	Description	Pin No.	Direction	Description
1	IN	/STROBE	13	OUT	SELECT
2	IN	DATA1	14, 15	----	N.C.
3	IN	DATA2	16	OUT	CROUND
4	IN	DATA3	17	OUT	CROUND
5	IN	DATA4	18	----	N.C.
6	IN	DATA5	19~30	OUT	GROUND
7	IN	DATA6	31	----	N.C.
8	IN	DATA7	32	OUT	/FAULT
9	IN	DATA8	33~36	----	N.C.
10	OUT	/ACK			
11	OUT	BUSY			
12	OUT	PE			

Table 2-2   Pin assignment and description of parallel port

2.9.3 USB Interface specification

This port complies with USB 2.0 Full Speed (R-400plus/R-400Kplus only).

Pin	Signal	Description
1	VBUS	+3.3V
2	D-	Differential data signaling pair-
3	D+	Differential data signaling pair+
4	GND	

Table 2-3 Pin assignment and description of USB port

2.10 The difference between R- Series and R-xxxK Series

R-200, R-400, and R-400plus use BUSH-RIBBON (Part No. 42-R4023-001) for inside coating ribbon.

R-200K, R-400K, and R-400Kplus use BUSH-RIBBON WHITE (Part No. 42-R4023-011) for outside coating ribbon.

3. CONTROLS AND INDICATORS
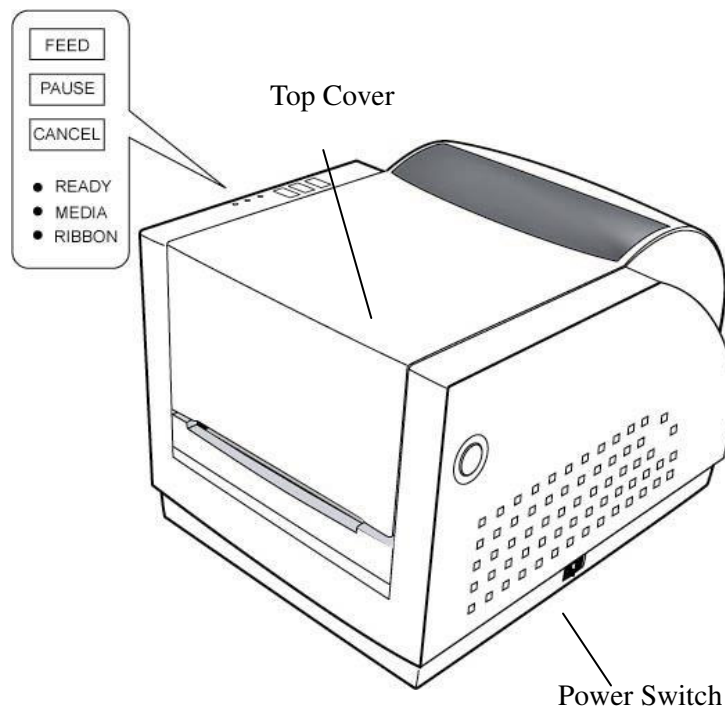
Figure 3-1

3.1 Front Panel

READY indicator

The READY indicator remains ON when the AC power switch is at ON position except the following conditions:

- ➢   Receiving data from host.
- ➢   Out of ribbon, out of media, canceling a print job or printer fault.

MEDIA indicator

The MEDIA indicator will remain ON under normal operation. It will start blinking to indicate:

- ➢   The printer is out of media or fails to detect the gap of media.
- ➢   The printer is at PAUSE state.

RIBBON indicator

When command of thermal transfer is sending to the printer, the RIBBON indicator is ON for the normal operation and the Blinking indicates the printer is out of ribbon.

When direct thermal command is sent to the printer, the RIBBON indicator is OFF and the printer will ignore ribbon detection during printing.

FEED Button

The FEED button forces the printer to feed one label when printer is in idle (not printing) or in PAUSE state.

Holding down the FEED button then turning on the power switch, the printer will perform a self-test and a configuration report will be printed.

PAUSE Button

The PAUSE button stops and restarts the printing process in normal operation. If the PAUSE button is pressed while printing is in progress, the printing stops once current label is completed. Press this button again to restart the printing.

Holding down the PAUSE button then turning ON the power switch, the printer will perform the media sensor calibration.

CANCEL Button

The CANCEL button interrupts and deletes the current printing job. If an error occurs, pressing this button to cancel the error indication.

Holding down the CANCEL button then turning on the power switch, the printer will perform a system reset, all the parameters which are stored in EEPROM will be reset to factory default settings.

3.2 Rear Panel

Centronics connector (parallel port)

For parallel port connection. Mostly it is connected to the printer port of a PC.

RS232 connector (serial port)

For serial port connection. Mostly it is connected to the COM port of a PC.

Power switch

Controls application of AC power to printer. Turning the printer ON while holding down certain front panel button will cause the printer to perform the self test, calibration or system reset. The power should be turned OFF to connect or disconnect any internal cable.

Power Jack (R-200/R-200K)

To connect the power plug from the power adaptor.

Warning:

To protect the power, prevent the power jack from touching the Centronic's hooks.

AC power socket (R-400/R-400K, R-400plus/R-400Kplus, and R-600)

For AC power connection.

USB connector (USB port)

Connector for USB application. Usually, it is connected to the USB port of a PC (R-400 plus/R-400Kplus only).
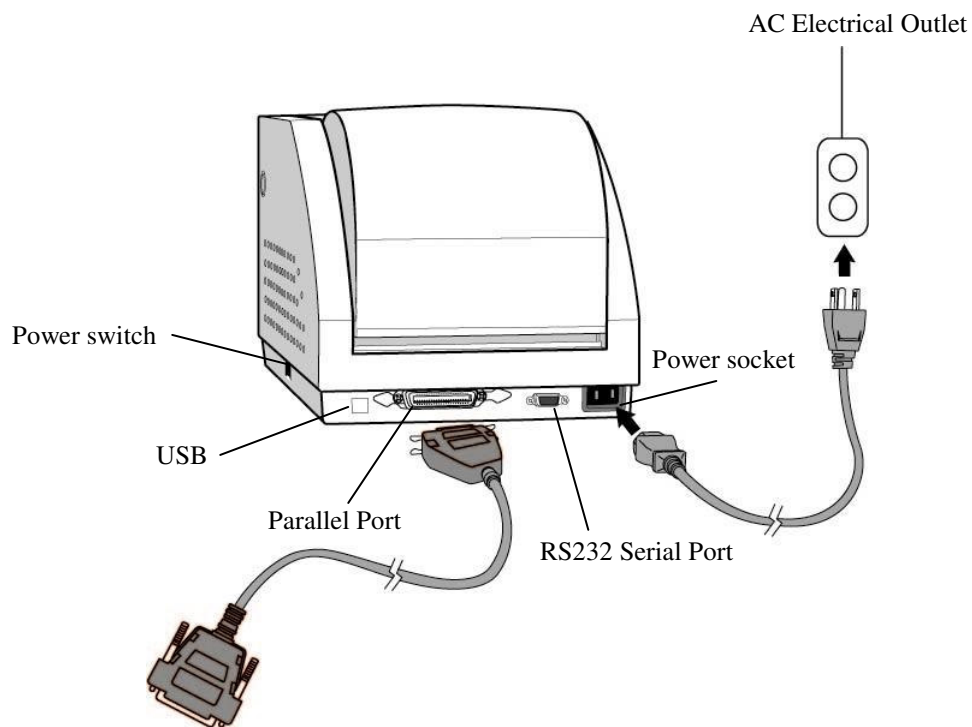
Figure 3-2   Rear panel of R-400plus/R-400Kplus
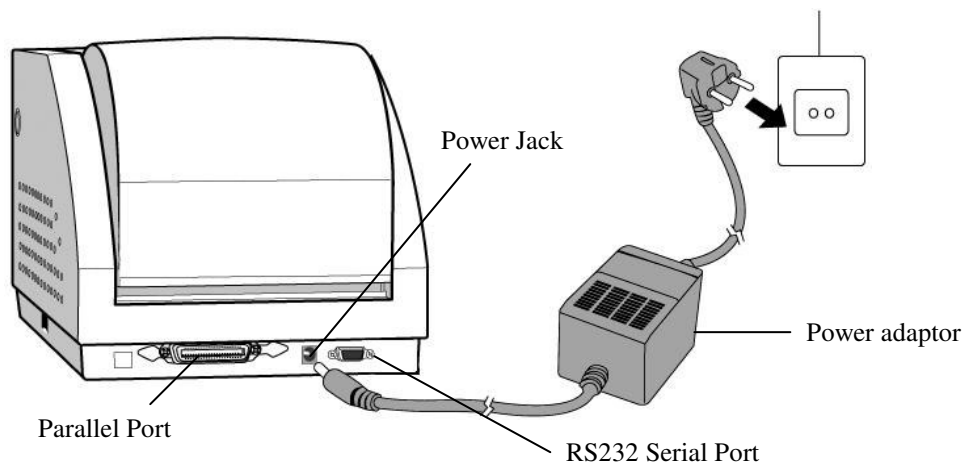
Figure 3-3 Rear panel of R-200/R-200K

4. OPTIONS

4.1 Cutter mechanism

Optional A2 cutter, which is available for cutting label, tags or tickets, was refined into the new type, A2+ cutter. Firmwares of all A-series label printers have been phased in A2+ cutter as the default type of cutter.

Printer \ Default Type	**A2 Cutter**			**A2+ Cutter**	
	Firmware Version (PPLA)			Firmware Version (PPLA)	
R-400 / R-400K	…	R2A0-4.01 122204	R2A0-4.02 051105	R2A0-5.00 051806	…
R-400plus/ R-400kplus	—	—	—		…
R-600	…	R3A0-3.02 041405	R3A0-3.03 021606	R3A0-3.04 060906	…

Table 4-1

Printer \ Default Type	**A2 Cutter**			**A2+ Cutter**	
	Firmware Version (PPLB)			Firmware Version (PPLB)	
R-200/ R-200K	—	R1B0-1.00 042005	R1B0-1.01 110605	R1B0-1.02 051506	…
R-400 / R-400K	…	R2B0-3.06 062905	R2B0-3.07 111505	R2B0-4.00 052606	…
R-400plus/ R-400kplus	—	—	—		…
R-600	…	R3B0-3.05 092005	R3B0-3.06 022806	R3B0-3.07 060806	…

Table 4-2

Printer \ Default Type	**A2 Cutter**			**A2+ Cutter**	
	Firmware Version (PPLZ)			Firmware Version (PPLZ)	
R-400plus/ R-400kplus	…	R2Z0-1.01 051804	R2Z0-1.02 122605	R2Z0-2.00 052506	…

Table 4-3

To use A2 cutter with printer firmware of R-400/R-400K and R-400plus/R-400Kplus, which has been phased in A2+ cutter, users can send the command <ESC>KIT to adjust the rotational angle of A2 cutter to avoid frequently label stuck and cutter jammed, or downgrade the firmware to the former version (ex. R2B0-3.07).

Syntax	<ESC>KITm
Parameter	m: cutter delay time, a binary byte.
	m = 0x00 for A2+ cutter (default).
	m = 0x01 ~ 0xFF for A2 cutter (0x1E is recommended).

4.2 FONT module

Font module is used to store special fonts such as Traditional Chinese, Simplified Chinese, Korean and Japanese

4.3 Dispenser

Dispenser provides the automatic peel-off function.

4.4 RTC module

The RTC module consists of two major components. A Real Time Clock with battery back-up & a on-board flash memory. The RTC module provides function to enable the user to print time & date messages on the label. The on-board flash memory can be used as permanent data storage such as downloaded forms, graphics and true type fonts.

5. SETUP AND DIAGNOSTIC

5.1 Inlet power voltage and grounding

The R-Series printer is designed for both 110V AC and 220V AC outlet. The line voltage should not lower than 90V AC or higher than 250V AC and the printer should be connected to a properly grounded receptacle.

5.2 Performing the self test

Once the printer is first installed, a self-test should be performed. To perform the self-test, please follow the procedure:

1. Turn off the power.
2. Load the media and ribbon properly.
3. Press and hold the FEED button then turn on the power.
4. Release the FEED button after printer starts to print.
5. The configuration report will be printed out as Figure 5-1 and Figure 5-2.
6. To return the printer to normal operation, please turn the power OFF and ON again or press the CANCEL button for one second, otherwise the printer will enter dump mode, all input data will not be interpreted.

Contents and information of R-Series "Self Test Label" are as the following:

1. Printer programming language and version information
    The printer programming language, firmware version and date information are listed on the first line of the report.

2. RS-232 Protocols
    It contains data frame of RS-232 interface: baud rate, parity, data bit number, and stop bit number.

3. Standard RAM size
    This message shows standard RAM size in the printer.

4. Available RAM size
    This message shows available memory can be used to hold the downloadable graphics,

forms and soft fonts.

5. Code Page

    This message shows symbol set of the font.

6. Print Mode

    It is either Thermal Transfer mode or Direct Thermal mode.

7. Reflective Sensor

    This message shows the media sensor type.

8. Label Count

    This message shows the number of labels printed.

9. Accumulated Print Length

    It keeps the length printed in meters. With this, you may check the print head warranty. The value will not be reset even you replace the print head or any components. It is changed only when the main board is replaced.

10. Flash On Board

    This message shows the size of on-board flash.

11. Checksum

    Used to check the firmware flash is correct or not. It should be '0000'.

12. H. Position Adjust

    This message shows horizontal shift position.

13. LAB LEN (TOP to TOP)

    Label length (Including gap height).

14. Media Sensor Level

    This message shows the sensitivity of the media sensor.

15. Font Image

    Used to check internal fonts are correct or not.

16. Speed

    Printing speed setting.

17. Expansion RAM

    This message shows expansion RAM size in the printer.

18. No. Of DL Soft Fonts

    This message shows the number of soft fonts downloaded in the printer.

```
2 ─◄─       Label Printer with Firmware PPLB R2B0-3.08 061306 ─────► 1
            RS232: 9600, N, 8, 1P
3 ─◄─────── STANDARD RAM: 2097152 BYTES
4 ─◄─────── AVAILABLE RAM: 1001216 BYTES   Code Page 437 ────► 5
6 ─◄─────── THERMAL TRANSFER                REFLCT. SENSOR ───► 7
8 ─◄─────── LABEL COUNT: 4                   0 M ───► 9
10 ─◄────── FLASH ON BOARD: 512K free
11 ─◄────── CHECKSUM: 0000
12 ─◄────── H. POSITION ADJUST.: 0000
13 ─◄────── LAB LEN(TOP TO TOP): 0 mm.
14 ─◄────── MEDIA SENSOR LEVEL: 2
           This is internal font 1. 0123456789 ABCabcXyz ──────► 15

           This is internal font 2. 0123456789 ABCabcXyz

           This is internal font 3. 0123456789 ABCabcXyz

           This is internal font 4. 0123456789 ABCXYZ

           THIS IS INTERNAL FNT5
```

Figure 5-1 R-400 Self-test pattern

```
           Label Printer with Firmware R1B0-1.00 030705
           STANDARD RAM: 524288 BYTES    8 bit data: Code Page 437
17 ─◄───── EXPANSION RAM: 0 BYTES
           AVAILABLE RAM: 268480 BYTES
           THERMAL TRANSFER
18 ─◄───── NO. OF DL SOFT FONTS : 0
           H. POSITION ADJUST.: 0000
           RS232: 8, N, 1P, 9600
           CHECKSUM: 0000
           LABEL-LEN(Top to Top): 1000 mm
16 ─◄───── SPEED: 2ips
           This is internal font 1  0123456789 ABCabcXyz
           This is internal font 2  0123456789 ABCabcXyz
           This is internal font 3. 0123456789 ABCabcXyz
           This is internal font 4. 0123456789 ABCXYZ
           THIS IS INTERNAL FONT
```

Figure 5-2 R-200 Self-test pattern

5.3 Calibration

After the first time of installation, the printer media is changed, or the media sensor board is replaced, the media sensor calibration must be performed.

1. Load the media (and ribbon for thermal transfer printing) properly.
2. Move the media sensor to proper position.
3. Press and hold down the PAUSE button then turn on the power switch.

During the media calibration, 6 inches of media will be fed out. MEDIA indicator will be blinking for a few seconds during calibration is proceeding. Then turn on printer again after the calibration is completed. Without the proper calibration, the gap detection will not stable especially for the small labels and special media.

After the calibration, all the related parameters will be stored in the EEPROM, which is located on Main Board.

Note:

After the first time of installation or the media type is changed, this procedure must be carried out. Failing to do it, the media-empty and media-gap detection might be incorrect.

Media
Sensor
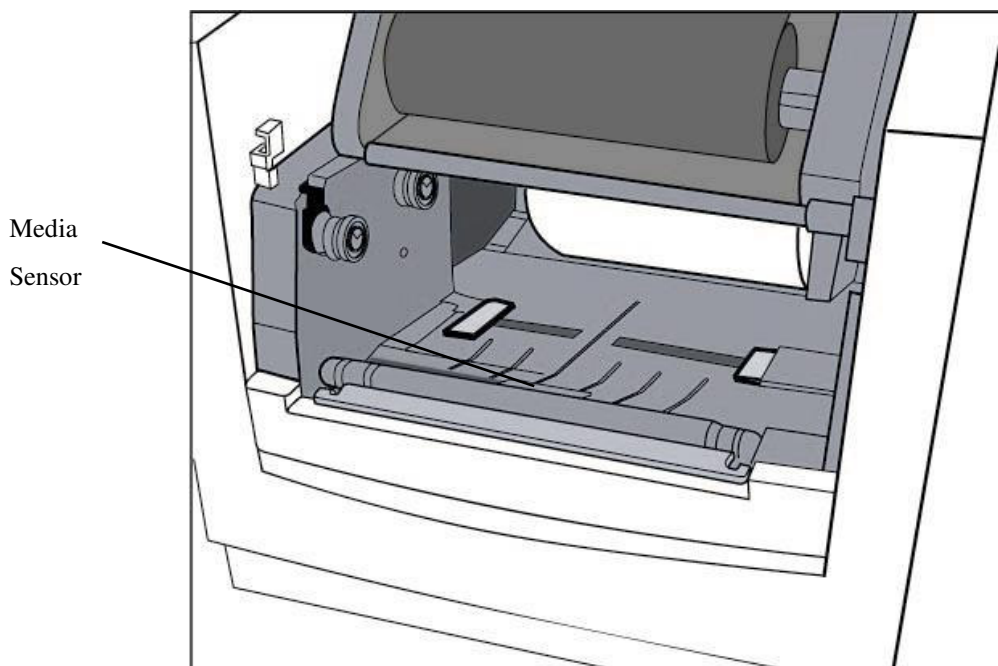
Figure 5-3

5.4 Printer reset

The procedure of resetting the printer:

1. Turn off the printer.
2. Press and hold the CANCEL button then turn on the printer.
3. Release the CANCEL button when RIBBON indicator blinks for three times and READY indicator blinks for on time.

