Multi LABELIST Component
Reference Manual
Ver.5.9.4.0

SATO CORPORATION

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Introduction

Thank you for using “Multi LABELIST Component” (hereinafter referred to as MLComponent). MLComponent is a .NET component developed to add the label/tag print function to the customer’s application using the assets of our general-purpose label/tag print software “Multi LABELIST V5” (hereinafter referred to as MLV5).

Although some functions of MLV5 are omitted in order to construct a label/tag print system with a high degree of freedom, layout files created with MLV5 can be output from various devices such as USB, LAN, COM (serial port), SATO printer driver. MLComponent supports the status monitoring function to get the printer status.

This manual explains the properties and methods of MLComponent.
Refer to “**MLComponent Technique Manual**” for usage by application, and “**MLComponent Training Manual**” for those using ML products for the first time.

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- The contents of this manual are subject to change without notice for correction and improvement.
- SATO CORPORATION cannot accept responsibility for the results of using this manual.
- Every effort has been made to ensure the contents of this manual are correct, but contact us if you have any questions or concerns.

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Chapter 1

Product Information

1-1 Required Hardware and Software

■Hardware ■Software

You need the following hardware and software to use MLComponent.

■ Hardware

An environment in which an OS that meets the following requirements can be run

- Hard disk with 5 MB or more free space
- SATO Label Printer

■ Software

Supported OS

Windows 10, Windows 8.1,
Windows Server 2016, Windows Server 2012 R2, Windows Server 2012

Execution environment*1

.NET Framework 4.5/4.6/4.7/4.8

Development tools that have been checked for operations

Visual studio 2019 (Visual Basic, C#)
Visual studio 2017 (Visual Basic, C#)
Visual Studio 2015（Visual Basic, C#）
Visual Studio 2013（Visual Basic, C#）
Visual Studio 2012（Visual Basic, C#）
Visual Studio 2010（Visual Basic, C#）
Excel 2010, Access 2010

*1 A version supported by Microsoft is recommended.
https://support.microsoft.com/ja-jp/help/17455/lifecycle-faq-net-framework

1-2 MLComponent Functions Lists

■Properties ■Methods

Properties, methods, and exceptions that can be used in MLComponent are described in the lists.

■ Properties

Property name	Overview	Initial value
Communication settings		
Setting	Communication parameter setting	LAN:127.0.0.1
Protocol	Communication protocol setting	0 (Status 3)
Timeout	Communication timeout value setting	3
StatusID	Status ID setting	0
JobName	Job name setting	Null character
General settings		
LayoutFile	Layout file setting	Default.mllayx
PrnData	Print data setting	Null character
PrnDataType	Print data type setting	Tsv
Printer operation settings		
Darkness	Print darkness setting	S (depends on the layout)
Speed	Print speed setting	S (depends on the layout)
Offset	Print offset value setting	0,0000,0,0000
MultiCut	Cut position setting	0 (Do not cut).
SortMark	Sort mark print setting	False (Do not print)
EjectCut	Eject cut setting	False (Do not cut).
HeaderTailSetting	Header and tail labels setting	False (Do not print)
HeaderFile	To get the header label	Null character
TailFile	To get the tail label	Null character
Special settings		
Formoverlay	Form overlay setting	0 (Do not use).
LayoutNameCaption	“Layout name” setting	Null character
TotalQtyCaption	“Total print quantity” setting	0
TaxRate	Tax rate setting	Null character
Version information		
Version	To get the version information.	-

■ Methods

Method Name	Overview
Communication	
OpenPort	To open the communication port
ClosePort	To close the communication port
Print	
Output	Label printing
OutputHeader	To output the header label
OutputTail	To output the tail label
SendStringData	To send the printer command (specifies the exit condition).
SendRawData	To send the printer command (binary) (specifies the exit condition)
Printer control	
GetStatus	Printer status check
Cut	Cutting during print
SendCancel	Print cancel
Getting of layout information	
GetPrinter	To get the printer information
Specifying print data	
GetInputFields	To get the input information
SetPrnDataField	Setting the print data of the input items
GetPrnDataArray	To get multiple data
SetPrnDataArray	Multiple data setting
Device control	
EnumerateBluetoothDevices	Executing device search
AuthenticateBluetoothDevice	Executing device authentication

Chapter 2

Properties

2-1 [Communication] Setting Property

It sets and gets the communication parameter.

