

# Thermal Printer with Ultra-Low-Profile Cutter Supporting High-Speed Printing **FTP-607 Series**

High-speed printers with printing speed of 150mm/sec. have been added to the ultra-low-profile cutter series. They include dramatic improvements in paper setting and ease of maintenance. These products are optimal for applications in receipts, tickets in various retail equipment, data output in kiosk terminals, etc.

## Overview

The utilization of thermal printers in POS and financial terminals is spreading rapidly due to their printing speed, easy maintenance, improved thermal paper conservation, etc. In addition, there are strong demands for further miniaturization and easier handling together with the expansion of its adoption in retail terminals such as low-end POS/ECR and transaction terminals such as CAT/EFT/Debit. To address these needs, we have developed a proprietary ultra-low-profile cutter. In the FTP-607 series, which are built-in cutter products, it has an ultra-low-profile and is 22mm high. We have also provided products that enable easier handling for avoiding paper jams even when the cutter is locked.

To further improve the product value for our customers and address their demands for faster printing speed, we have added products with an increased speed of 150mm/sec. Furthermore, we have added to the series small-size products in which this ultra-low-profile cutter mechanism that supports high-speed printing, the control board, and the paper holder are contained in a compact unit.

## Application Examples

These products offer an optimal solution for a wide range of applications including receipt issuance, ticket issuance in a variety of retail terminals, receipt issuance at automated multimedia kiosk terminals and digital camera stations, data output for ticket-issuing devices for parking lots, and numbered tickets for waiting in queues.

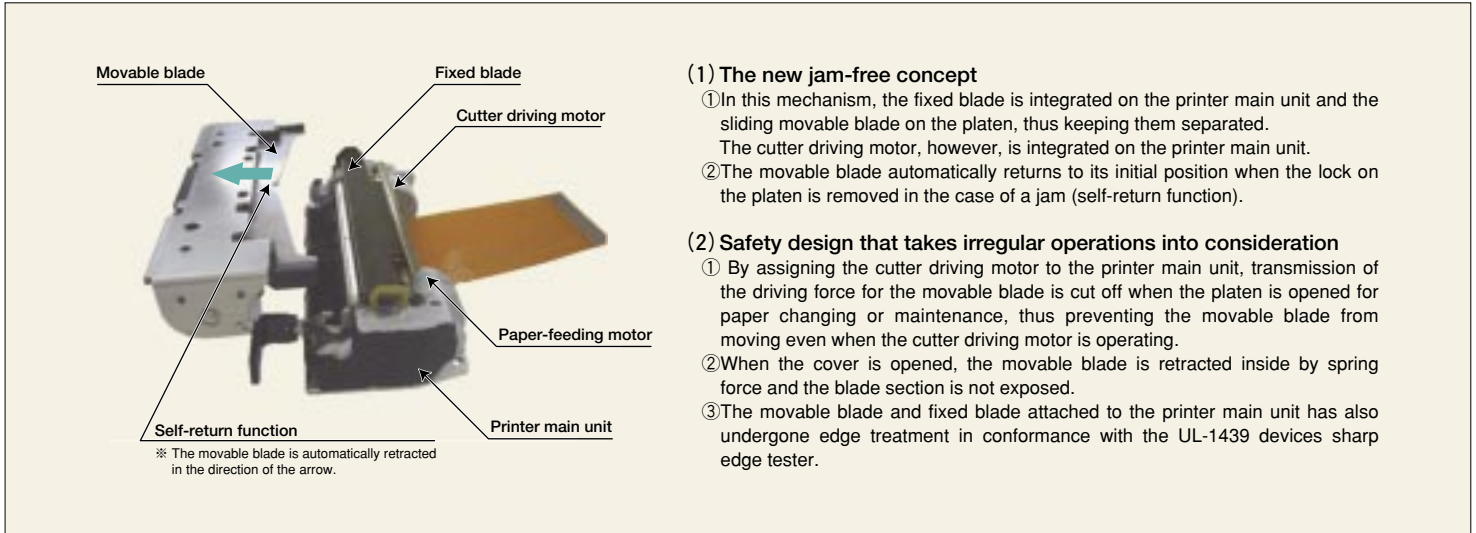
**Photo 1** External View of the Printer Mechanism



**Photo 2** External View of the Receipt Unit



Figure 1 Structure of Printer Mechanism



## Product Features

### ■ Supports high-speed printing

Capable of high-speed printing at a maximum speed of 150mm/sec (1,200-dot line/sec).