The following parameters will be reset to the default value:
- ➢ Label parameters.
- ➢ Printing darkness.
- ➢ Printing speed.
- ➢ Symbol set.
- ➢ Others for specific emulation.

6. ADJUSTMENTS

6.1 Media sensor position adjustment

The media sensor senses either the gap between labels or a hole or notch in the media to determine the position and length of the label or ticked stock.

When using label with gap, user can position the sensor anywhere in side the gap. But when using media with notch or hole, it may be necessary to reposition the media sensor.

1. Open the print head module.
2. Load the media properly.
3. Adjust the sensor by moving the media sensor adjustment lever left or right.
4. Close the print head module and top cover.
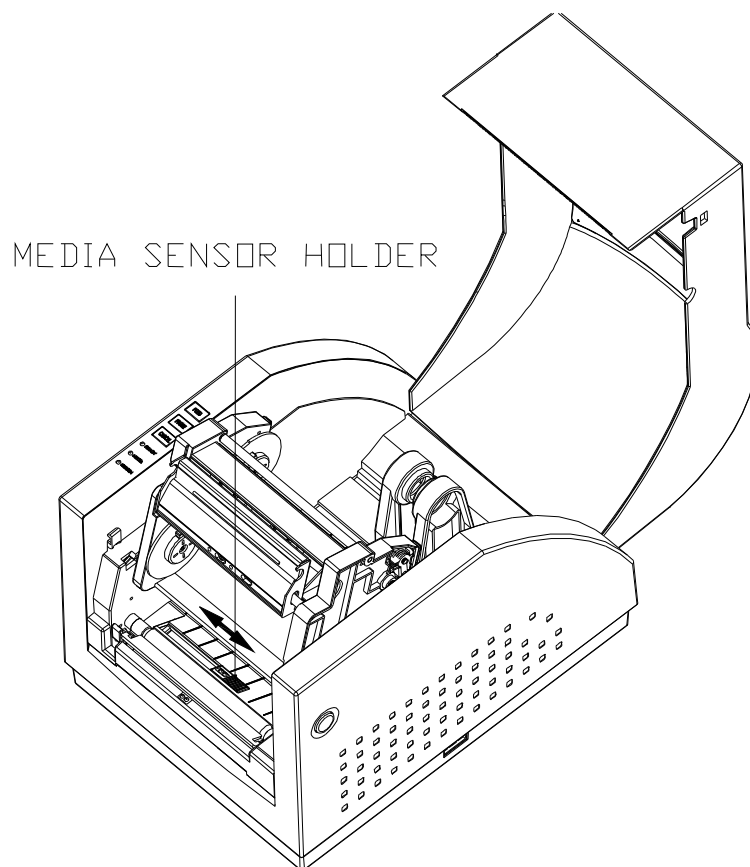
Figure 6-1

7. OPTIONAL PARTS INSTALLATIONS

<p style="text-align:center">**CAUTION**</p>

<p style="text-align:center">**The printer electronics are susceptible to static discharge. Wear**</p>
<p style="text-align:center">**an anti-static wrist and attach it to the printer chassis.**</p>

7.1 Cutter Installation

1. Turn off the power switch.
2. Remove the top cover and middle cover shown in Figure 7-1.
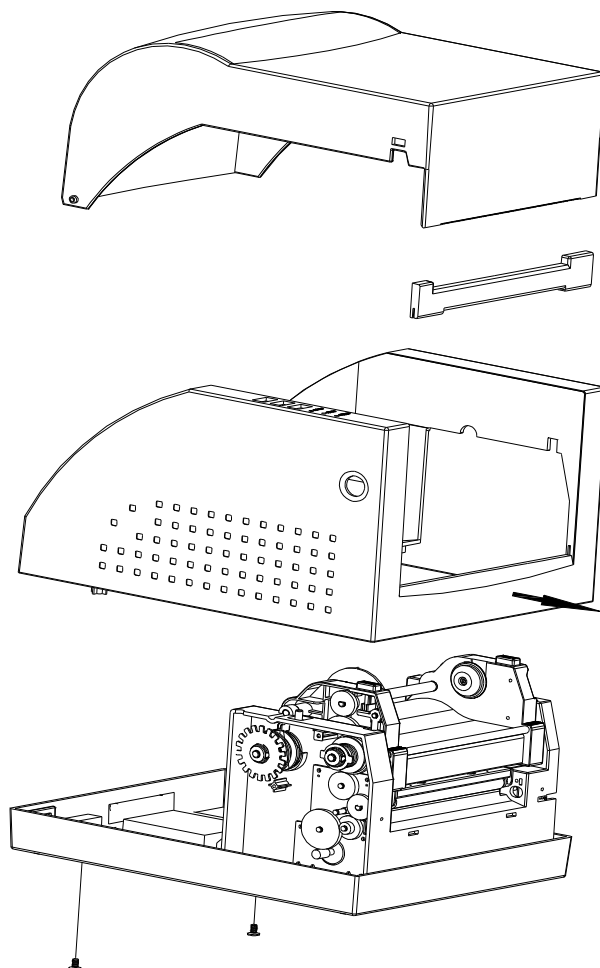
Figure 7-1

---

3. Remove the E-ring (I), gear (27) and release the screw (F).
4. Remove the bracket-peeler (71) from the module.
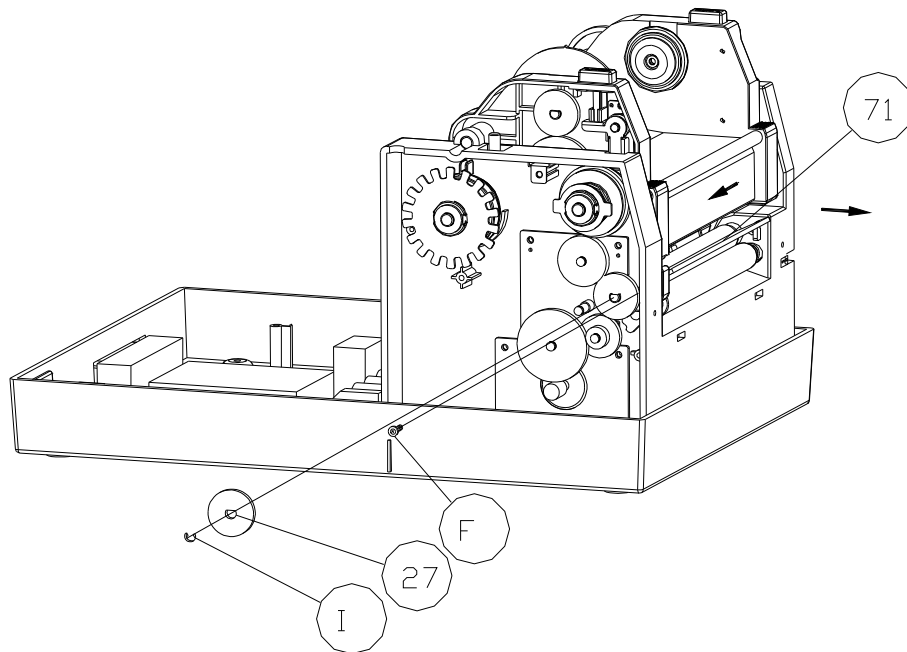
Figure 7-2

5. Secure two attached screws (B) for the cable connector as Figure 7-3.
6. Add a cutter baby board to JP29 on the main board (R-400/R-400K and R-600).
   Add a motor driver IC 3717 to U19 on the main board (R-200/R-200K).
7. Plug the cable connector into JP13.
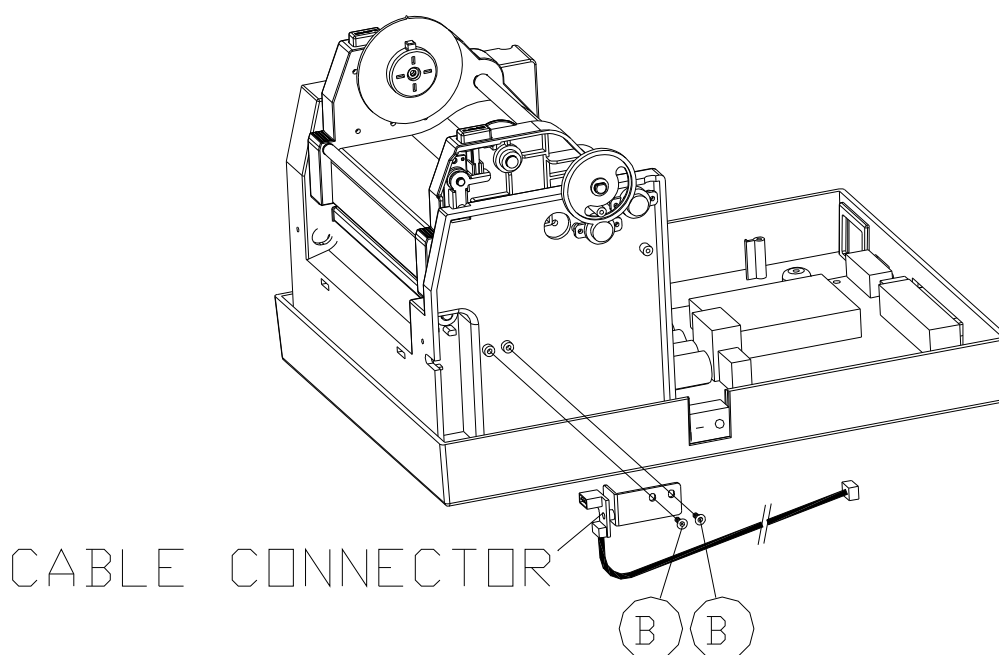
CABLE CONNECTOR

Figure 7-3

8. Click back the middle cover.
9. Click back the top cover.
10. Secure two attached screws (M) for the cutter.
11. Plug the cutter cable into external connector shown in Figure 7-4.

External Connector

Cutter Cable
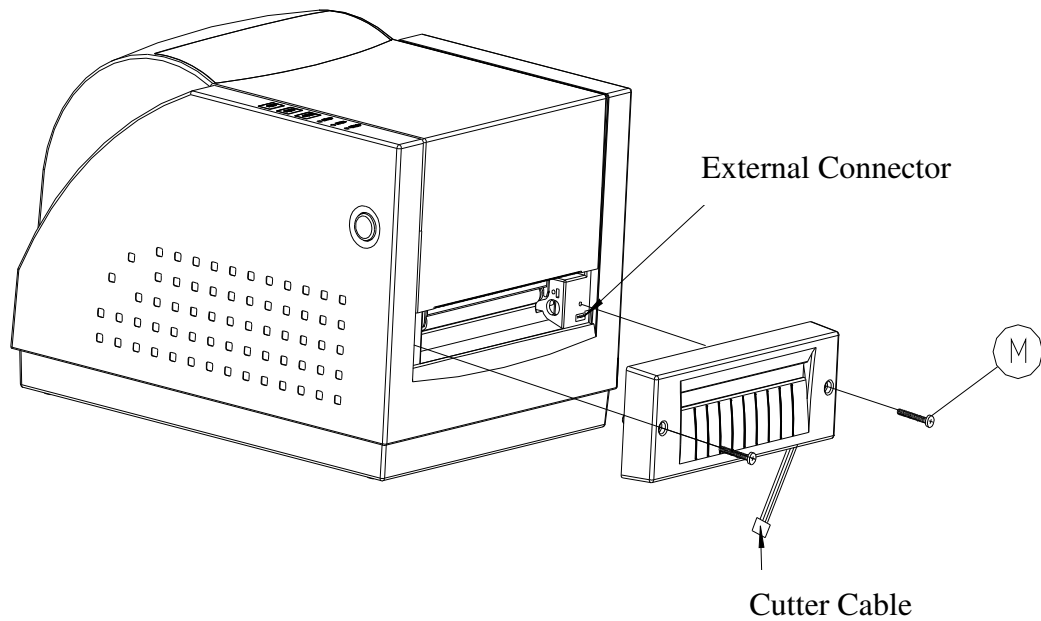
Figure 7-4

Install the media and the ribbon after the cutter is properly installed.

1. Put the media end on the roller.
2. Close the printer module.
3. Turn on the printer.
4. Press the FEED button to let the media end to go through the cutter.

7.2 Dispenser Installation

1. Turn off the power switch.
2. Remove the top cover and middle cover shown in Figure 7-1.
3. Remove gear (27) and gear (31).
4. Plug spring-peeler (83) into the right hole on chassis 2 and lock screw (F) up.
5. Put shaft-peeler (86) and peeler-switch (88) into shaft-peeler (87) and then insert it in hole on right side.
6. Guide peeler-switch (85) going through shaft-peeler (87).
7. Hook spring-peeler (83) on the circle notch of shaft-peeler (87).
8. Put spring-peeler (84) into the left hole of chassis 2 and lock screw (F) up.
9. Put peeler-switch (89) into shaft-peeler (87).
10. Hook spring-peeler (84) on the circle notch of shaft-peeler (87).
11. Put back gear (27) and gear (31).
12. Mount the cable into chassis 2 and plug the other side into the label on the main board.
13. Close the middle cover.
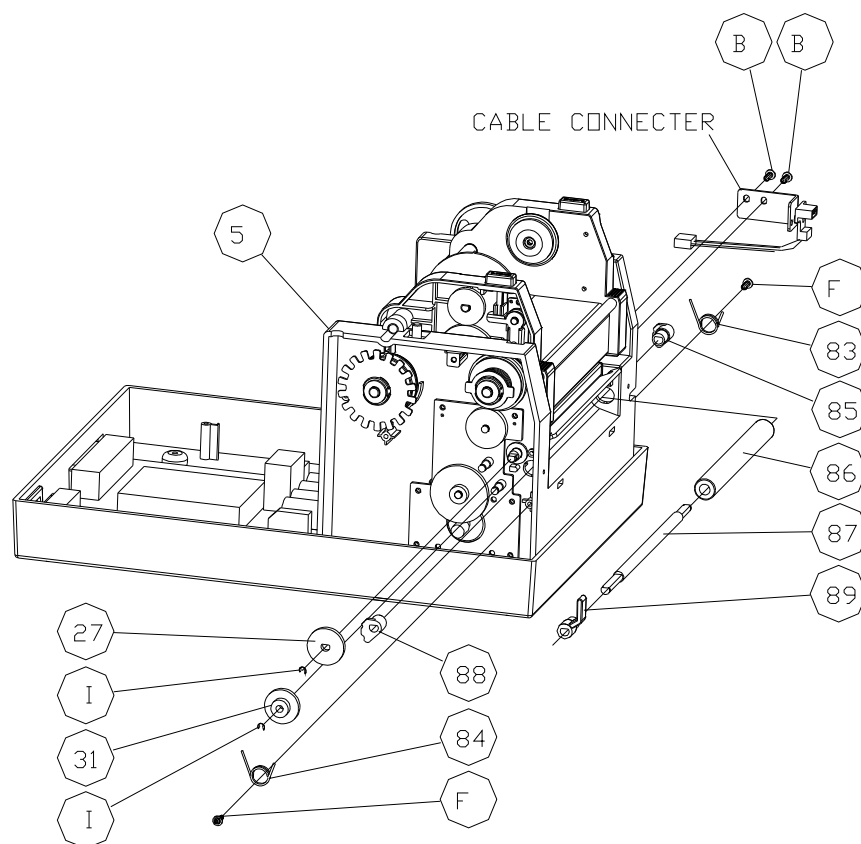
Figure 7-5

14. Plug the peeler sensor into the cable on the middle cover.

15. Put peeler cover on the front of middle cover.
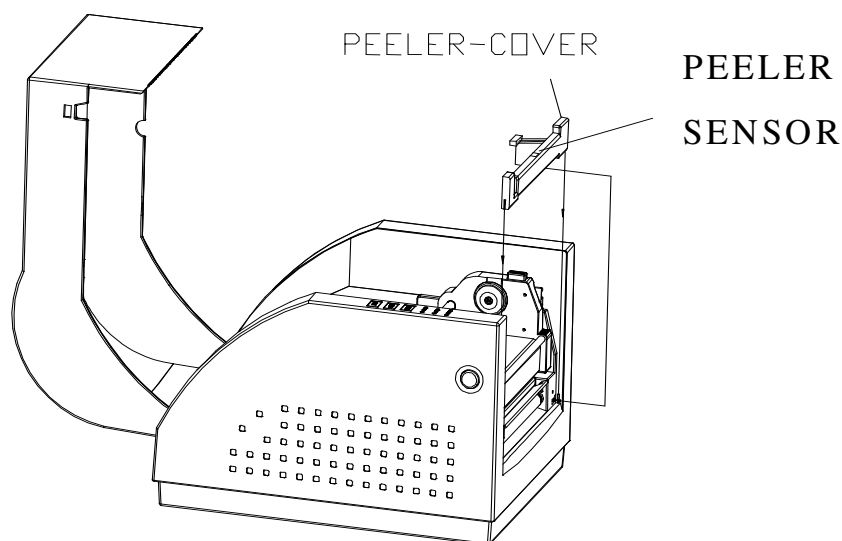
Figure 7-6

7.2.1 Dispenser sensor calibration

If the dispenser sensor is failed to detect label, to calibrate the sensor is required.

There are two commands for this purpose:

Command	ASCII	Binary	Remark
Set sensor without label	<ESC>$R0	1BH 24H 52H 30H	Command 0
Set sensor with label	<ESC>$R1	1BH 24H 52H 31H	Command 1

Step 1:   Put the label away from the sensor, send command 0 and wait for 2 more seconds.

Step 2:   Put a label under the sensor (10 mm below), hold it, send command 1 and wait for 2 more seconds.

8. FIRMWARE UPGRADING

The following sections describe how to upgrade firmware in normal and corrupted cases.

1. Run upgrade utility and diskette to upgrade firmware version.

2. Run Pinter Utility to upgrade firmware version.

3. When update utility unsuccessfully, flash ROM U8 and U9 must be burn with proper firmware by EPROM writer or Add-On Card (R-400plus/R-400Kplus only).