■ Format

MLComponent.Setting As String

■ Setting value

Output destination	*Setting*	
	Description	
Initial value	LAN:127.0.0.1	
LAN-connected printer	*LAN:aaa.aaa.aaa.aaa[,Port1][,Port2]*	
	aaa.aaa.aaa.aaa	IP address
	[,Port1]	Port number 1 [can be omitted]
	[,Port2]	Port number 2 [can be omitted]
USB-connected printer	*USB:[PrinterModel][,SerialNumber]*	
	[PrinterModel]	Printer model [can be omitted]
	[,SerialNumber]	Serial No. [can be omitted]
RS-232C-connected printer	*COMnnn:bbbbb,p,d,s*	
	nnn	Port number（1 to 256）
	bbbbb	Baud rate（4800 to 115200）
	p	Parity bit（n: None, e: Even number o: Odd number）
	d	Data bit（7, 8）
	s	Stop bit（1, 1.5, 2）
Bluetooth-connected printer	*BT:BDAddress*	
	BDAddress	BD address (12-digit hexadecimal number)
Printer driver	DRV:Drivername	
	Drivername	Printer driver name
File	*FILE:Filename,m*	
	Filename	File name
	m	Output mode (0: Overwriting, 1: Addition)

■ Note

- Refer to the descriptions about usage and precautions for details about each interface.

- Do not adopt such connection method for one printer as to switch between interface output (LAN, USB, COM, Bluetooth) and printer driver output. A double connection can occur and result in an error.

- When you have omitted the port number in the LAN setting, use the following values in combination

with the protocol property. Status 3 communicates with Port 1 and Status 4 communicates with Port 2.

Specified port number	Protocol property	
	0-Status3	1-Status4
Omitted	Transmitting and receiving port: 1024	Transmitting port: 1024 Receiving port: 1025
Port 1 is specified	Transmitting and receiving port: Specified port	Transmitting and receiving port: Specified port * When 1024 is specified. Transmitting port: 1024 Receiving port: 1025
Port 2 is specified	Error	Transmitting port: First specified port Receiving port: Second specified port

- When you have omitted [Printer model] and [Serial No.] in the USB setting, connect with the device as below.
  An error does not occur even if the specified [Printer model] and [Printer model of layout] do not match.
  Refer to the descriptions about usage and precautions for details about Setting value of [Printer model] and Confirmation of [Serial No.].

Printer model	Serial No.	Description
None	None	SATO printer first found in USB device search
Specified	None	SATO printer first found in USB device search among the specified printer models
Specified	Specified	SATO printer of the specified printer model with the specified serial No.

■ Exception

Exception	Description
InvalidOperationException	Condition: Change of property while port is open The communication parameter cannot be changed when the port is opened.

■ Usage example

Example of the communication setting 9600,n,8,1 in COM port 1

```
MLComponent.Setting = “COM1:9600,n,8,1”
```

When the IP address is 192.168.1.1 and the port number is 1024

```
MLComponent.Setting = “LAN:192.168.1.1,1024”
```

When the printer driver name is “SATO SG408R-ex”

```
MLComponent.Setting = “DRV:SATO SG408R-ex”
```

When outputting to the file “C:¥My Documents¥Printout.prn” in overwriting mode

```
MLComponent.Setting = “FILE:C:¥My Documents¥Printout.prn,0”
```

When using USB

```
MLComponent.Setting = “USB:CF408T,0000T123”
```

When using Bluetooth

```
MLComponent.Setting = “BT:000b5d3db4c2”
```

■ **Related items**

Property	Protocol, Timeout
Method	OpenPort, Output, GetStatus, SendStringData, SendRawData, EnumerateBluetoothDevices

■ **Support information**

Precautions	Interface
Appendix	Communication Protocol Setting in the Printer

2-2 [Communication] Protocol Property

It sets and gets the communication protocol.