### ■ Supports easy paper loading

An easy paper-loading system is adopted with our proprietary locking mechanism that removes the platen from the main unit

with a lever to facilitate easy paper loading.

### ■ Jam-free concept and cutter safety design

It is possible to remove and then re-attach the platen even when there is a paper jam or if the cutter is locked by having the movable blade on the platen side; in this way, paper jams are easily prevented. Taking safety into consideration, the cutter is disengaged from the driving motor and retracted by a spring when the platen is opened for paper loading or maintenance (**Figure 1**).

Table 1 Main Specifications of the Printer Mechanism

Model	FTP-627MCL601	FTP-637MCL601
Printing method	Direct thermal printing method	
Resolution	8 dots/mm	
Paper width	58mm	80mm
Number of dots/printing width	432 dots/54mm	576 dots/72mm
Printing speed	150mm/sec at max.	
Size (W×D×H)	81.2×42.2×21.8mm	104.5×42.2×21.8mm
Weight	Approx. 98g	Approx. 122g
Operation voltage	Head	24VDC
	Paper-feeding/cutter driving motor	24VDC
	Logic	5VDC
Life	Head	Pulse durability: 1×10 <sup>8</sup> pulse/dot    Wear resistance: Paper-feeding distance 100km (printing rate 12.5% or lower)
	Cutter	1 million times

### ■ Supports long-life cutters

A long life of 1 million cuts has been realized with the highly reliable slide cutting method. A special motor for the cutter has also been adopted to enable switching between full cutting and partial cutting (with one point remaining in the center) using a program command.

### ■ Die-cast frame

With the adoption of a die-cast frame, heat accumulation in the motor and the head is reduced during long periods of continuous printing. Furthermore, strong and secure grounding provides high electro static discharge resistance. The rigid die-cast frame results in a high-reliability mechanism that is vibration and impact resistant.

## Support for integrated units

This compact unit adopts a low-profile cutter mechanism that supports high-speed printing and integrates a control board and a paper holder that supports a paper roll diameter of  $\phi 83\text{mm}$ . It supports quick and easy loading, enabling paper setting simply by inserting a new roll of paper. Paper jams can be avoided using the same procedure as that for paper replacement.

The interface conforms to USB and RS-232C and the printing to page mode and line mode. It is capable of two-dimensional barcode printing. A driver software program is provided for use on various OSs.

Manual paper feeding and reset operations are possible. A paper-near-end detection function, platen open detection function, cutter error detection function, and so forth are present to detect the printer status.

## Specifications

**Table 1** presents the main specifications of the printer mechanism and **Table 2** the main specifications of the receipt unit. **Table 3** presents the list of the receipt unit products of the series, **Figures 2** and **3** the external dimensions of the printer mechanism, and **Figure 4** the external dimensions of the receipt unit.

## Future Development

FUJITSU COMPONENT plans to develop a printer mechanism with higher printing speed and add to a series receipt unit products with a paper width of 80mm in the future. \*

### NOTES

\* Company names and brand names in these articles and figures are the trademarks or registered trademarks of their respective owners.

\* OPOS stands for Open POS for OLE.