The Argox R-Series basically can run three emulations, PPLA (DPL), PPLB (EPL2) and PPLZ (ZPL2). It depends on which emulation is burned on the on-board flash memory. The following lists the supported emulation of each printer.

> ➢ R-200/R-200K: PPLB.
> ➢ R-400/R-400K and R-600:   PPLA and PPLB.
> ➢ R-400plus/R-400Kplus: PPLA, PPLB and PPLZ.

8.1 Upgrade Utility and Diskette

The diskette (ZIP file) contains the related files and data that you may change or upgrade the firmware.

Before changing the firmware, decompress the file first.

1. C:\>**MD ARGOX**
2. C:**CD ARGOX**
3. C:\ARGOX\>**COPY A:README.TXT**
4. C:\ARGOX\>**A:PKUNZIP A:FW.ZIP**

Note:

You may also decompress the ZIP file from Windows.

8.1.1 Procedure to update firmware (PPLA emulation)

1. Turn on the printer and wait for three seconds.
2. Set PC to MS-DOS (exit from Windows).
3. C:\ARGOX\>**PPLA**

   … … …
4. When "Upgrade Complete!" message is displayed on the screen, turn off the power until all LEDs go OFF then turn on the printer again.
5. When update successfully, please reset the printer (press CANCEL button then turn on the power).

8.1.2 Procedure to update firmware (PPLB emulation)

1. Turn on the printer and wait for three seconds.
2. Set PC to MS-DOS (exit from Windows).
3. C:\ARGOX\>**PPLB**

   …   …   …
4. When "Upgrade Complete!" message is displayed on the screen, turn off the power until all LEDs go OFF then turn on the printer again.
5. When update successfully, please reset the printer (press CANCEL button then turn on the power).

8.1.3 Procedure to update firmware (PPLZ emulation)

1. Turn on the printer and wait for three seconds.
2. Set PC to MS-DOS (exit from Windows).
3. C:\ARGOX\>**PPLZ**

   …   …   …
4. When "Upgrade Complete!" message is displayed on the screen, turn off the power until all LEDs go OFF then turn on the printer again.
5. When update successfully, please reset the printer (press CANCEL button then turn on the power).

Note:

It is very important that DO NOT TURN OFF the printer during changing the firmware till "Upgrade Complete!" is present. Otherwise unpredictable results may occur.

8.1.4 Failing to upgrade firmware

If the whole procedure cannot be completed within three minutes or "Printer Time Out" happens, please check the communication cable that is securely connected to the printer and PC. Then restart the printer and rerun all updating procedure.

For example:

Write fault error writing device LPT1

Abort, Retry, Ignore, Fail?

You just type **<ctrl-C>** and then **Y** to terminate the procedure.

- Printer: turn off and turn on the printer.
- PC: Abort the transmission and type

>**PPLA** or **PPLB** or **PPLZ**

8.2 Upgrade through Printer Utility

1. Start Argox application software, Printer Utility.
2. Select "Download".
3. Select printer model, printer language and interface.
4. Click on "Browse" button to choose the firmware.
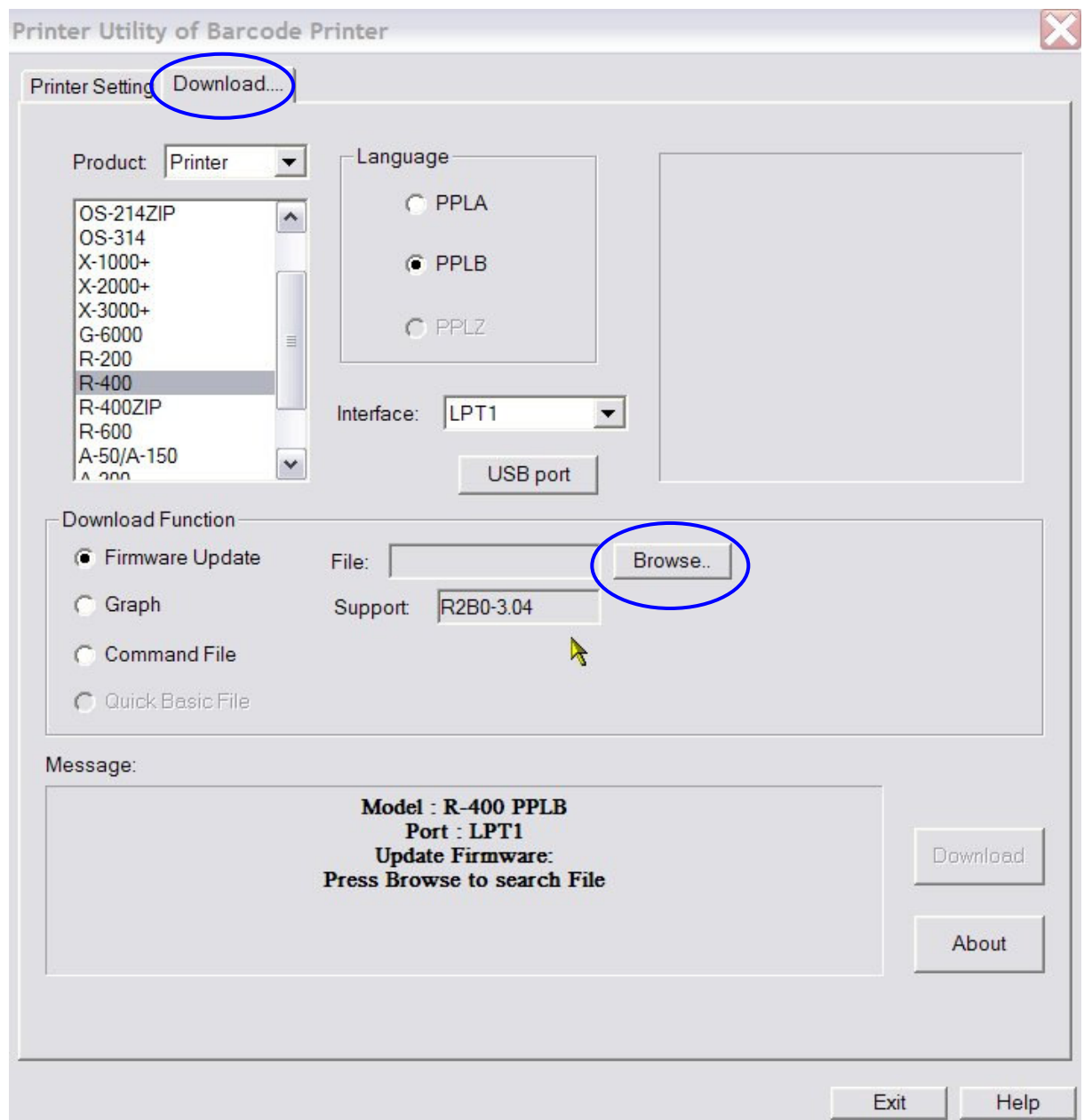
5. Select "Local Disk C " → "ARGOX" → "400-b.bin", then click "Open".
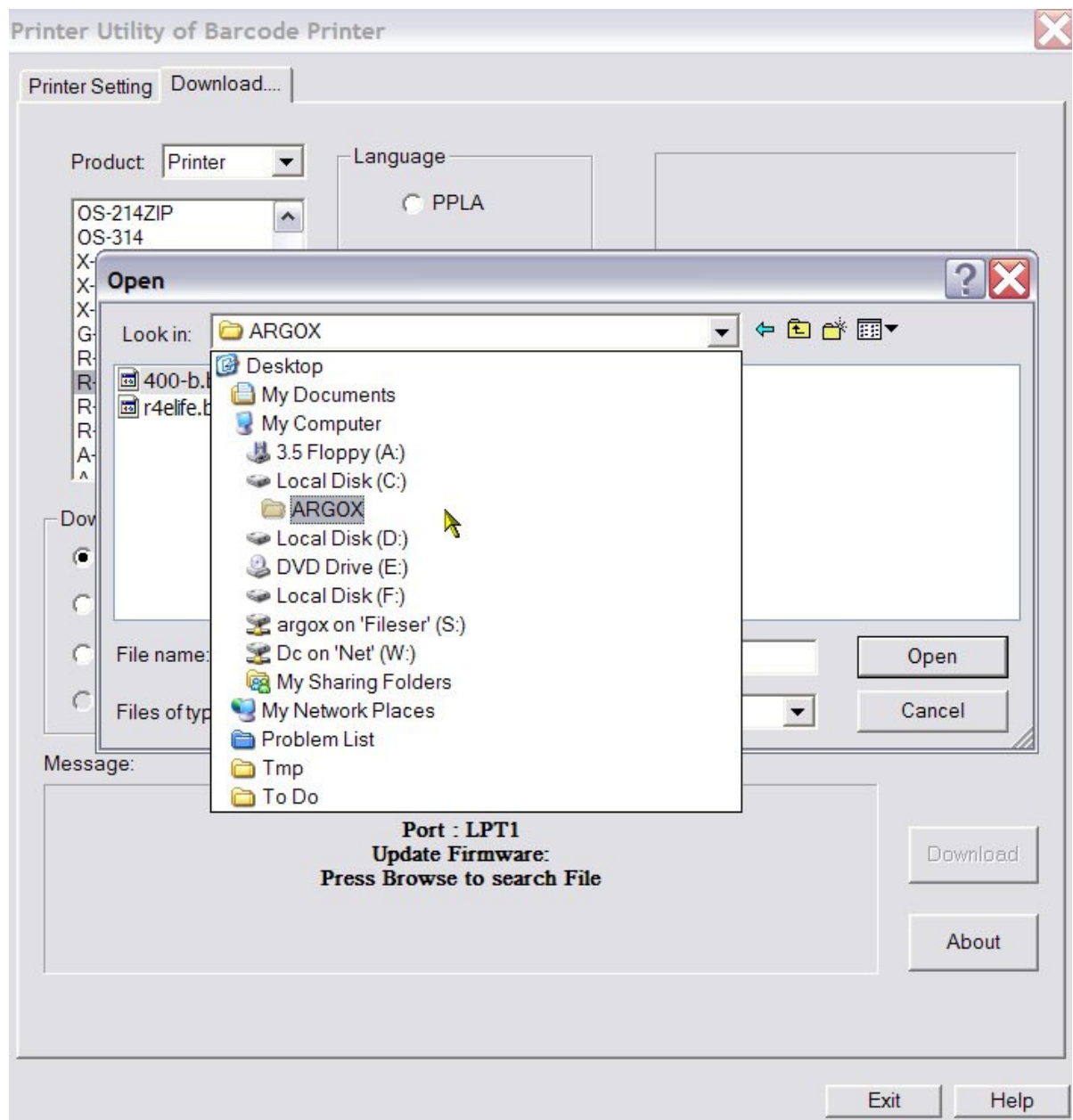
6. Click "Download" to upgrade the firmware.
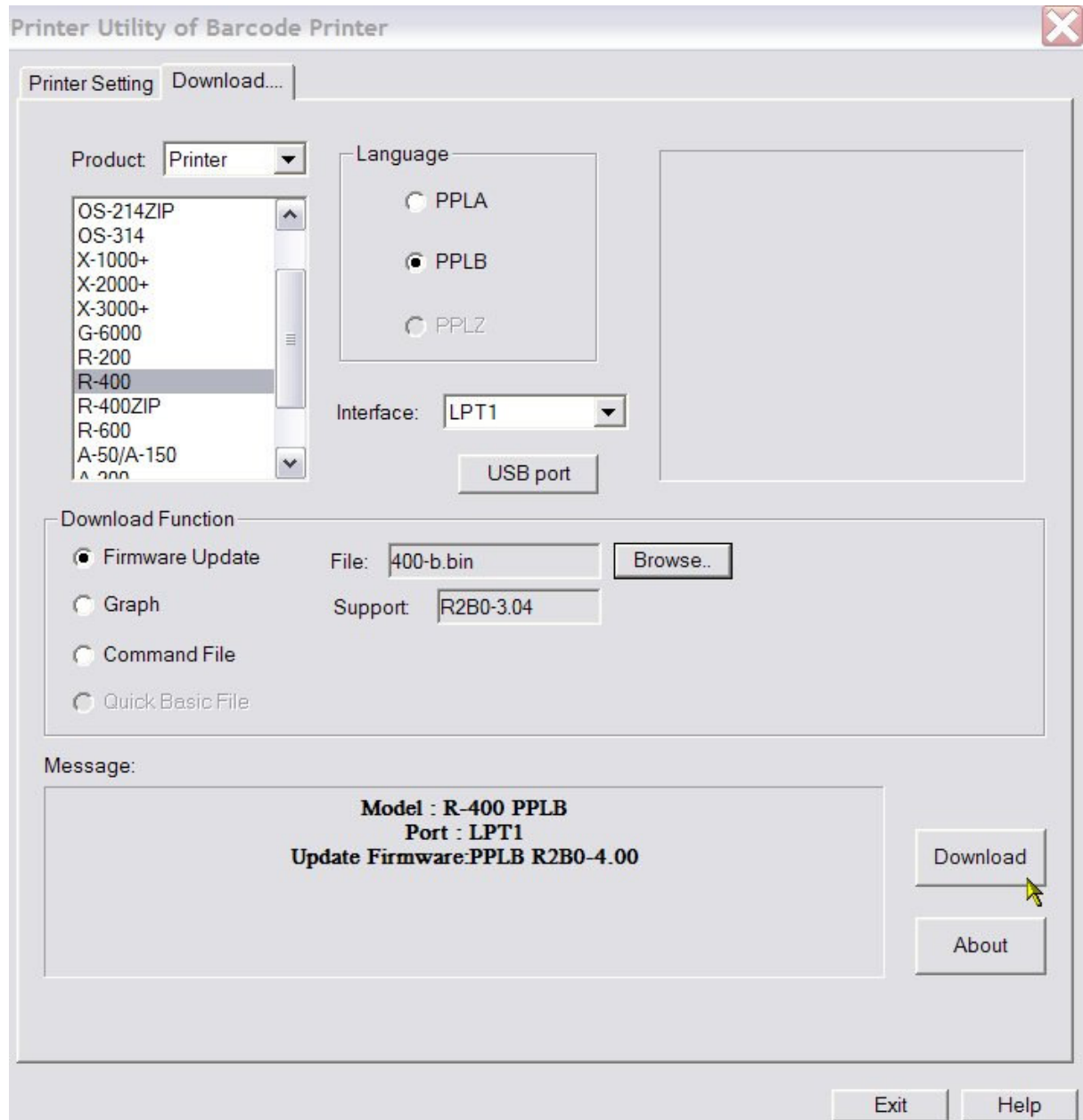
8.3 ROM files (R-200/R-200K, R-400/R-400K, and R-600)

Following procedures can generate the binary files for U8 and U9:

1. **>EPROMA.BAT**

    This command will generate AU8.BIN and AU9.BIN
2. **>EPROMB.BAT**

    This command will generate BU8.BIN and BU9.BIN

These binary files are used for burning the flash ROMs on the EPROM writer.

8.4 Upgrade Firmware by Add-On Card (R-400plus/R-400Kplus Only)

In very abnormal case, the Boot-Up program located at BOOT sector of flash ROM in R-400plus/R-400Kplus might be corrupted (supposedly it is impossible to happen). This will cause the printer fail to perform firmware upgrade with the above normal procedures. In this case, you might refer to the following to upgrade the firmware.

1. Refer to step 1~2 in section 7.1 and Figure 7-1 to disassemble the printer till expansion slot (JP11) and JP5 are accessible.
2. All the jumpers on JP5 (1,2 position) should be put on 2,3 position.
3. Put "Add-On Card" (it is a 2MB Flash Memory Card with "Booter firmware") on JP11.
4. Turn on the printer and wait until "MEDIA" and "RIBBON" LEDs blinking alternately.
5. Turn off the printer.
6. Remove "Add-On Card" from JP11.
7. Put all the jumpers on JP5 to the NORMAL (1, 2 position) position again.
8. Put top and middle covers back to reassemble the printer.
9. Turn on the printer, if "READY" LED blinks four times that means the corrupt case is solved.
10. Then refer to steps in section 8.1 or 8.2 to upgrade firmware.

8.5 Verification

To confirm that you had successfully changed the firmware you just check the self-configuration printout.

1. Turn off the printer until all the LEDs are OFF.
2. Press FEED button and turn on the printer.
3. When the motor starts rotation, release the button.

Check the version code and date code, also the checksum code (must be '0000').

9. MAINTENANCE AND TROUBLE SHOOTING

9.1 Printer status indication

The printer has built-in monitors for the status. The status and error indications will be displayed on the front panel LED indicators. Generally, when a malfunction or an abnormal condition occurs, the READY LED will keep blinking, in the meantime printing and communication between the host and printer will stop. To understand the problem, please check the LED indicators.

CAUTION

The printer electronics are susceptible to static discharge. Wear
an anti-static wrist and attach it to the printer chassis.

Situation	Blinking LED	Description
PAUSE	MEDIA	The printer is at pause status. Press PAUSE or CANCEL button to return to normal status.
MEDIA OUT	MEDIA READY	Both LEDs blink synchronously. The media is not installed or used up. Printer fails to detect the media gap.
RIBBON OUT	RIBBON READY	Both LEDs blink asynchronously. The ribbon is not installed or end-of-ribbon occurred. Load new ribbon to the printer.
SERIAL IO ERROR	READY	The format or baud rate of the RS232 communication is inconsistent between the printer and host.
CUTTER FAILED	READY	The cutter can not cut off the media, check the media and cutter.
MEMORY FULL	READY	The printer buffer is full caused by the loaded soft fonts, graphics or forms. Check the format of these data. Call for service.