■ Format

MLComponent.Protocol As Integer / SATO.MLComponent.Protocols

■ Setting value

Protocol	Description
0 – Protocols.Status3（initial value）	Status 3 protocol Status L protocol (dedicated for LR)
1 – Protocols.Status4	Status 4 protocol (dedicated for drivers)

■ Note

- Set communication protocol in the printer according to the setting value.
- If the communication protocol is changed after the OpenPort method is successful (the communication port is open), an exception occurs.
- It does not support communication protocol status 5.
- It is used when the Setting property is LAN, USB, COM, and BT (Bluetooth). It is not used for DRV (printer driver) and FILE.
- When the Setting property is USB, specify “1 – Protocols.Status4”.
  If any value other than “1 – Protocols.Status4” is specified, error 12 will occur in the OpenPort method.

■ Exception

Exception	Description
InvalidOperationException	Condition: Change of property while port is open The value of Protocol property cannot be changed when the port is opened.
ArgumentOutOfRangeException	Condition: Setting value out of range The value of Protocol property is invalid.

■ Usage example

Set the Status 4 protocol.

```
MLComponent.Protocol = 1
```

Get the present communication protocol.

```
Protocol = MLComponent.Protocol
```

■ **Related items**

Property Setting, Timeout

Method OpenPort, Output, GetStatus, Cut, SendCancel, SendStringData, SendRawData

■ **Support information**

Precautions Interface

Appendix Communication Protocol Setting in the Printer

2-3 [Communication] Timeout Property

It sets and gets the communication timeout value.

■ Format

MLComponent.Timeout As Integer

■ Setting value

Timeout	Description
3	Initial value
Any number	Specifying the communication timeout time in seconds for connection/transmission/reception (1 to 60)

■ Note

- It is used when the Setting property is LAN, USB, COM, and BT (Bluetooth).
  It is not used for DRV (printer driver) and FILE.
- If the communication protocol is changed after the OpenPort method is successful (the communication port is open), an exception occurs.
- Timeout is applied with the following methods:

Method	Description
OpenPort	A port open error occurs when the Setting property cannot find a connection destination by LAN or Bluetooth.
Output	When the Protocol property is status 3, a reception timeout occurs if there is no ACK/NAK return from the printer.
GetStatus	If no status is returned from the printer, a reception timeout occurs.
Cut	A reception timeout occurs if there is no ACK/NAK return from the printer.
SendCancel	
SendStringData	If the exit condition specified in the method is not met, a reception timeout occurs.
SendRawData	

■ Exception

Exception	Description
InvalidOperationException	Condition: Change of property while port is open The value of Timeout property cannot be changed when the port is opened.
ArgumentOutOfRangeException	Condition: Setting value out of range The value of Timeout property is invalid. This property must be within the range from 1 to 60.

■ **Usage example**

A setting example of communication timeout is shown below.

```
Dim Result As Integer
MLComponent.Setting = “COM1:9600,n,8,1”        ' An initial of communication setting
MLComponent.Timeout = 5                        ' Set the timeout value to 5 seconds
Result = MLComponent.OpenPort(1)               ' Port is open
If Result <> 0 Then
    ' Error processing
End If
```

■ **Related items**

Property	Setting, Protocol
Method	OpenPort, Output, GetStatus, SendStringData, SendRawData

2-4 [Communication] StatusID Property

It sets and gets the Status ID.

■ Format

MLComponent.StatusID As Integer

■ Setting value

StatusID	Description
0	Initial value
Any number	Number set in the status ID (0 to 99).

■ Exception

Exception	Description
ArgumentOutOfRangeException	Condition: Setting value out of range The value of StatusID property is invalid. This property must be within the range from 0 to 99.

■ Usage example

An operating example of Status ID is shown below.

```
Dim Result As Integer
Dim Status As String
MLComponent.StatusID = 36                    ' Set 36 to the status ID
Result = MLComponent.Output()                ' Print processing
Result = MLComponent.GetStatus(Status)       ' Get a status
  If Left$(Status, 2) = “36” Then
      ' When the status ID is 36
   End If
End Sub
```

■ Related items

Property　Protocol, JobName

Method　Output, GetStatus

2-5 [Communication] JobName Property

It sets and gets the Job name.

■ Format

MLComponent.JobName As String

■ Setting value

JobName	Description
Null character	Initial value
Any string	A string used for the job name.