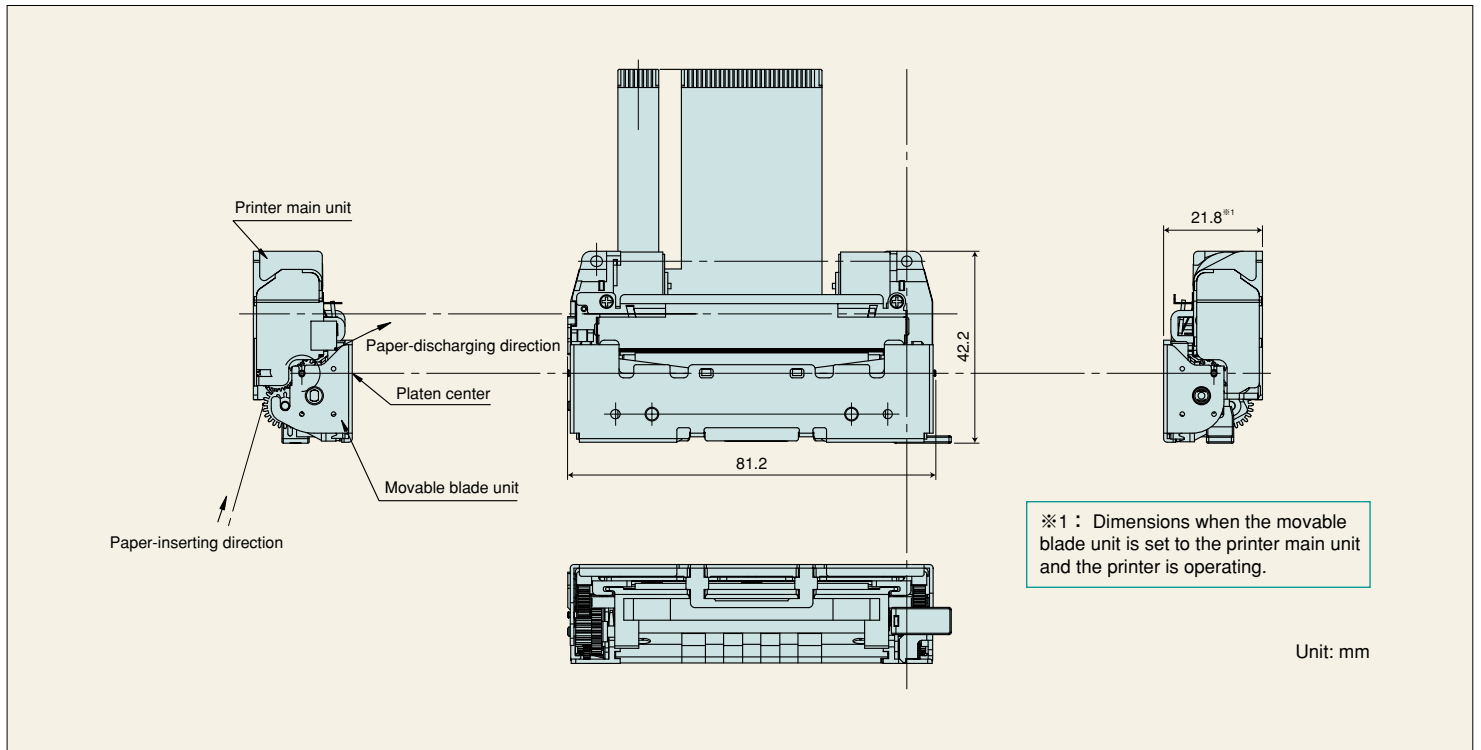
**Table 2** Main Specifications of the Receipt Unit

Item		Specification	
Printing mode		Page mode, line mode	
Printing specification	Built-in characters	Character type	Alphabetical characters, Kanji, special characters
		Character dot configuration (horizontal×vertical dots)	8×16, 12×24, 16×16, 24×24
	Barcode		UPC-A, UPC-E, JAN (EAN) 13, JAN (EAN) 8, CODE39, ITF, CODABAR, CODE128, QR, Maxi, pdf417
	Others		Image printing, printing of registered characters
Function	Manual operation function		Self-test printing, paper feeding, and resetting
	Status detection function		Paper detection, paper near-end detection, platen open detection, and mark detection
	Protective/error detection function		Head motor protection, cutter error detection, and power supply voltage detection
Size (W×D×H)		101.0mm×113.4mm×138.6mm	
Weight		Approx. 600g	
Operation voltage	Head, cutter, paper feeding		24VDC
	Logic		5VDC
Interface	USB V1.1		<ul style="list-style-type: none"> <li>• Data transmission/reception speed: 12Mbps in full-speed mode</li> <li>• Data input/output format: Differential input/output</li> </ul>
	RS-232C		<ul style="list-style-type: none"> <li>• Data reception speed: 19,200, 9,600bps (set by the dip switch)</li> <li>• Synchronous method: asynchronous communication, full duplex communication</li> <li>• Hand shake: by DTR/DSR signal or Xon/Xoff</li> <li>• Input/output level: conforming to RS-232C</li> </ul>
Driver software		Windows 2000/XP, Windows Vista, OPOS, and Linux supported	