Table 9-1

9.2 Trouble Shooting

No indication:

Status	LED	Description
All LEDs are OFF	All LEDs are OFF	Out of power or printer out of work
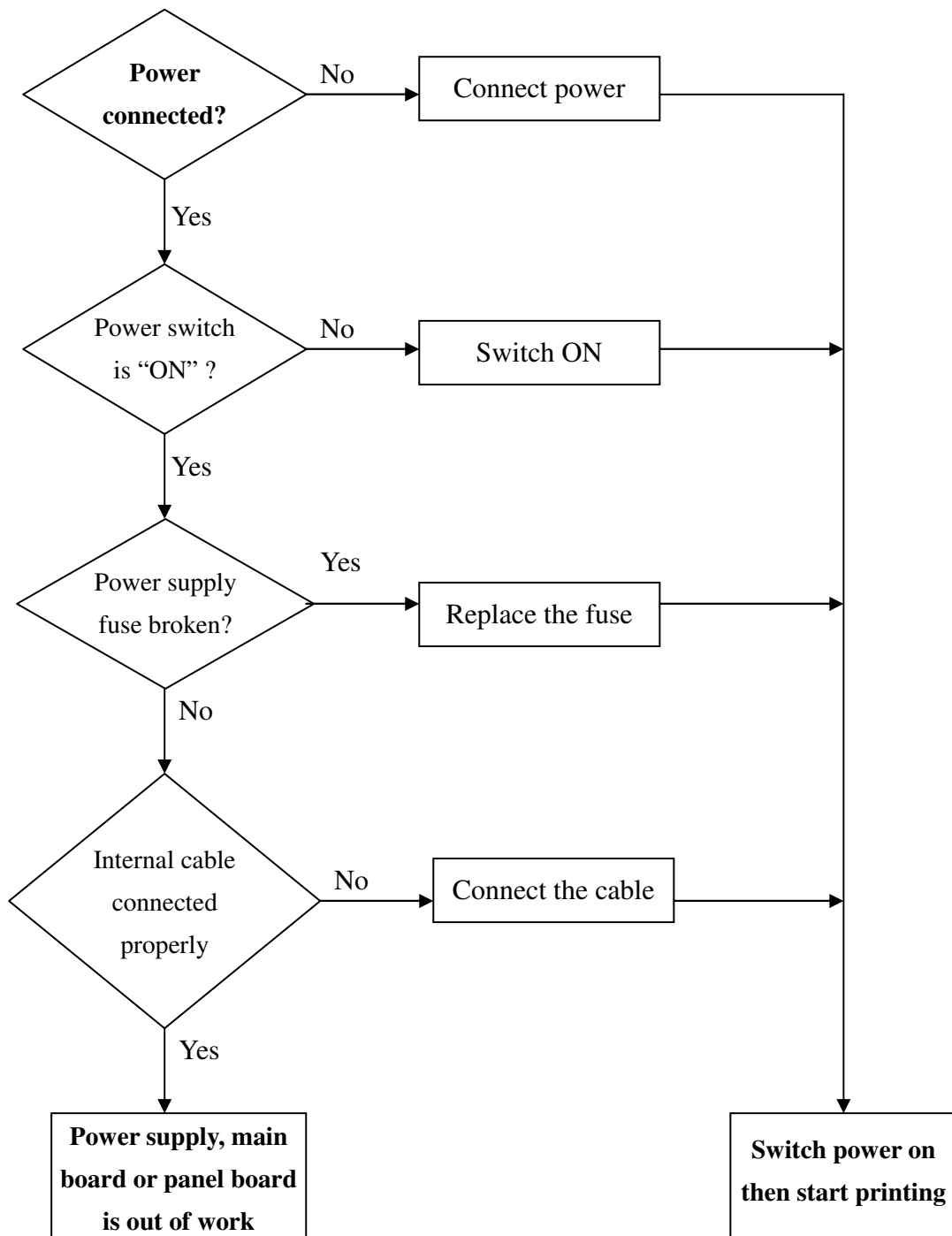
Out of media indication:

Status	LED	Description
MEDIA OUT	MEDIA	The media is not installed or used up.
	READY	Printer is failing to detect the media gap.

```
                  ┌─────────────────┐
                  │ Switch power off │
                  └────────┬────────┘
                           │
                      ╱Out of╲         Yes      ┌──────────────────┐
                     ╱ media? ╲───────────────→ │ Load a new media │
                     ╲        ╱                  │      roll        │
                      ╲      ╱                   └──────────────────┘
                        │ No
                    ╱Media stuck╲      Yes       ┌──────────────────┐
                   ╱ or jammed   ╲─────────────→ │ Remove the stuck │
                   ╲             ╱                │  or jammed media │
                    ╲           ╱                 └──────────────────┘
                        │ No
               ╱Fail to detect╲   Yes   ╱Media loaded╲  No   ┌──────────────┐
              ╱  media gap?     ╲──────→ ╱ correctly?  ╲────→ │ Reload media │
              ╲                 ╱        ╲             ╱       └──────────────┘
                  │ No                       │ Yes
                                      ╱Media sensor is at╲  No  ┌────────────────┐
                                     ╱  proper position?  ╲───→ │ Move the sensor│
                                     ╲                    ╱     │ to proper pos. │
                                         │ Yes                  └────────────────┘
                                     ╱Continuous type╲  No   ┌──────────────┐
                                    ╱ of media is used?╲───→ │ Disable gap  │
                                    ╲                  ╱      │  detection   │
                                        │                     └──────────────┘
                                                      ┌──────────────────┐
                                                      │  Switch power on │
                                                      │ then start print │
                                                      └──────────────────┘
                              ┌──────────────────────┐
                              │ Perform the media    │
                              │ sensor calibration   │
                              │ or the media sensor  │
                              │ is out of work.      │
                              └──────────────────────┘
```

Out of ribbon indication:

Status	LED	Description
RIBBON OUT	RIBBON READY	The ribbon is not installed or out of ribbon.

```
┌─────────────────┐
│ Switch power off │
└─────────────────┘
         │
         ▼
    ╱ Out of    ╲  ──Yes──►  ┌──────────────────┐
   ╲  ribbon?   ╱            │ Load a new ribbon │─────┐
         │No                 └──────────────────┘     │
         ▼                                             │
    ╱ Ribbon stuck ╲ ──Yes──► ┌────────────────┐       │
   ╲  or jammed    ╱          │ Remove the stuck or │──┤
         │No                  │ jammed ribbon  │       │
         ▼                    └────────────────┘       │
  ╱ Ribbon is     ╲ ──Yes──► ┌────────────────────────┐│
 ╲ moving during  ╱          │ Check the ribbon sensor.││
  ╲  printing?   ╱           │ Replace with new sensor ├┤
         │No                 │ if necessary.          ││
         ▼                   └────────────────────────┘│
┌──────────────────┐                                   │
│ Check mechanism  │───────────────────────────────────┤
└──────────────────┘                                   │
                              ┌──────────────────┐      │
                              │ Switch power on  │◄─────┘
                              │ then start printing │
                              └──────────────────┘
```
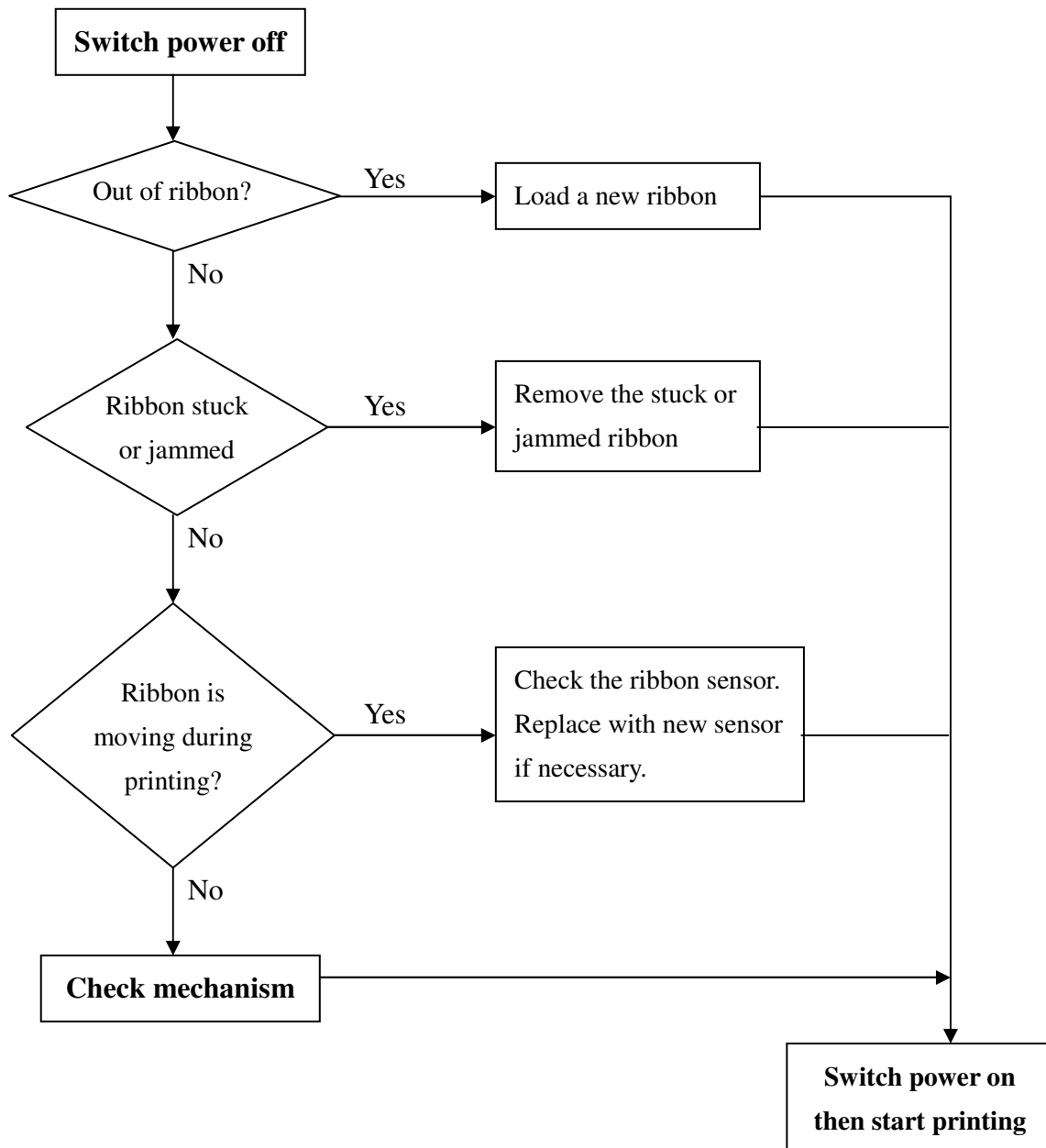
Serial port error:

Status	LED	Description
SERIAL IO ERROR	READY	The format or baud rate of the RS232 communication is inconsistent between the printer and host.

```
                    ┌─────────────────┐
                    │ Switch power on │
                    └────────┬────────┘
                             │
                             ▼
                        ╱─────────╲
          Is the baud rate         No      ┌──────────────────┐
         consistent between  ──────────────▶│ Set the same baud │
           PC and Printer?                   │ rate in PC and    │──┐
                        ╲─────────╱          │     Printer       │  │
                             │               └──────────────────┘  │
                            Yes                                     │
                             ▼                                      │
                        ╱─────────╲                                 │
        Is the data bit number      No       ┌──────────────────┐  │
         consistent between  ───────────────▶│ Set the same data │  │
           PC and Printer?                    │ bit number in PC  │──┤
                        ╲─────────╱           │   and Printer     │  │
                             │                └──────────────────┘  │
                            Yes                                      │
                             ▼                                       │
                        ╱─────────╲                                  │
          Is the parity type       No        ┌──────────────────┐   │
         consistent between  ────────────────▶│ Set the same     │   │
           PC and Printer?                     │ parity type in   │───┤
                        ╲─────────╱            │  PC and Printer  │   │
                             │                 └──────────────────┘   │
                            Yes                                       ▼
                             │                          ┌──────────────────┐
                             └─────────────────────────▶│  Switch power on │
                                                        │ then start       │
                                                        │    printing      │
                                                        └──────────────────┘
```
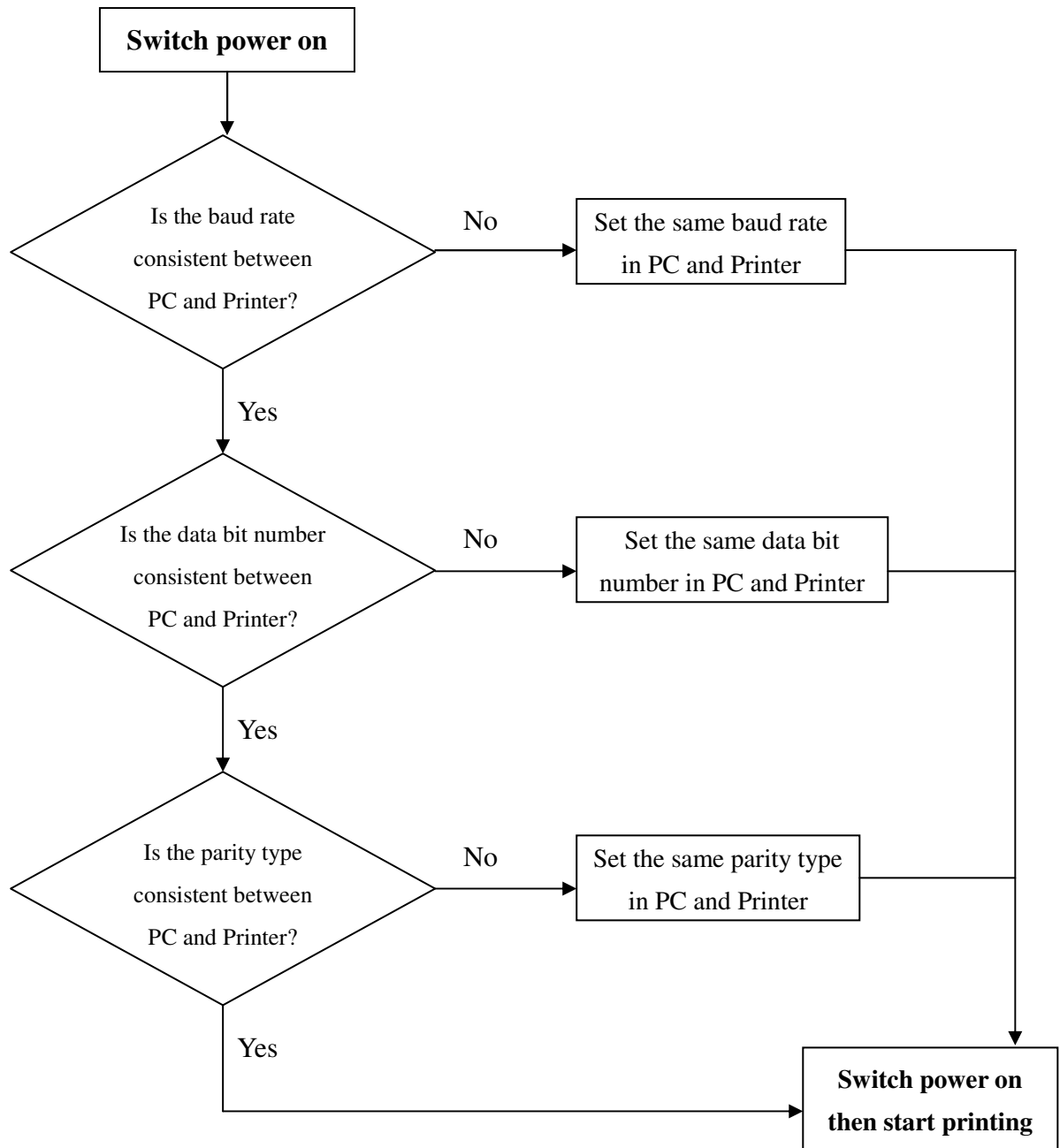
9.3 Clearance

<div align="center">

CAUTION

**The printer electronics are susceptible to static discharge. Wear
an anti-static wrist and attach it to the printer chassis.**

</div>

There are some components need to be clean-up occasionally:

Thermal print head

The debris of thermal paper or riboon may collect on the print head causing characters or bar codes to appear light or faded. To clean the print head, wet a soft paper towel with isopropyl rubbing alcohol and use the damp towel to rub the dirt from the print head surface.

It is recommended to clean the print head after every roll of ribbon.

Platen roller

If the roller becoms contaminated with grit, label adhesive, or ink, printing quality may be adversely affected. To clean the roller, using a clean cloth and alcohol, wipe off any accumulated debris.

Media sensor

The dirt on the paper sensor will cause the miss or unstable detection of label gap. Clean it with bristle brush or air blow once in a while.

Note:
Switch off the power before cleaning!

9.4 Replacement

<div align="center">

CAUTION

**The printer electronics are susceptible to static discharge. Wear
an anti-static wrist and attach it to the printer chassis.**

</div>

TPH (thermal print head) replacement

To replace the print head, please follow the procedure as shown on Figure 9-1, 9-2. It is also possible to replace the TPH without remove the print head module.