■ Note

- It is used when the Protocol property is 1-Protocols.Status4.

■ Exception

Exception	Description
ArgumentException	Condition: Setting value out of range The value of JobName property is invalid. The length of this property must be within 16 bytes.

■ Usage example

An operating example of Job Name is shown below.

```
Dim Result As Integer
Dim Status As String
Dim JobName As String
MLComponent.JobName = “SATO Print”          ' Set a Job Name
Result = MLComponent.Output()               ' Print processing
Result = MLComponent.GetStatus(Status)      ' Get a status
JobName = Status.Substring(8, 16)
 If RTrim(JobName) = “SATO Print” Then
     ' When the Job Name is SATO Print
 End If
```

■ Related items

Property Protocol, StatualD

Method Output, GetStatus

2-6 [Basic] LayoutFile Property

It sets and gets the layout file created with MLV5.

■ Format

MLComponent.LayoutFile As String

■ Setting value

LayoutFile	Description
Default.mllayx	Initial value
Any string	Local file path of the layout file

■ Note

- Only a layout file (* .mllayx) can be used.
- When a value is set, all input data specified by the PrnData property, SetPrnDataField method, and SetPrnDataArray method are initialized.

■ Exception

Exception	Description
ArgumentException	Condition: Invalid setting value The value of LayoutFile property is invalid.

■ Usage example

Set a layout information file path.

```
MLComponent.LayoutFile = “C:¥SATO¥ABC.mllayx”
```

Get the present layout information file path.

```
LayoutFile = MLComponent.LayoutFile
```

■ Reference

- Related items

  Property PrnData, Darkness, Speed, HeaderTailSetting, Formoverlay, HeaderFile, TailFile

  Method Output, GetInputFields, SetPrnDataField, GetPrinter

2-7 [Basic] PrnData Property

It sets and gets the print data.

■ Format

MLComponent.PrnData As String

■ Setting value

PrnData	Description
Null character	Initial value
Any string	Specify in the data format of the PrnDataType property. The character format is Unicode (UTF-16) compliant with MLV5.

■ Note

- When specifying data that include a check digit to a barcode, be sure to check whether the check digit is correct with another application in advance. If you cannot check it, change the data to one that does not include the check digit, or change the layout file so that the check digit part is removed by setting the variable.
- The number of sheets issued can be specified up to 9999 (9999 for the Lapin series except for PW208). Please specify the number of data items according to the number of items in the layout file.
- Specify the number of data items according to the number of input items in the layout file.
- When the LayoutFile property is set, the PrnData property is initialized.
- When a value is set, the input data set with the SetPrnDataArray method is initialized.
- When using the SetPrnDataField method together, specify the PrnData property first to avoid confusion.
- When the PrnDataType property is Tsv or Prn, delimiters cannot be included with the print data.
- When the Setting property is other than DRV (printer driver), specify a number that does not exceed one sheet for the print quantity in the layout file that uses sequence number variables or multiple. If any value other than 1 sheet is specified for the print quantity, error 804 will occur in the Output method.

■ Usage example

Set print data.

```
MLComponent.PrnDataType = PrnDataTypes.Tsv
MLComponent.PrnData = “1000” & Chr$(9) & “2000” & Chr$(9) & “1”
```

■ Related items

Property LayoutFile, PrnDataType

Method Output, GetInputFields, SetPrnDataField, GetPrnDataArray, SetPrnDataArray

■ **Support information**

- [Attached document] Technique Manual “Setting Method of the Print Data”

2-8 [Basic] PrnDataType Property

It sets and gets the print data types (Tsv/Csv/Prn).

■ Format

MLComponent.PrnDataType As String / SATO.MLComponent.PrnDataTypes

■ Setting value

PrnDataType	Description
0 – PrnDataTypes.Tsv (initial value)	Specifying a tab-separated
1 – PrnDataTypes.Csv	Specifying a comma-separated (CSV format)
2 – PrnDataTypes.Prn	Space-separated

■ Note

- When a comma-separated is specified, it is possible to specify a comma as a separation character (0x2C), tab (0x08), and line feed codes (0x0D, 0x0A) by enclosing the item with double quotations. When printing, the quotation characters (double quotations) are omitted.