**Table 3** Receipt Unit Product Series

Unit model	Paper width	Feature
FTP-627USL631	58mm	USB, rotating shaft detection type
FTP-627USL632		USB, drop-in paper detection type
FTP-627USL635		Conforming to RS-232C, rotating shaft detection type
FTP-627USL636		Conforming to RS-232C, drop-in paper detection type

**Figure 2** External Dimensions of the Printer Mechanism (58mm paper width product)



**Figure 3** External Dimensions of the Printer Mechanism (80mm paper width product)

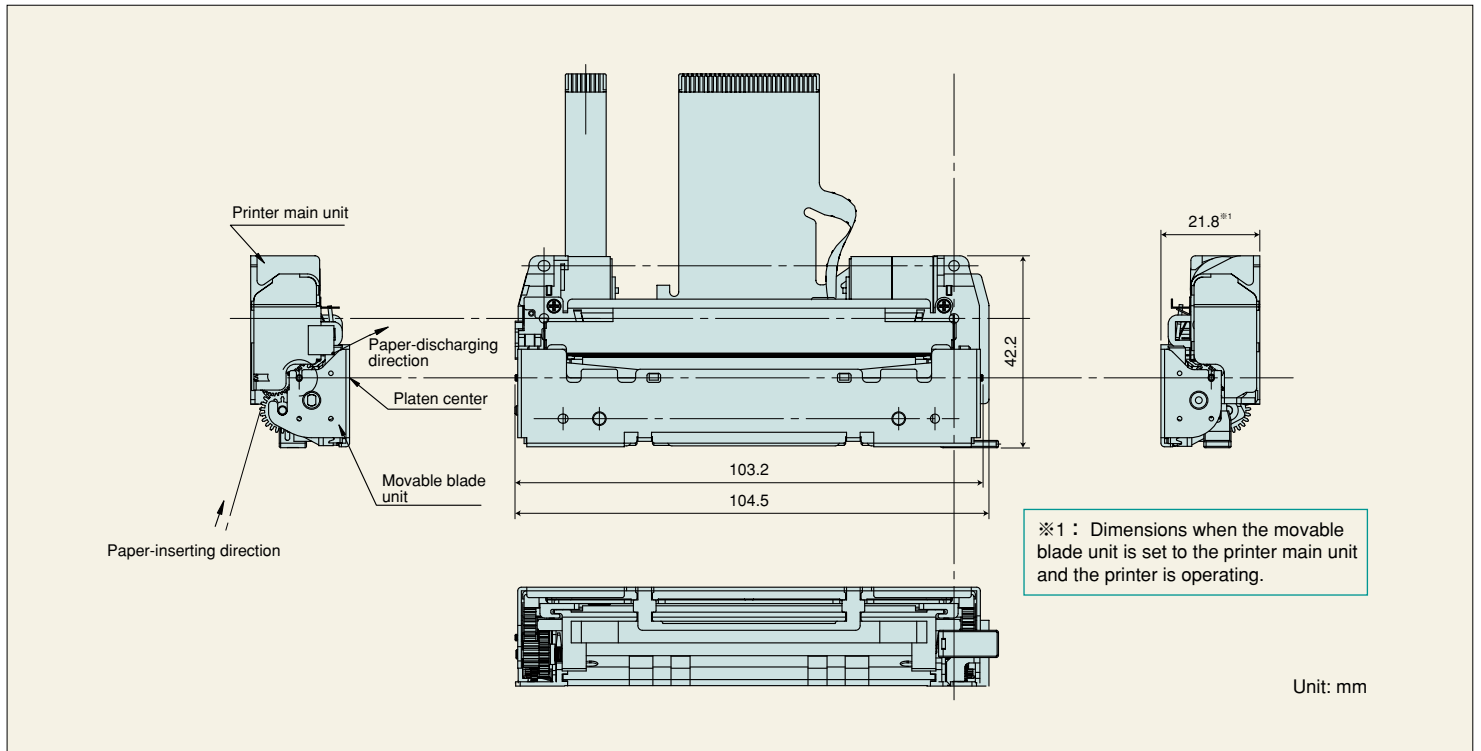


Figure 4 External Dimensions of the Receipt Unit