1. Remove the shaft-tph (65) from the module.
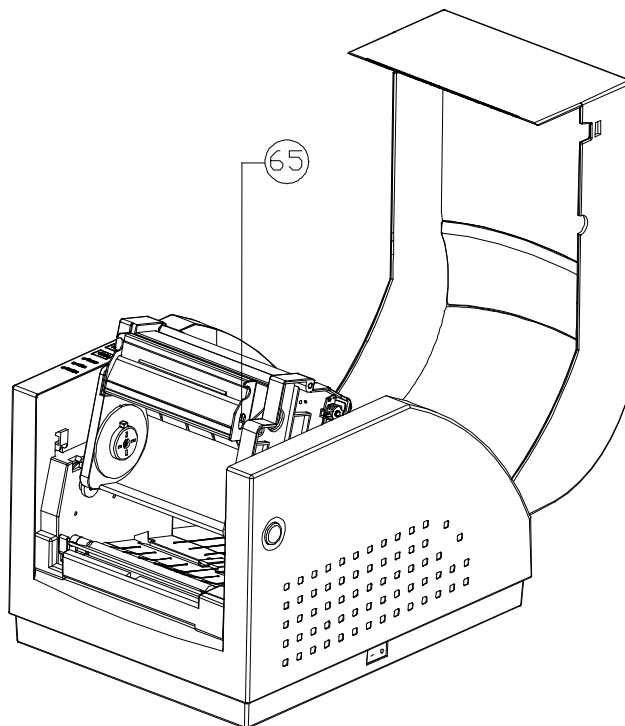
Figure 9-1

2. Release the screw (E) and (A).
3. Remove the print head cable from the print head.
4. Remove the print head (56) from the bracket-tph(55).
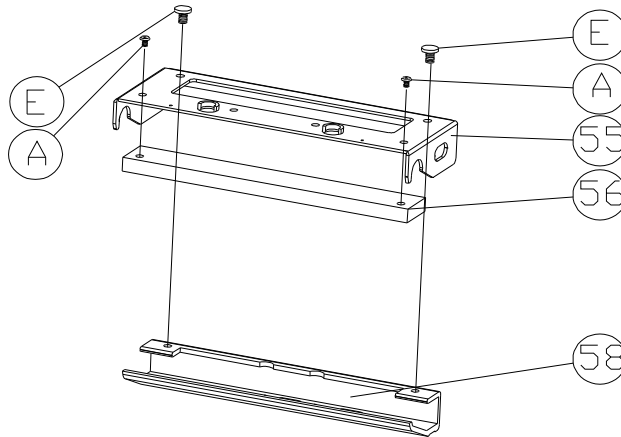
Figure 9-2

10. OPERATIONAL THEROREM

10.1 System block diagram

10.1.1 System block diagram of R-400/R-400K and R-600
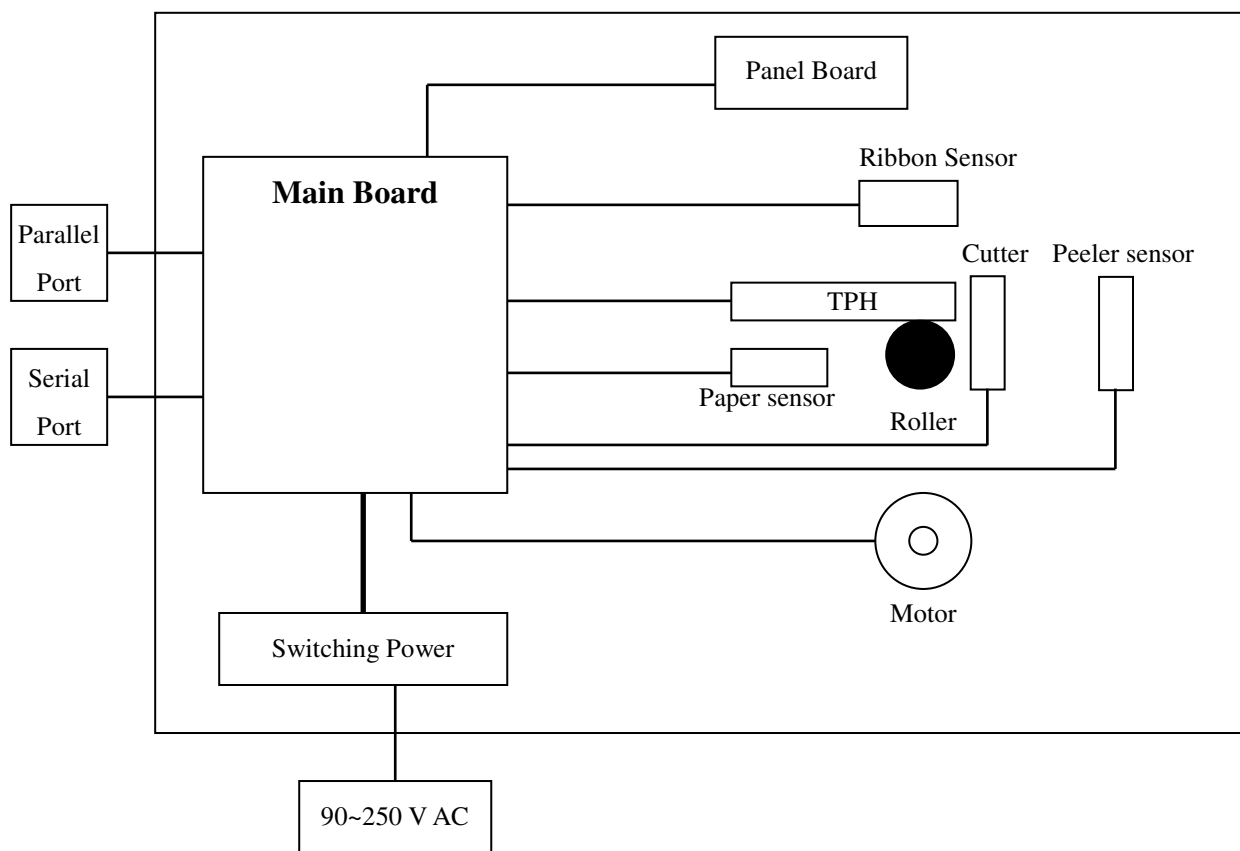
Figure 10-1 R-400/R-400K and R-600 System Block Diagram

10.1.2 System block diagram of R-400plus/R-400Kplus
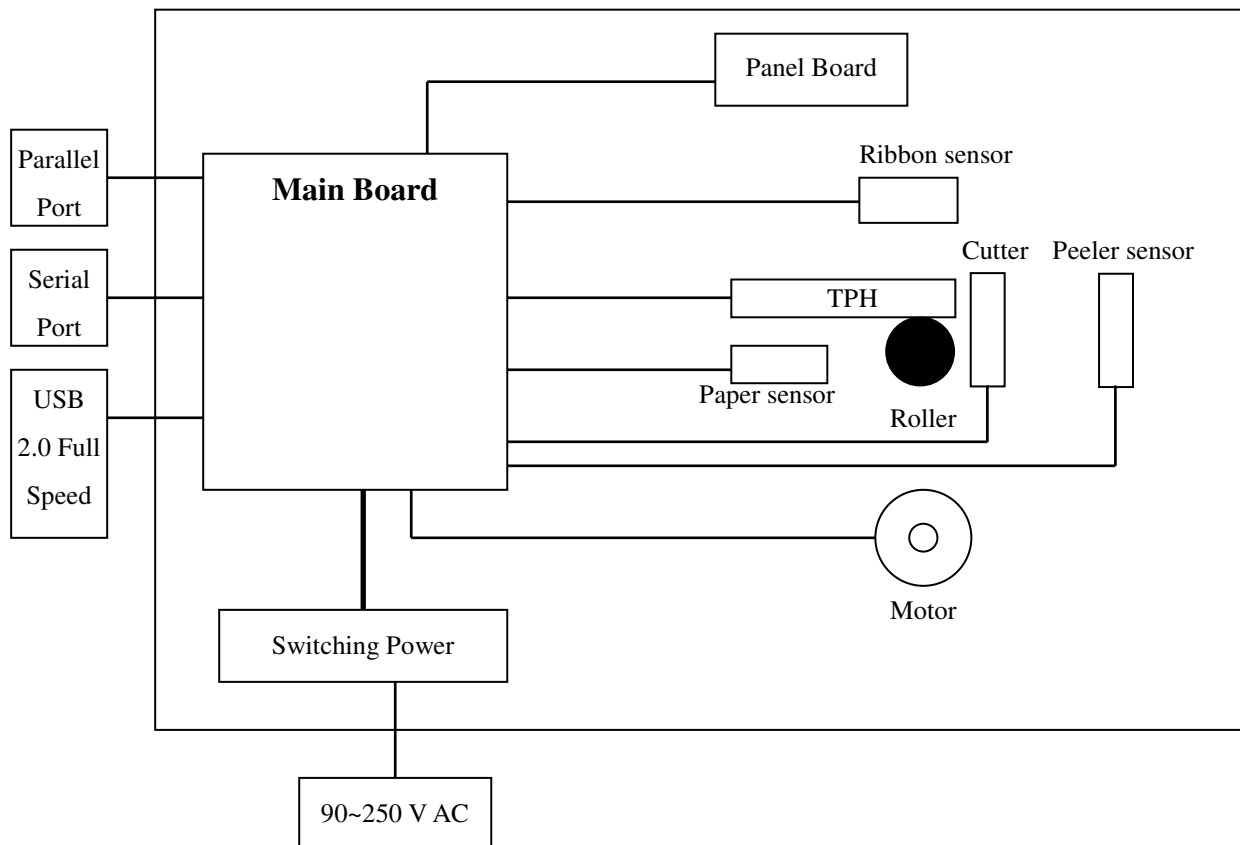
Figure 10-2 R-400plus System Block Diagram

10.1.3 System block diagram of R-200/R-200K
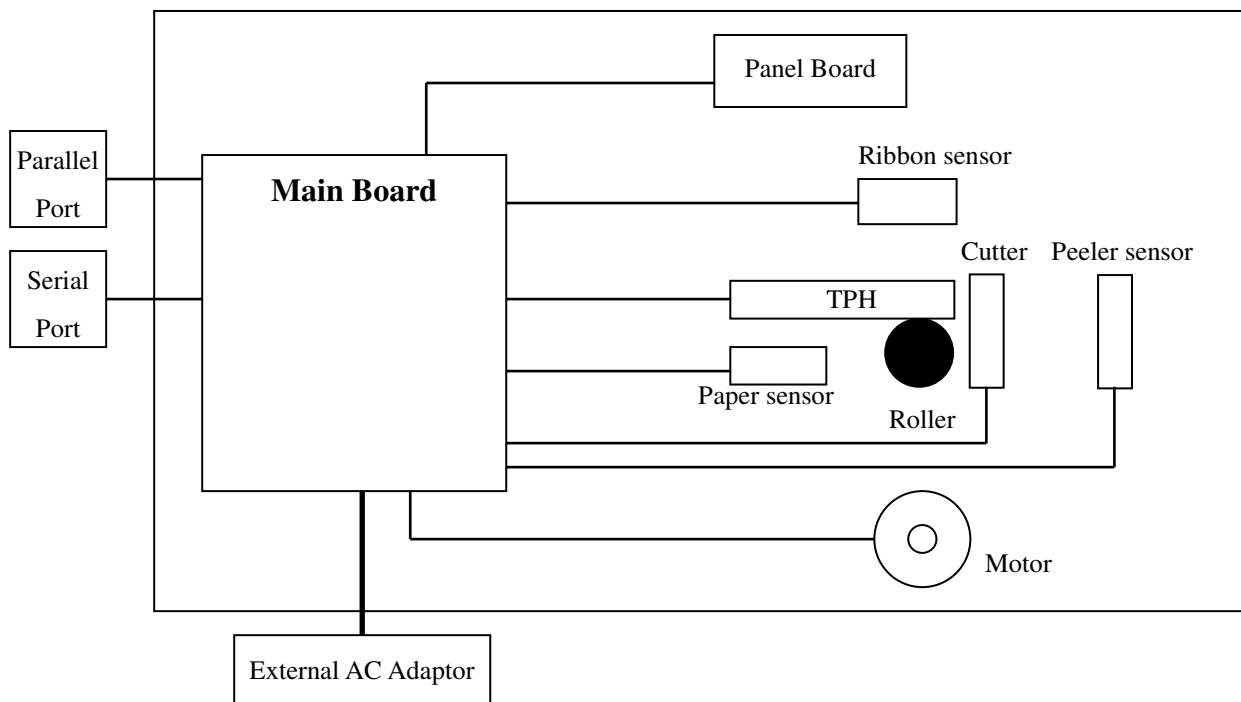
Figure 10-3 R-200/R-200K System Block Diagram

R-Series printer consists of:

Main board

A four layers PCBA, consists of a micro-controller, EPROMs, EEPROM, DRAM, etc. components requried for the printing functions.

Panel board

A one layers PCBA, consists of a three push button switches, three LED indicators for user's access, status and error indication.

Ribbon sensor

A two layer PCBA, consist of a reflective type object sensor designate for ribbon detection.

Media sensor

A two layer PCBA, consist of a reflective type object sensor designate for meida detection.

Thermal print head (TPH)

There are 832 heat elements consist in theR-200/R-200K TPH (864 heat elements for R-400/R-400K/R-400plus and 1248 heat elements for R-600). Each heat element can be turn on/off individually.

Motor

A bipolar hybrid stepping motor is used for carrying label and ribbon during printing.

Peeler sensor (option)

An two layer PCBA, consist of a reflective type object senosr designate to detect the printed label is removed or still exit.

Cutter assembly (option)

Consisting of a DC motor, a switch , gears and a rotary cutter. It is used for cutting the printed label automatically.

SPS (Switching Power supply)

The switching power supply converts the power (90V AC to 250V AC) to 24V DC. A 5 Amps fuse is also included in the power supply for over current protection.

Power adapter (R-200/R-200K only)

Power adapter converts the input voltage (120V AC or 230V AC) to 19V AC. A 4Amps fuse is also included in the adapter for over current protection.

Host controller

An equipment which can send the printing command to printer through RS232 serial port ,
Centronics parallel port or USB2.0 Full Speed (R-400plus only). Usually a PC is connected.
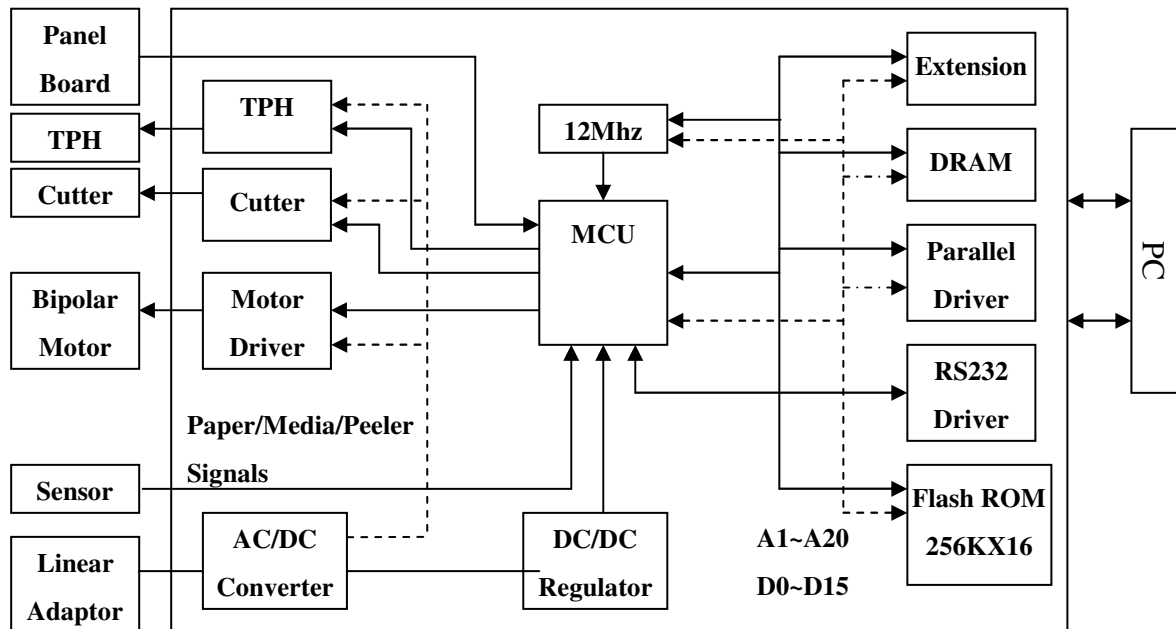
Figure 10-4 R-200 Main Board Block Diagram
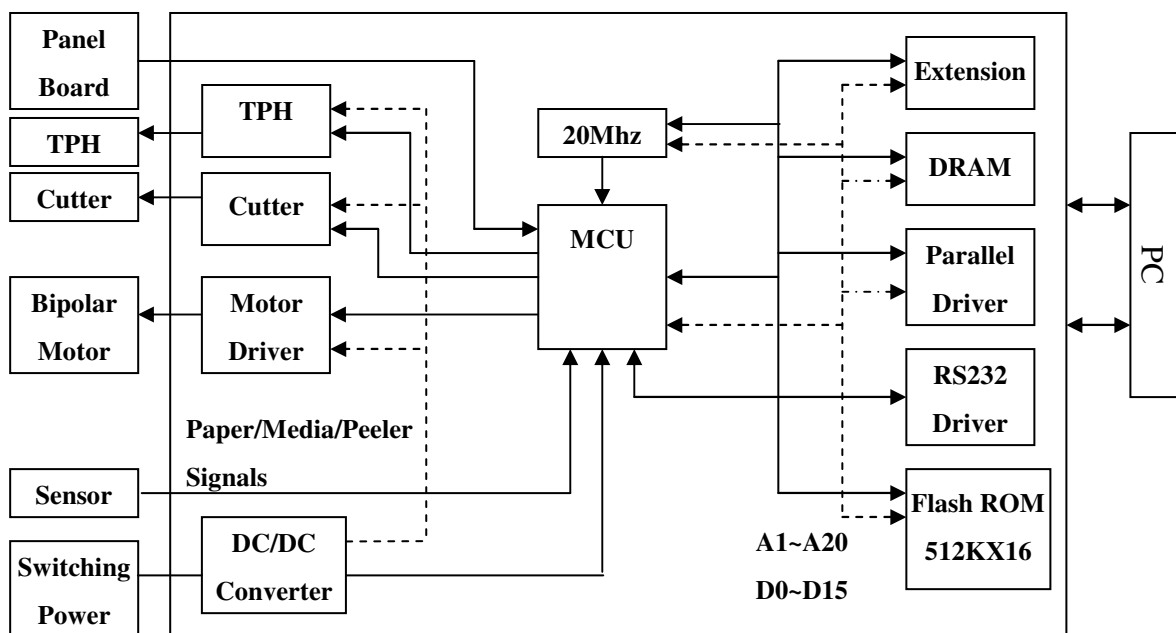
Figure 10-5 R-400/R-600 Main Board Block Diagram
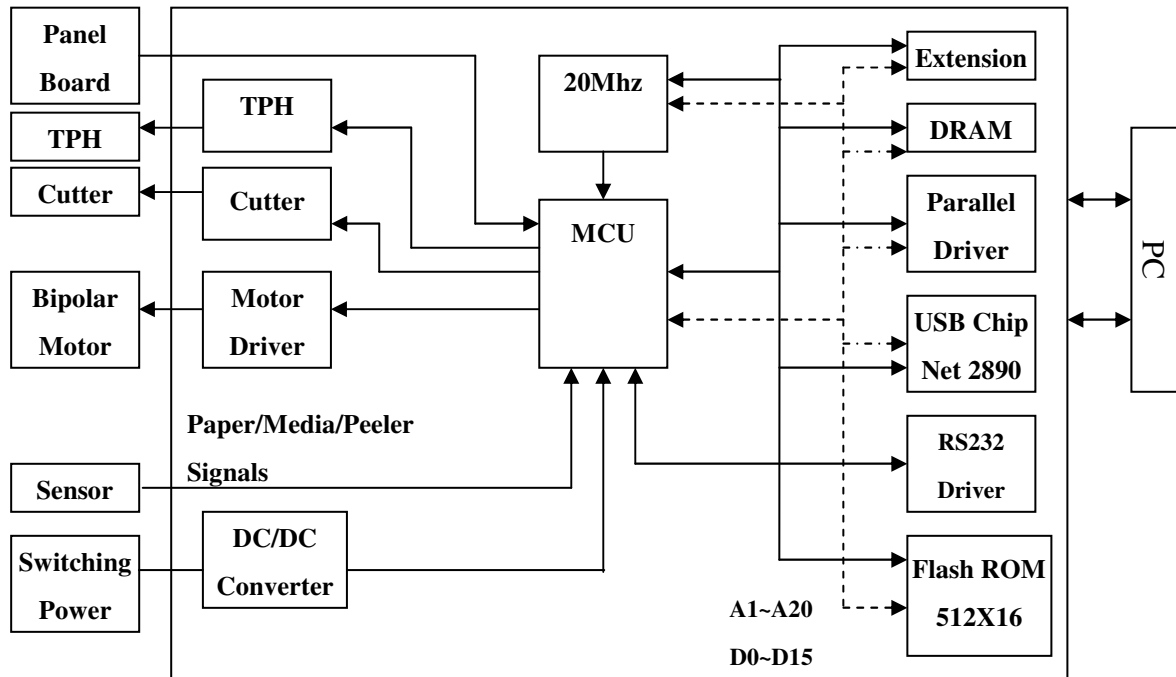
Figure 10-6 R-400plus Main Board Block Diagram

Micro-controller (U6)

A HITACHI 16 bit RISC processor is selected as the controller for R-200/R-200K. A HITACHI 32 bit RISC processor is selected as the controller for R-400/R-400K and R-600. The rich on-chip functions such as: Integrated timer, DMA controller, A/D convert, Serial communication interface, Pattern generator and I/O ports make the printer high performance and compact size.