■ Exception

Exception	Description
ArgumentOutOfRangeException	Condition: Setting value out of range The value of PrnDataType property is invalid.

■ Usage example

Set TSV as the print data type.

```
MLComponent.PrnDataType = 0
```

■ Related items

Property PrnData

Method SetPrnDataField, GetPrnDataArray, SetPrnDataArray

2-9 [Operation] Darkness Property

It sets and gets the print darkness.

■ Format

MLComponent.Darkness As String

■ Setting value

Darkness	Description
Null character string	Using the setting value registered in the printer.
S（initial value）	Using the print darkness of the layout information.
Print darkness level [Print darkness range]	Specifying the print darkness level and print darkness range separated by a comma. (Print darkness range can be omitted.)

■ Point

- If there is no layout setting in “S”, the setting value registered in the printer is used.
- You do not need to set the print darkness range normally. When using special paper such as 2-color thermal paper, our sales representative will explain.
- In the GN412T double-sided layout, the print darkness on both sides will be the specified value.

■ Exception

Exception	Description
ArgumentOutOfRangeException	Condition: Setting value out of range The value of Darkness property is invalid.
ArgumentException	Condition: Invalid setting value The value of Darkness property is invalid. This property must be alphanumeric.

■ Usage example

Set 3 for the print darkness level and A for the print darkness range.

```
MLComponent.Darkness = “3,A”
```

Use the print darkness of the layout information.

```
MLComponent.Darkness = “S”
```

Get the setting value of the present print darkness property.

```
Dark = MLComponent.Darkness
```

■ **Related items**

Property Speed, Offset

Method Output

■ **Support information**

Appendix Support printer

2-10 [Operation] Speed Property

It sets and gets the print speed.

■ Format

MLComponent.Speed As String

■ Setting value

Speed	Description
Null character string	Using the setting value registered in the printer.
S（initial value）	Using the print speed of the layout information.
Any string	Using the setting value.

■ Note

- If there is no layout setting in “S”, the setting value registered in the printer is valid.

■ Exception

Exception	Description
ArgumentOutOfRangeException	Condition: Setting value out of range The value of Speed property is invalid. The length of this property must be within 2 bytes.
ArgumentException	Condition: Invalid setting value The value of Speed property is invalid. This property must be alphanumeric.

■ Usage example

Set 5 as the print speed.

```
MLComponent.Speed = “5”
```

Use the print speed of the layout file.

```
MLComponent.Speed = “S”
```

Get the setting value of the present print speed property.

```
Speed = MLComponent.Speed
```

■ Related items

Property Darkness, Offset

Method Output

■ **Support information**

Appendix Support printer

2-11 [Operation] Offset Property

Print offset is set and got.

■ Format

MLComponent.Offset As String

■ Setting value

Offset	Description
0,0	Initial value
S,S	Using the print offset of the layout information.
Horizontal offset value, vertical offset value	Specifying horizontal and vertical offset values in mm units separated by a comma (-99.9 to 99.9). Valid to 4 decimal places.

■ Note

- If there is no layout setting in “S,S”, the setting value registered in the printer is used.
- If the print offset is performed, the print may exceed the print area of the printer, or characters may not fit within the label. Note that the following errors may occur in the Output method:

  610 Some items cannot be printed on paper.

  611 There are disabled items that cannot be calculated.

■ Exception

Exception	Description
ArgumentOutOfRangeException	Condition: Setting value out of range The value of Offset property is invalid. This property must be within the range from -99.9 to 99.9.

■ Usage example

Print with the print position corrected by 3 mm horizontally and 2 mm vertically.

```
MLComponent.Offset = “3.0,2.0”      ' Set the print offset value.
```

Use the print offset value of the layout information.

```
MLComponent.Offset = “S,S”          ' Set the print offset value.
```

■ Related items

Property Darkness, Speed

Method Output

2-12 [Operation] MultiCut Property

It sets and gets the number of cuts per unit.

■ Format

MLComponent.MultiCut As Integer

■ Setting value

MultiCut	Description
0 (initial value)	Not being cut.
1 or more	Cutting with the specified number (1 to 9999).
-1	Following with the operating mode of the printer.
-2	According to the layout setting.