FLASH memory (U8, U9)

There are 256K bytes FLASH on R-200/R-200K main board (512K bytes FLASH on R-400/R-400K and R-600 main board) to store the program, characters, and bar code fonts.

DRAM (U10)

A sixteen mega bits DRAM is selected as the medium of storage for the printing image. In order to have fast access to the memory, 16 bits data bus width is selected.

EEPROM (U7)

There are some parameters, which are stored in EEPROM for printing, communication, ribbon and media detection, and special controls.

TPH driver (U1)

Through these drivers, the control and data signals are feed to TPH for image printing.

Cutter driver (U2: R-200/R-200K) (JP29: R-400/R-400K/R-600/R-400plus/R-400Kplus)

In order to prevent the cutter from stuck, relay function cutter baby board will be handle the cutter stop position.

RS232 driver/Receiver (U4)

To convert the serial port signal to/from micro-controller to RS232 voltage level, a RS232 driver/receiver with integral charge pump circuit is used.

CENTRONICS interface (U11, U13, U15)

Through these interface, all the data come from the host controller are latched them read by the Micro-controller, EPROM, and DRAM…etc.

AC/DC converter (D1, C2, C3, C4, C5) (R-200/R-200K only)

To convert the AC 19V to DC 24V for motor drivers, TPH, and option deice cutter usage.

DC/DC regulator (R-200/R-200K only)

To regulator the 24V input power to 5V, to be used as the power supply for micro-controller, EPROM, DRAM…etc.

DC/DC converter (U20, L1, D2)

To convert the 24V input power to 5V, to be used as the power supply for micro-controller, EPROM, DRAM…etc.

Relay (RY2)

To prevent the TPH from being damaged by the unstable power condition when the printer is switched on, RY2 disconnected the power supply (24V) to the TPH. RY2 has to be activated before printing.

Extension slot (JP11)

This slot designate for the connection of all the optional extension modules.

USB (U2) (R-400plus/R-400Kplus only)

To convert between the data form address bus and data bus to USB D+ and D- differential signal.

10.2 Panel board block diagram and description

The Panel board consists of three push bottom switches and three LED indicators for user's access, status ,and error indication.
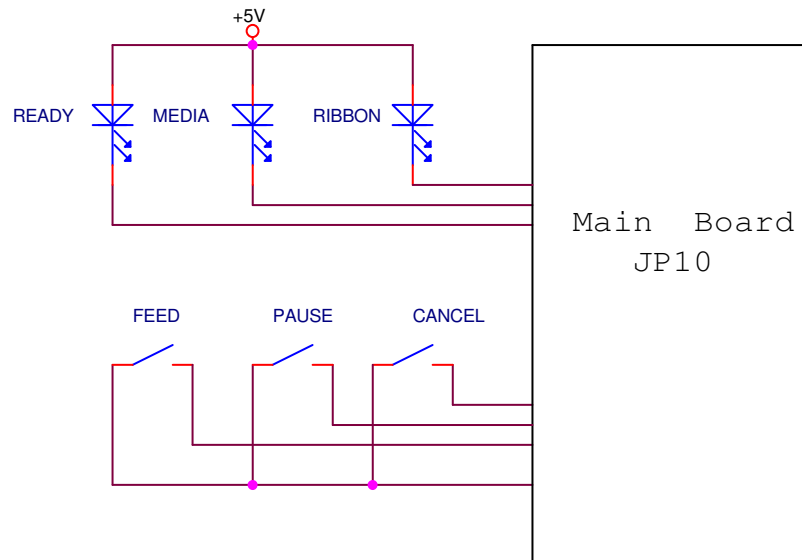
Figure 10-7 Panel Board Diagram

10.3 Sensor board diagram and description

The circuit of all the sensor board (Media sensor board, Ribbon sensor board and Peeler board) is identical. A reflective sensor is used for these purposes.
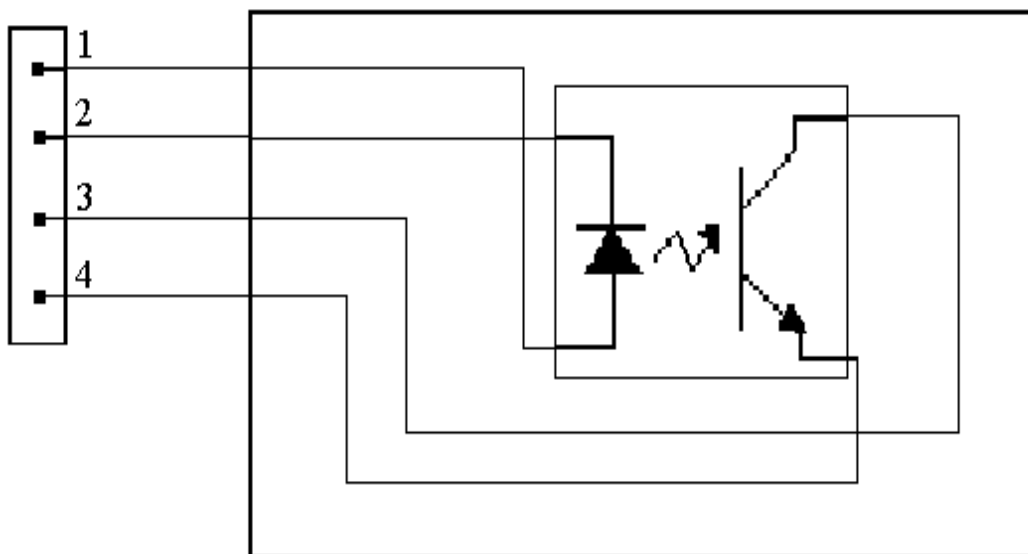
Figure 10-8 Sensor Board Diagram

10.4 Wiring diagram
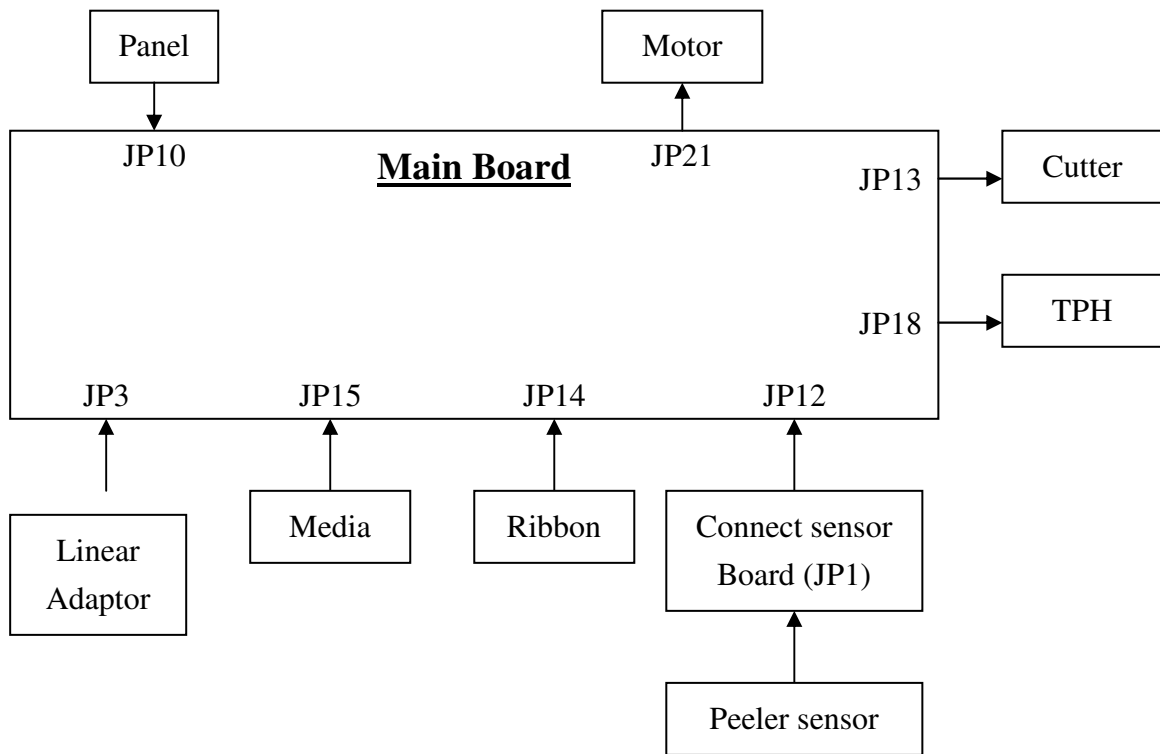
Figure 10-9 Wiring Diagram (R-200/R-200K)
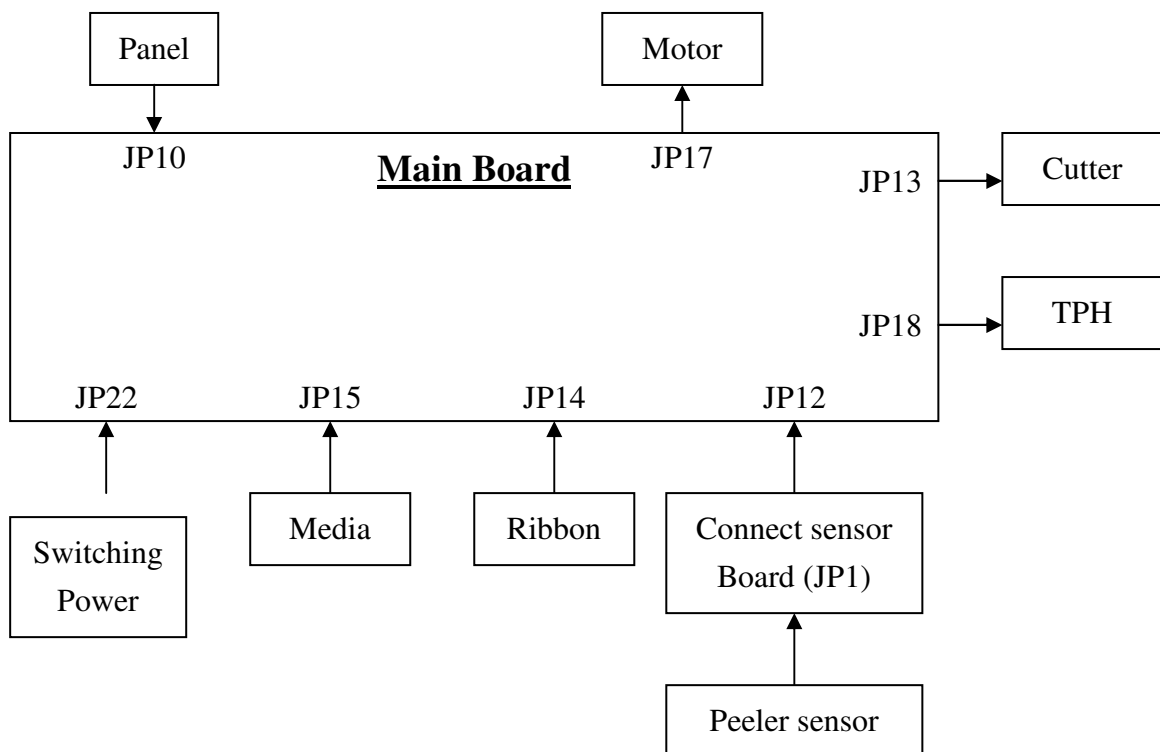
Figure 10-10 Wiring Diagram (R-400/R-400K, and R-600)
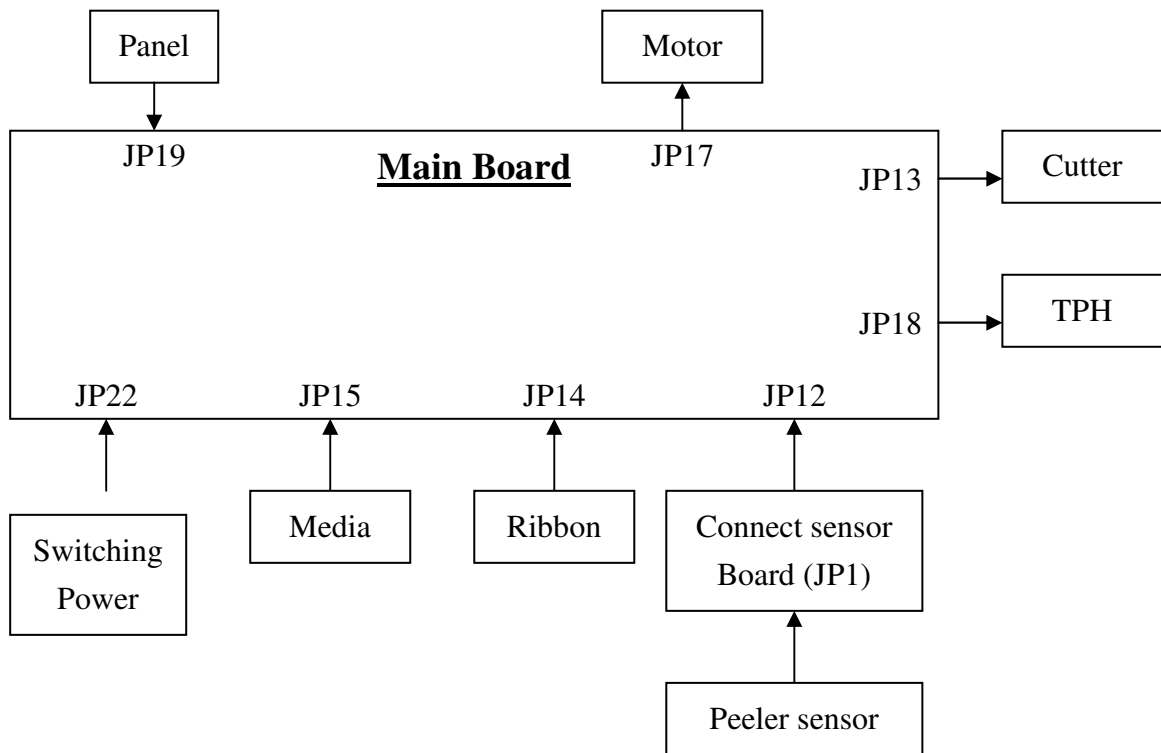
Figure 10-11 Wiring Diagram (R400plus/R400Kplus)

11. RECOMMENDED SPARE PARTS

➢ **R-200/R-200K spare parts**

Part Number	Description
55-R2000-001	R-200 Main Board
55-R4005-002	R-series Connect Sensor Board
55-R4001-011	R-series Panel Board
55-R4002-011	R-series Paper Sensor Board
55-R4003-012	R-series Ribbon Sensor Board
23-80004-002	R-200 Thermal Print Head
22-80024-006	Stepping Motor
50-20401-001	RS232 Cable
59-R2001-001	Linear Adaptor
59-R4003-001	Core Adapter (Ribbon)
59-R4002-001	Cutter (Option)
59-R4001-003	Dispenser Kit (Option)
42-R4020-011	Holder-Paper

➢ **R-400/R-400K spare parts**

Part Number	Description
55-R4000-005	R-series Main Board
55-R4005-002	R-series Connect Sensor Board
55-R4001-001	R-series Panel Board
55-R4002-001	R-series Paper Sensor Board
55-R4003-002	R-series Ribbon Sensor Board
23-80013-001	R-400 Thermal Print Head
22-80024-006	Stepping Motor
50-20401-001	RS232 Cable
98-R4003-002	Switching Power Supply
59-R4003-001	Core Adapter (Ribbon)
59-R4002-004	Cutter (Option)
59-R4001-003	Dispenser Kit (Option)
42-R4025-001	Holder-Paper

➤ **R-400plus/R-400Kplus spare parts**

Part Number	Description
55-R4000-007	R-series Main Board
55-R4005-001	R-series Connect Sensor Board
55-R4001-011	R-series Panel Board
55-R4002-001	R-series Paper Sensor Board
55-R4003-012	R-series Ribbon Sensor Board
23-80013-001	R-400plus Thermal Print Head
22-80024-006	Stepping Motor
50-20401-001	RS232 Cable
98-R4003-002	Switching Power Supply
59-R4003-001	Core Adapter (Ribbon)
59-R4002- 004	Cutter (Option)
59-R4001-003	Dispenser Kit (Option)
42-R4025-001	Holder-Paper

➤ **R-600 spare parts**

Part Number	Description
55-R4000-005	R-series Main Board
55-R4005-002	R-series Connect Sensor Board
55-R4001-001	R-series Panel Board
55-R4002-001	R-series Paper Sensor Board
55-R4003-002	R-series Ribbon Sensor Board
23-83424-001	R-600 Thermal Print Head
22-80024-006	Stepping Motor
50-20401-001	RS232 Cable
98-R4003-002	Switching Power Supply
59-R4003-001	Core Adapter (Ribbon)
59-R6001-003	Cutter (Option)
59-R4001-002	Dispenser Kit (Option)
72-R4025-001	Holder-Paper

12. ASSEMBLY DRAWING

R-200 ASS'Y DRAWING
DOC.NO.:328 VERSION: 3
DATE:2006.8.8

ITEM	PART NUMBER	DESCRIPTION	Q'TY	REMARK
96	33.R4020.001	BRACKET-SPRING2	1	
97	42.R4023.001	BUSH-RIBBON	1	
98	33.R4019.001	BRACKET-ADJ	1	
99	35.R4001.002	SHAFT-HOLDER1_V2	1	
100	88.1230I.C06	WASHER-SPRING	2	050922
A	86.IA324.4R0	SCREW M3X4 BLACK	6	
B	86.VA324.4R0	SCREW T3X4 BLACK	13	
C	86.VA324.6R0	SCREW T3X6 BLACK	23	
D	86.AA324.6R0	SCREW T3X6 (T) BLACK	7	
E	86.5A524.5R0	FLAT HEAD	4	
F	86.VG524.6R0	SCREW T3X6 WASHER	2	
G	86.IA324.6R0	SCREW M3X6 Black	1	
H	88.8I241.806	E-RING #5	5	
I	88.8I241.606	E-RING #3	14	
J	88.8I241.A08	E-RING #6	2	
K	88.8I241.406	E-RING #4	2	
L	86.VA324.8R0	SCREW T3X8	6	
M	86.VA424.370	SCREW T3X37	2	
N	86.IA522.2R0	SCREW M2X2 NI	2	
O	86.AA522.6R0	SCREW T2X6	4	
P	86.IA524.8R0	SCREW M3X8 NI	1	

ITEM	PART NO.	DESCRIPTION	Q'TY	REMARK
1	90.R4002.011	COVER-MODULE		R2-series
2	39.R4002.003	MIDCOVER	1	060808
3	39.R4004.022	BOTTOM		R2-series
4	90.R4001.005	CHASSIS MODULE	1	060808
5	90.R4003.017	CHASSIS2 MODULE_V7	1	050922
6	42.R4004.003	PAPER-GUIDE(R)_V3	1	050922
7	42.R4003.003	PAPER-GUIDE(L)_V3	1	050922
8	32.R4004.001	GEAR 33T	3	
9	35.R4004.003	SHAFT-FIBER	2	
10	34.R4004.001	BUSH 4	4	
11	42.R4010.001	BUSH-RIBBON	1	
12	47.R4001.001	FIBER	4	
13	40.R4005.001	PLATE-FIBER	1	
14	34.R4010.002	SPRING-FIBER2	1	
15	42.R4011.001	BUSH-RIBBON	2	
16	34.R4007.002	SPRING-RIBBON2	1	
17	34.R4009.002	SPRING-FIBER1	1	
18	33.R4010.001	BRACKET-SPRING	1	
19	34.R4001.001	BUSH 1	4	
20				
21	32.R4003.001	GEAR 66T	1	
22	33.R4009.001	BRACKET-FIBER	1	
23	33.R4001.001	BRACKET-GEAR1	1	
24	32.R4005.001	GEAR 46T	1	
25	59.R4003.001	CORE ADAPTER(RIBBON)	2	
26	35.R4010.001	ROLLER	1	
27	32.21406.003	GEAR 42T	2	
28	34.R4003.001	BUSH 2	2	
29	34.21408.001	RUBBER FOOT	4	
30	22.80024.006	MOTOR	1	
31	32.R4002.001	GEAR 20X39T	1	
32	32.21407.001	GEAR 66X17T	1	
33	33.R4016.003	SPRING-TOPCOVER	1	
34	42.R4012.001	PAPER-SENSOR	1	060808
35	32.R4007.001	PLASTIC GEAR	1	
36	33.R4002.002	BRACKET-GEAR2	1	
37	33.R4004.003	BRACKET-SWITCH(L)	1	
38	34.R4016.001	SPRING-BUTTON(L)	1	
39	33.R4007.001	BRACKET-SHAFT(L)	1	
40	34.R4012.001	SPRING-CHASSIS(L)	1	
41	42.R4005.001	BUTTON-CHASSIS1	2	
42	35.R4001.001	SHAFT-HOLDER1	1	
43	42.R4001.001	HOLDER-RIB	2	
44	88.2I31I.409	WASHER(SW)	4	
45	42.R4002.002	HOLDER-RIB2_V2	2	
46	34.R4006.003	SPRING-RIBBON_V3	2	
47	35.R4003.001	SHAFT-HOLDER3	2	
48	34.R4015.001	SPRING-CHASSIS(R)	1	
49	35.R4008.002	SHAFT2-CHASSIS	1	
50	32.R4006.001	GEAR 48T	1	
51	33.R4005.002	BRACKET-SWITCH(R)	1	
52	34.R4017.001	SPRING-BUTTON(R)	1	
53	33.R4008.001	BRACKET-SHAFT(R)	1	
54	34.R4011.001	SPRING-TPH	2	
55	33.R4003.006	BRACKET-TPH_V6	1	
56	23.80004.002	RDHM-TPH	1	
57	55.R4003.012	RIBBON-SENSOR BOARD	1	
58	33.R4011.003	COVER-TPH	1	
59	35.R6001.001	SHAFT-TPH(L)	1	050922
60	35.R4007.002	SHAFT1-CHASSIS	1	
61	39.R4003.011	COVER-A	1	
62	42.R4024.01	DISK-HOLDER	2	
63	42.R4025.001	HOLDER-PAPER	1	
64	34.R6001.001	SPRING-SHAF(R)	1	050922
65	35.R6002.001	SHAFT-TPH(R)	1	050922
66				
67	42.R4007.002	BUTTON-TOP(R)	1	R200
68	42.R4006.002	BUTTON-TOP(L)	1	R200
69	42.R4008.001	BUTTON(3-key)	1	
70	55.R4001.001	PANEL BOARD	1	060808
71	33.R4006.001	BRACKET-PEELER	1	
72	33.R4014.002	BRACKET-CONNECTOR	1	
73	38.05008.001	SPACE-SUPPORT	1	
74	55.R4005.002	CONNECT-PCB_V2	1	
75	55.R4002.001	PAPER-SENSOR	1	
76	33.R4012.001	BRACKET-COVER1	1	
77	32.R4001.001	GEAR 20X32T	1	
78	42.R4014.001	RACK2-PAPER	2	
79	33.R4015.001	SPRING-RACK2	1	
80	33.R4013.001	BRACKET-COVER2	1	
81	55.R2000.001	MAINBOARD	1	R2-series
82				
83	34.R4015.001	SPRING-PEELER(R)	1	
84	34.R4014.001	SPRING-PEELER(L)	1	
85	42.R4019.001	PEELER-SWITCH(R)	1	
86	35.R4005.002	SHAFT-PEELER_V2	1	
87	35.R4006.001	SHAFT-PEELER2	1	
88	42.R4017.001	PEELER-SWITCH(L1)	1	
89	42.R4018.001	PEELER-SWITCH(L2)	1	
90	39.R4007.002	PEELER-COVER	1	
91	55.R4004.001	PEELER-SENSOR	1	
92	33.20070.001	SPRING-RIBBON	4	
93	32.R6001.001	GEAR 22X33T	1	
94	47.R4004.001	WASHER-SPRING	1	
95	47.R4005.001	WASHER2	2	

R-200

ASS'Y DRAWING(R-200)

ARGOX

PART NO. 99-R2002-000

A1 594m/mX840m/m

ARGOX
Empower the Barcode

R-200K ASS'Y DRAWING
DOC.NO.:328 VERSION: 3
DATE:2006.8.8

R-200K

ITEM	PART NUMBER	DESCRIPTION	Q'TY	REMARK
96	33.R4020.001	BRACKET-SPRING2	1	
97	42.R4023.001	BUSH-RIBBON(WHITE)	1	R200K
98	33.R4019.001	BRACKET-ADJ	1	R200K
99	35.R4001.002	SHAFT-HOLDER1 V2	1	
100	88.I2301.C06	WASHER-SPRING	2	050922
A	86.1A324.4R0	SCREW M3X4 BLACK	6	
B	86.VA824.4R0	SCREW T3X4 BLACK	13	
C	86.VA324.6R0	SCREW T3X6 BLACK	23	
D	86.AA324.6R0	SCREW T3X6 (T) BLACK	7	
E	86.5A524.5R0	FLAT HEAD	4	
F	86.VG524.6R0	SCREW T3X6 WASHER	2	
G	86.1A324.6R0	SCREW M3X6 Black	1	
H	88.8I241.806	E-RING #5	5	
I	88.8I241.606	E-RING #3	14	
J	88.8I241.A08	E-RING #6	2	
K	88.8I241.406	E-RING #4	2	
L	86.VA324.8R0	SCREW T3X8	6	
M	86.VA424.370	SCREW T3X37	2	
N	86.1A522.2R0	SCREW M2X2 NI	2	
O	86.1A522.6R0	SCREW T2X6	4	
P	86.1A524.8R0	SCREW M3X8 NI	1	

ITEM	PART NO	DESCRIPTION	Q'TY	REMARK
1	90.R4002.001	COVER-MODULE	1	R2-series
2	39.R4002.003	MIDCOVER	1	060808
3	39.R4004.021	BOTTOM	1	R2-series
4	90.R4001.005	CHASSIS MODULE	1	060808
5	90.R4003.007	CHASSIS2 MODULE V7	1	050922
6	42.R4004.003	PAPER-GUIDE(R) V3	1	050922
7	42.R4003.003	PAPER-GUIDE(L) V3	1	050922
8	32.R4004.001	GEAR 33T	3	
9	35.R4004.003	SHAFT-FIBER	2	
10	34.R4004.001	BUSH-4	4	
11	42.R4010.001	BUSH-RIBBON	1	
12	47.R4001.001	FIBER	4	
13	40.R4005.001	PLATE-FIBER	1	
14	34.R4010.002	SPRING-FIBER2	1	
15	42.R4011.001	BUSH-RIBBON	2	
16	34.R4007.002	SPRING-RIBBON2	1	
17	34.R4009.002	SPRING-FIBER1	1	
18	33.R4010.001	BRACKET-SPRING	1	
19	34.R4001.001	BUSH 1	4	
20				
21	32.R4003.001	GEAR 66T	1	
22	33.R4009.001	BRACKET-FIBER	1	
23	33.R4001.001	BRACKET-GEAR1	1	
24	32.R4008.001	GEAR 46T	1	
25	59.R4005.001	CORE ADAPTER(RIBBON)	2	
26	35.R4010.001	ROLLER	1	
27	32.21406.003	GEAR 42T	2	
28	34.R4003.001	BUSH 2	2	
29	34.21408.001	RUBBER FOOT	4	
30	22.B0024.006	MOTOR	1	
31	32.R4002.001	GEAR 20X39T	1	
32	32.21407.001	GEAR 66X17T	1	
33	33.R4016.003	SPRING-TOPCOVER	1	
34	42.R4012.004	PAPER-SENSOR	1	060808
35	32.R4007.001	PLASTIC GEAR	1	
36	33.R4002.002	BRACKET-GEAR2	1	
37	33.R4004.003	BRACKET-SWITCH(L)	1	
38	34.R4016.001	SPRING-BUTTON(L)	1	
39	33.R4007.001	BRACKET-SHAF(L)	1	
40	34.R4012.001	SPRING-CHASSIS(L)	1	
41	42.R4005.001	BUTTON-CHASSIS1	2	
42	35.R4001.001	SHAFT-HOLDER1	1	
43	42.R4001.001	HOLDER-RIB	2	
44	88.2I121.409	WASHER(SW)	4	
45	42.R4002.002	HOLDER-RIB2 V2	1	
46	34.R4006.003	SPRING-RIBBON V3	2	
47	35.R4003.001	SHAFT-HOLDER3	2	
48	34.R4013.001	SPRING-CHASSIS(R)	1	
49	35.R4008.002	SHAFT2-CHASSIS	1	
50	32.R4006.001	GEAR 48T	1	
51	33.R4005.002	BRACKET-SWITCH(R)	1	
52	34.R4017.001	SPRING-BUTTON(R)	1	
53	33.R4008.001	BRACKET-SHAF(R)	1	
54	34.R4011.004	SPRING-TPH	2	
55	33.R4003.006	BRACKET-TPH V6	1	
56	22.B0004.002	TPH-TPH	1	
57	55.R4003.012	RIBBON-SENSOR BOARD	1	
58	33.R4011.003	COVER-TPH	1	
59	35.R6001.001	SHAFT-TPH(L)	1	050922
60	35.R4007.002	SHAFT1-CHASSIS	1	
61	39.R4003.011	COVER-A	1	
62	42.R4024.011	DISK-HOLDER	2	
63	42.R4025.001	HOLDER-PAPER	1	
64	34.R6001.001	SPRING-SHAF(R)	1	050922
65	35.R6002.001	SHAFT-TPH(R)	1	050922
66				
67	42.R4007.012	BUTTON-TOP(R)	1	R200K
68	42.R4006.012	BUTTON-TOP(L)	1	R200K
69	42.R4008.001	BUTTON(3-key)	1	
70	55.R4001.011	PANEL BOARD	1	060808
71	33.R4006.001	BRACKET-PEELER	1	
72	33.R4014.002	BRACKET-CONNECTOR	1	
73	38.05008.001	SPACE-SUPPORT	1	
74	55.R4005.002	CONNECT-PCB V2	1	
75	55.R4002.001	PAPER-SENSOR	1	
76	33.R4012.001	BRACKET-COVER1	1	
77	32.R4001.001	GEAR 20X26T	1	
78	42.R4014.001	RACK2-PAPER	2	
79	33.R4015.001	SPRING-RACK2	1	
80	33.R4013.001	BRACKET-COVER2	1	
81	55.R2000.001	MAINBOARD	1	R2-series
82				
83	34.R4015.001	SPRING-PEELER(R)	1	
84	34.R4014.001	SPRING-PEELER(L)	1	
85	42.R4019.001	PEELER-SWITCH(R)	1	
86	35.R4005.002	SHAFT-PEELER V2	1	
87	35.R4006.001	SHAFT-PEELER2	1	
88	42.R4017.001	PEELER-SWITCH(L1)	1	
89	42.R4018.001	PEELER-SWITCH(L2)	1	
90	39.R4007.002	PEELER-COVER	1	
91	55.R4004.001	PEELER-SENSOR	1	
92	33.20070.003	SPRING-RIBBON	4	
93	32.R6001.001	GEAR 22X33T	1	
94	47.R4004.001	WASHER-SPRING	1	
95	47.R4005.001	WASHER2	2	

NAME: ASS'Y DRAWING(R-200K)
ARGOX
PART NO. 99-R2002-001
A1 594m/mX840m/m

R-400plus ASS'Y DRAWING
DOC.NO.:328 VERSION: 3
DATE:2006.8.8

ITEM	PART NUMBER	DESCRIPTION	Q'TY	REMARK
96	33.R4020.001	BRACKET-SPRING2	1	
97	42.R4023.001	BUSH-RIBBON	1	
98	33.R4019.001	BRACKET-ADJ	1	
99	35.R4001.002	SHAFT-HOLDER1 V2	1	
100	88.I2301.C06	WASHER-SPRING	2	050922
A	86.IA324.4R0	SCREW M3X4 BLACK	6	
B	86.VA824.4R0	SCREW T3X4 BLACK	13	
C	86.VA324.6R0	SCREW T3X6 BLACK	27	
D	86.AA324.6R0	SCREW T3X6 (T) BLACK	7	
E	86.5A524.5R0	FLAT HEAD	4	
F	86.VG524.6R0	SCREW T3X6 WASHER	2	
G	86.IA324.6R0	SCREW M3X6 Black	1	
H	88.8I241.806	E-RING #5	5	
I	88.8I241.606	E-RING #3	14	
J	88.8I241.A08	E-RING #6	2	
K	88.8I241.406	E-RING #4	2	
L	86.VA324.8R0	SCREW T3X8	6	
M	86.VA424.370	SCREW T3X37	2	
N	86.IA522.2R0	SCREW M2X2 NI	2	
O	88.IA522.6R0	SCREW T2X6	4	
P	86.IA524.8R0	SCREW M3X8 NI	1	

ITEM	PART NO	DESCRIPTION	Q'TY	REMARK
1	90.R4002.001	COVER-MODULE	1	
2	33.R4002.003	MIDCOVER	1	060808
3	39.R4004.004	BOTTOM USB	1	
4	90.R4001.005	CHASSIS MODULE	1	060808
5	90.R4003.007	CHASSIS2 MODULE V7	1	050922
6	42.R4004.003	PAPER-GUIDE(R) V3	1	050922
7	42.R4003.003	PAPER-GUIDE(L) V3	1	050922
8	32.R4004.001	GEAR 33T	3	
9	35.R4004.003	SHAFT-FIBER	3	
10	34.R4004.001	BUSH 4	4	
11	42.R4010.001	BUSH-RIBBON	4	
12	47.R4001.001	FIBER	4	
13	40.R4005.001	PLATE-FIBER	1	
14	34.R4010.002	SPRING-FIBER2	1	
15	42.R4011.001	BUSH-RIBBON	2	
16	34.R4007.002	SPRING-RIBBON2	1	
17	34.R4009.002	SPRING-FIBER1	1	
18	33.R4010.001	BRACKET-SPRING	1	
19	34.R4001.001	BUSH	4	
20	47.A2009.001	RUBBER-USB(BLACK)	1	050922
21	32.R4009.001	GEAR 66T	1	
22	33.R4009.001	BRACKET-FIBER	1	
23	32.R4001.001	BRACKET-GEAR1	1	
24	32.R4005.001	GEAR 46T	1	
25	559.R4003.001	CORE ADAPTER(RIBBON)	2	
26	35.R4010.001	ROLLER	1	
27	32.21406.003	GEAR 42T	2	
28	34.R4003.001	BUSH 2	1	
29	34.21408.001	RUBBER FOOT	4	
30	22.80024.006	MOTOR	1	
31	32.R4002.001	GEAR 20X39T	1	
32	32.21407.001	GEAR 66X17T	1	
33	33.R4016.001	SPRING-TOPCOVER	1	
34	42.R4012.004	PAPER-SENSOR	1	060808
35	32.R4007.001	PLASTIC GEAR	1	
36	33.R4002.002	BRACKET-GEAR2	1	
37	33.R4004.003	BRACKET-SWITCH(L)	1	
38	34.R4016.001	SPRING-BUTTON(L)	1	
39	33.R4007.001	BRACKET-SHAFT(L)	1	
40	34.R4012.001	SPRING-CHASSIS(L)	1	
41	42.R4005.001	BUTTON-CHASSIS	2	
42	35.R4001.001	SHAFT-HOLDER1	2	
43	42.R4001.001	HOLDER-RIB	2	
44	88.21131.409	WASHER(SW)	4	
45	42.R4002.002	HOLDER-RIB2 V2	1	
46	34.R4006.003	SPRING-RIBBON V3	1	
47	35.R4003.001	SHAFT-HOLDER3	2	
48	34.R4013.001	SPRING-CHASSIS(R)	1	
49	35.R4008.001	SHAFT2-CHASSIS	1	
50	32.R4006.001	GEAR 48T	1	
51	33.R4005.002	BRACKET-SWITCH(R)	1	
52	34.R4017.001	SPRING-BUTTON(R)	1	
53	33.R4008.001	BRACKET-SHAFT(R)	1	
54	34.R4011.004	SPRING-TPH	2	
55	33.R4003.007	BRACKET-TPH V7	1	R4-series
56	23.80013.001	RO-M-TPH	1	
57	55.R4003.012	RIBBON-SENSOR BOARD	1	
58	33.R4011.003	COVER-TPH	1	
59	35.R6001.001	SHAFT-TPH(L)	1	050922
60	35.R4007.002	SHAFT1-CHASSIS	1	
61	39.R4003.001	COVER-A	1	
62	42.R4024.011	DISK-HOLDER	2	
63	42.R4025.001	HOLDER-PAPER	1	
64	34.R6001.001	SPRING-SHAFT(R)	1	050922
65	35.R6002.001	SHAFT-TPH(R)	1	050922
66				
67	42.R4007.002	BUTTON-TOP(R)	1	
68	42.R4006.002	BUTTON-TOP(L)	1	
69	42.R4008.001	BUTTON3-key)	1	
70	55.R4001.011	PANEL BOARD	1	060808
71	33.R4006.001	BRACKET-PEELER	1	
72	33.R4014.002	BRACKET-CONNECTOR	1	
73	38.05008.001	SPACE-SUPPORT	1	
74	55.R4005.002	CONNECT-PCB V2	1	
75	55.R4002.001	PAPER-SENSOR	1	
76	33.R4012.001	BRACKET-COVER1	1	
77	32.R4001.001	GEAR 20X26T	1	
78	42.R4014.001	RACK2-PAPER	2	
79	33.R4015.001	SPRING-RACK2	1	
80	33.R4013.001	BRACKET-COVER2	1	
81	55.R4000.007	MAINBOARD	1	060808
82	99.R4003.002	R400 SWITCHING POWER	1	
83	34.R4015.001	SPRING-PEELER(R)	1	
84	34.R4014.001	SPRING-PEELER(L)	1	
85	42.R4019.001	PEELER-SWITCH(R)	1	
86	35.R4005.002	SHAFT-PEELER V2	1	
87	35.R4006.001	SHAFT-PEELER2	1	
88	42.R4017.001	PEELER-SWITCH(L1)	1	
89	42.R4018.001	PEELER-SWITCH(L2)	1	
90	39.R4007.002	PEELER-COVER	1	
91	55.R4004.001	PEELER-SENSOR	1	
92	33.20070.003	SPRING-RIBBON	4	
93	34.R6001.001	GEAR 22X33T	1	
94	47.R4004.001	WASHER-SPRING	1	
95	47.R4005.001	WASHER2	2	

R-400plus

NAME ASS'Y DRAWING(R-400)
ARGOX
PART NO. 99-R4002-000
A1 594m/mX840m/m

R-400K plus ASS'Y DRAWING
DOC.NO.:328 VERSION: 3
DATE:2006.8.8

ITEM	PART NUMBER	DESCRIPTION	Q'TY	REMARK
96	33.R4020.001	BRACKET-SPRING2	1	
97	42.R4023.011	BUSH-RIBBON(WHITE)	1	R200K
98	33.R4019.001	BRACKET-ADJ.	1	
99	35.R4001.002	SHAFT-HOLDER1 V2	1	
100	88.12301.C06	WASHER-SPRING	2	050922
A	86.1A324.4R0	SCREW M3X4 BLACK	6	
B	86.VA824.4R0	SCREW T3X4 BLACK	13	
C	86.VA324.6R0	SCREW T3X6 BLACK	27	
D	86.AA324.6R0	SCREW T3X6 (T) BLACK	7	
E	86.5A524.5R0	FLAT HEAD	4	
F	86.VG524.6R0	SCREW T3X6 WASHER	2	
G	86.1A324.6R0	SCREW M3X6 Black	1	
H	88.8124L.806	E-RING #5	5	
I	88.8124L.606	E-RING #3	14	
J	88.8124L.A08	E-RING #6	2	
K	88.8124L.406	E-RING #4	2	
L	86.VA324.8R0	SCREW T3X8	6	
M	86.VA424.370	SCREW T3X37	2	
N	86.1A522.2R0	SCREW M2X2 NI	2	
O	86.AA522.6R0	SCREW T2X6	4	
P	86.1A524.8R0	SCREW M3X8 NI	1	

ITEM	PART NO.	DESCRIPTION	Q'TY	REMARK
1	90.R4002.001	COVER-MODULE	1	
2	39.R4002.003	MIDCOVER	1	060808
3	39.R4004.004	BOTTOM_USB	1	
4	90.R4001.005	CHASSIS MODULE	1	060808
5	90.R4001.007	CHASSIS2 MODULE V7	1	050922
6	42.R4004.003	PAPER-GUIDE(R) V3	1	050922
7	42.R4003.003	PAPER-GUIDE(L) V3	1	050922
8	34.R4004.001	GEAR 33T	3	
9	35.R4004.003	SHAFT-FIBER	1	
10	34.R4004.001	BUSH 4	4	
11	42.R4010.001	BUSH-RIBBON	1	
12	47.R4001.001	FIBER	4	
13	40.R4005.001	PLATE-FIBER	1	
14	34.R4000.002	SPRING-FIBER2	1	
15	42.R4001.001	BUSH-RIBBON	1	
16	34.R4007.002	SPRING-RIBBON2	2	
17	34.R4009.002	SPRING-FIBER1	1	
18	33.R4010.001	BRACKET-SPRING	1	
19	34.R4001.001	BUSH 1	4	
20	47.A2008.011	RUBBER-USB(BLACK)	1	050922
21	32.R4003.001	GEAR 66T	1	
22	33.R4009.001	BRACKET-FIBER	1	
23	33.R4001.001	BRACKET-GEAR1	1	
24	32.R4005.001	GEAR 46T	1	
25	59.R4003.001	CORE ADAPTER(RIBBON)	2	
26	35.R4010.001	ROLLER	2	
27	32.21406.003	GEAR 42T	1	
28	34.R4003.001	BUSH 2	1	
29	32.21408.001	RUBBER FOOT	4	
30	22.80024.006	MOTOR	1	
31	32.R4002.001	GEAR 20X39T	1	
32	32.21407.001	GEAR 66X17T	1	
33	33.R4016.003	SPRING-TOPCOVER	1	
34	42.R4012.004	PAPER-SENSOR	1	060808
35	32.R4007.001	PLASTIC GEAR	1	
36	33.R4002.002	BRACKET-GEAR2	1	
37	33.R4004.003	BRACKET-SWITCH(L)	1	
38	34.R4016.001	SPRING-BUTTON(L)	1	
39	33.R4007.001	BRACKET-SHAFT(L)	1	
40	34.R4012.001	SPRING-CHASSIS(L)	1	
41	42.R4005.001	BUTTON-CHASSIS	2	
42	35.R4001.001	SHAFT-HOLDER1	1	
43	42.R4001.001	HOLDER-RIB	2	
44	88.21131.409	WASHER(SW)	4	
45	42.R4002.002	HOLDER-RIB2 V2	2	
46	34.R4006.003	SPRING-RIBBON V3	2	
47	35.R4003.001	SHAFT-HOLDER3	1	
48	34.R4013.001	SPRING-CHASSIS(R)	1	
49	35.R4006.002	SHAFT2-CHASSIS	1	
50	32.R4006.001	GEAR 48T	1	
51	33.R4005.002	BRACKET-SWITCH(R)	1	
52	34.R4017.001	SPRING-BUTTON(R)	1	
53	33.R4008.001	BRACKET-SHAFT(R)	1	
54	34.R4011.004	SPRING-TPH	2	
55	33.R4003.007	BRACKET-TPH V7	1	R4-series
56	23.8001.001	ROHM-TPH	1	
57	34.R4003.012	RIBBON-SENSOR BOARD	1	
58	33.R4011.003	COVER-TPH	1	
59	35.R6001.001	SHAFT-TPH(L)	1	050922
60	35.R4007.002	SHAFT1-CHASSIS	1	
61	90.R4003.001	COVER-A	1	
62	42.R4024.001	DISK-HOLDER	2	
63	42.R4025.001	HOLDER-PAPER	1	
64	34.R6000.001	SPRING-SHAFT(R)	1	050922
65	35.R6002.001	SHAFT-TPH(R)	1	050922
66				
67	42.R4007.012	BUTTON-TOP(R)	1	R200K
68	42.R4006.012	BUTTON-TOP(L)	1	R200K
69	42.R4008.001	BUTTON(3-key)	1	
70	55.R4001.01	PANEL_BOARD	1	060808
71	33.R4006.001	BRACKET-PEELER	1	
72	33.R4014.002	BRACKET-CONNECTOR	1	
73	38.05008.001	SPACE-SUPPORT	1	
74	55.R4005.002	CONNECT-PCB V2	1	
75	55.R4002.001	PAPER-SENSOR	1	
76	33.R4012.001	BRACKET-COVER1	1	
77	32.R4001.001	GEAR 20X26T	1	
78	42.R4014.001	RACK2-PAPER	2	
79	33.R4015.001	SPRING-RACK2	1	
80	33.R4013.001	BRACKET-COVER2	1	
81	55.R4000.007	MAINBOARD	1	060808
82	98.R4003.002	R400 SWITCHING POWER	1	
83	34.R4015.001	SPRING-PEELER(R)	1	
84	34.R4014.001	SPRING-PEELER(L)	1	
85	42.R4019.001	PEELER-SWITCH(R)	1	
86	35.R4005.002	SHAFT-PEELER V2	1	
87	35.R4006.001	SHAFT-PEELER2	1	
88	42.R4017.001	PEELER-SWITCH(L1)	1	
89	42.R4018.001	PEELER-SWITCH(L2)	1	
90	39.R4007.002	PEELER-COVER	1	
91	55.R4004.001	PEELER-SENSOR	1	
92	33.20070.003	SPRING-RIBBON	4	
93	32.R6001.001	GEAR 22X33T	1	
94	47.R4004.001	WASHER-SPRING	1	
95	47.R4005.001	WASHER2	2	

R-400K plus

ASS'Y DRAWING R-400K

ARGOX

PART NO. 99-R4002-004

A1 594m/mX840m/m

R-600 ASS'Y DRAWING
DOC.NO.:328 VERSION: 3
DATE:2006.8.8

ITEM	PART NUMBER	DESCRIPTION	Q'TY	REMARK
96	33.R4020.001	BRACKET-SPRING2	1	
97	42.R4023.001	BUSH-RIBBON	1	
98	33.R4019.001	BRACKET-ADJ	1	
99	35.R4001.002	SHAFT-HOLDER1 V2	1	
100	88.I2301.C06	WASHER-SPRING	2	050922
A	86.IA324.4R0	SCREW M3X4 BLACK	6	
B	86.VA824.4R0	SCREW T3X4 BLACK	13	
C	86.VA324.6R0	SCREW T3X6 BLACK	27	
D	86.AA324.6R0	SCREW T3X6 (T) BLACK	7	
E	86.5A524.5R0	FLAT HEAD	4	
F	86.VG524.6R0	SCREW T3X6 WASHER	2	
G	86.IA324.6R0	SCREW M3X6 Black	5	
H	88.8I241.806	E-RING #5	5	
I	88.8I241.606	E-RING #3	14	
J	88.8I241.A08	E-RING #6	2	
K	88.8I241.406	E-RING #4	2	
L	86.VA324.8R0	SCREW T3X8	6	
M	86.VA424.370	SCREW T3X37	2	
N	86.IA522.2R0	SCREW M2X2 NI	2	
O	86.AA522.6R0	SCREW T2X6	4	
P	86.IA524.8R0	SCREW M3X8 NI	1	

ITEM	PART NO.	DESCRIPTION	Q'TY	REMARK
1	90.R4002.011	COVER-MODULE	1	R600
2	39.R4002.013	MIDCOVER	1	R600
3	39.R4004.013	BOTTOM USB	1	R600
4	90.R4001.005	CHASSIS MODULE	1	060808
5	90.R4003.007	CHASSIS2 MODULE V7	1	050922
6	42.R4004.003	PAPER-GUIDE(R) V3	1	050922
7	42.R4003.003	PAPER-GUIDE(L) V3	1	050922
8	32.R4004.001	GEAR 33T	3	
9	35.R4004.007	SHAFT-FIBER	2	
10	34.R4004.001	BUSH-4	4	
11	42.R4010.001	BUSH-RIBBON	1	
12	47.R4001.001	FIBER	4	
13	40.R4005.001	PLATE-FIBER	1	
14	34.R4010.002	SPRING-FIBER2	1	
15	42.R4011.001	BUSH-RIBBON	2	
16	34.R4007.002	SPRING-RIBBON2	1	
17	34.R4009.002	SPRING-FIBER1	1	
18	33.R4010.001	BRACKET-SPRING	1	
19	34.R4001.001	BUSH-1	4	
20	47.A2008.001	RUBBER-USB(GRAY)	1	R600
21	32.R4003.001	GEAR 66T	1	
22	33.R4009.001	BRACKET-FIBER	1	
23	33.R4001.001	BRACKET-GEAR1	1	
24	32.R4005.001	GEAR 46T	1	
25	59.R4003.001	CORE ADAPTER(RIBBON)	2	
26	35.R4010.001	ROLLER	1	
27	32.21406.003	GEAR 42T	2	
28	34.R4003.001	BUSH-2	2	
29	34.21408.001	RUBBER FOOT	4	
30	62.80024.006	MOTOR	1	
31	32.R4002.001	GEAR 20X39T	1	
32	32.21407.001	GEAR 66X17T	1	
33	33.R4016.001	SPRING-TOPCOVER	1	
34	42.R4012.004	PAPER-SENSOR	1	060808
35	32.R4007.001	PLASTIC GEAR	1	
36	33.R4002.005	BRACKET-GEAR2	1	
37	33.R4004.003	BRACKET-SWITCH(L)	1	
38	34.R4016.001	SPRING-BUTTON(L)	1	
39	33.R4007.001	BRACKET-SHAFT(L)	1	
40	34.R4012.001	SPRING-CHASSIS(L)	1	
41	42.R4005.001	BUTTON-CHASSIS	2	
42	35.R4001.001	SHAFT-HOLDER1	2	
43	42.R4001.001	HOLDER-RIB	2	
44	88.8I3L.409	WASHER-S W	4	
45	42.R4002.002	HOLDER-RIB2 V2	2	
46	34.R4006.003	SPRING-RIBBON V3	2	
47	35.R4003.001	SHAFT-HOLDER3	2	
48	34.R4013.001	SPRING-CHASSIS(R)	1	
49	35.R4008.002	SHAFT2-CHASSIS	1	
50	32.R4006.001	GEAR 48T	1	
51	33.R4005.003	BRACKET-SWITCH(R)	1	
52	34.R4017.001	SPRING-BUTTON(R)	1	
53	33.R4008.001	BRACKET-SHAFT(R)	1	
54	34.R4011.004	SPRING-TPH	2	
55	33.R4600.003	BRACKET-TPH V3	1	R600
56	23.80013.001	ROHM-TPH	1	
57	55.R4003.012	RIBBON-SENSOR BOARD	1	
58	33.R4011.001	COVER-TPH	1	
59	35.R4600.001	SHAFT-TPH(L)	1	050922
60	35.R4007.002	SHAFT1-CHASSIS	1	
61	39.R4003.001	COVER-A	1	R600
62	42.R4024.001	DISK-HOLDER	2	
63	42.R4025.001	HOLDER-PAPER	1	
64	34.R6001.001	SPRING-SHAFT(R)	1	050922
65	35.R6002.001	SHAFT-TPH(R)	1	050922
66				
67	42.R4007.012	BUTTON-TOP(R)	1	R600
68	42.R4006.012	BUTTON-TOP(L)	1	R600
69	42.R4008.011	BUTTON(3-key)	1	R600
70	55.R4001.001	PANEL BOARD	1	
71	33.R4006.001	BRACKET-PEELER	1	
72	33.R4014.002	BRACKET-CONNECTOR	1	
73	38.05008.001	SPACE-SUPPORT	1	
74	55.R4005.002	CONNECT-PCB V2	1	
75	55.R4002.002	PAPER-SENSOR	1	
76	33.R4012.001	BRACKET-COVER1	1	
77	32.R4001.001	GEAR 20X26T	1	
78	42.R4014.001	RACK2-PAPER	2	
79	33.R4015.001	SPRING-RACK2	1	
80	33.R4013.001	BRACKET-COVER2	1	
81	55.R4000.005	MAINBOARD	1	
82	98.R4003.002	R400 SWITCHING POWER	1	
83	34.R4015.001	SPRING-PEELER(R)	1	
84	34.R4014.001	SPRING-PEELER(L)	1	
85	42.R4019.001	PEELER-SWITCH(R)	1	
86	35.R4005.002	SHAFT-PEELER V2	1	
87	35.R4006.001	SHAFT-PEELER2	1	
88	42.R4017.001	PEELER-SWITCH(L1)	1	
89	42.R4018.001	PEELER-SWITCH(L2)	1	
90	39.R4007.002	PEELER-COVER	1	
91	55.R4004.001	PEELER-SENSOR	1	
92	33.20070.003	SPRING-RIBBON	4	
93	32.R6001.001	GEAR 22X33T	1	
94	47.R4004.001	WASHER-S-SPRING	1	
95	47.R4005.001	WASHER2	2	

R-600

UNIT OR ASSEMBLY		NAME ASS'Y DRAWING(R-600)	SCALE		DIM		
DSN							STOCK NO.
DFN		MATERIAL					
CKD		FINISH	QTY				SHEETS
APPD		ARGOX		PART NO. 99-R8002-000			

A1 594m/mX840m/m