■ Note

- If the print quantity is less than the specified number, it will be cut at the end of printing.
  (Example) MultiCut property is “5”and the print quantity is “3”. --> Cut with the 3rd sheet
  Multicut property is “5” and the print quantity is “7” --> Cut with the 5th and 7th sheet.
- When “-2” is specified, the following operations are performed depending on the layout settings and print data settings.

When specifying data with PrnData	
Print Action Settings (Print Action) “Timing for sort mark print or cut operation”	
None (according to printer settings)	It follows the operation mode of the printer.
Disable	Cut is not performed. Eject cut is performed according to “Use Eject Cut” in the layout print action settings.
Perform for each row	Only the last label is cut. Eject cut is performed according to “Use Eject Cut” in the layout print action settings.
Perform for each page	
Perform each time value of applicable item changes	
Perform each time print command	
Perform each time specified quality	The same operation as “1 or more” of Multicut
When specifying data with PrnDataArray	
Print Action Settings (Print Action) “Timing for sort mark print or cut operation”	
None (according to printer settings)	It follows the operation mode of the printer.
Disable	Cut is not performed. Eject cut is performed according to “Use Eject Cut” in the layout print action settings.
Perform for each row	Cut for each array element. Eject cut is performed according to “Use Eject Cut” in the layout print action settings.
Perform for each page	Only the last label is cut. Eject cut is performed according to “Use Eject Cut” in the layout print action settings.
Perform each time value of applicable	Cut whenever the input item set in the sort/cut operation key

item changes	changes. Eject cut is performed according to “Use Eject Cut” in the layout print action settings.
Perform each time print command	Only the last label is cut. Eject cut is performed according to “Use Eject Cut” in the layout print action settings.
Perform each time specified quality	The same operation as “1 or more” of Multicut

■ Exception

Exception	Description
ArgumentOutOfRangeException	Condition: Setting value out of range The value of MultiCut property is invalid. This property must be within the range from -2 to 9999.

■ Usage example

Cut in units of 3 sheets when printing.

```
Dim Result As Integer
MLComponent.MultiCut = 3          ' Cut in units of 3 sheets
Result = MLComponent.Output()     ' Print processing
If Result <> 0 Then
    ' Error processing
End If
```

■ Related items

Property LayoutFile, EjectCut

Method Output, Cut

■ Support information

Appendix Support printer

2-13 [Operation] SortMark Property

It sets and gets the sort mark print.

■ Format

MLComponent.SortMark As Boolean

■ Setting value

SortMark	Description
True	Printing the sort mark.
False (initial value)	Not printing the sort mark.

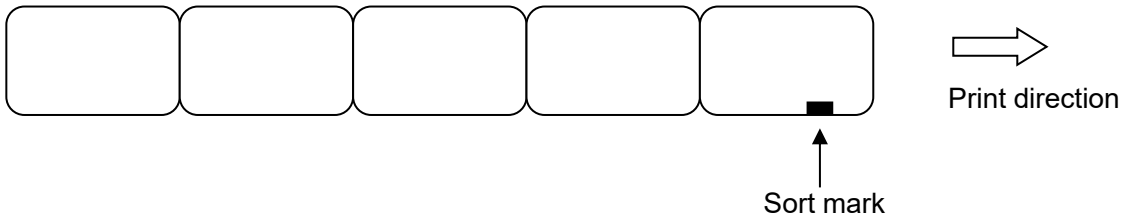
■ Note

- The sort mark print setting of the layout information is not used.

■ Usage example

Print the sort mark.

```
Dim Result As Integer
MLComponent.SortMark = True          ‘ The sort mark is ON.
Result = MLComponent.Output()        ‘ Print processing
If Return <> 0 Then
```



Mark the first tag of one print unit.

More effective operation is possible if you set the stacker.

■ Reference

- Related items

  Property LayoutFile

  Method Output

- Support information

  Appendix Support printer

2-14 [Operation] EjectCut Property

It sets and gets the eject cut.

■ Format

MLComponent.EjectCut As Boolean

■ Setting value

EjectCut	Description
True	Performing the eject cut.
False (initial value)	Not performing the eject cut.

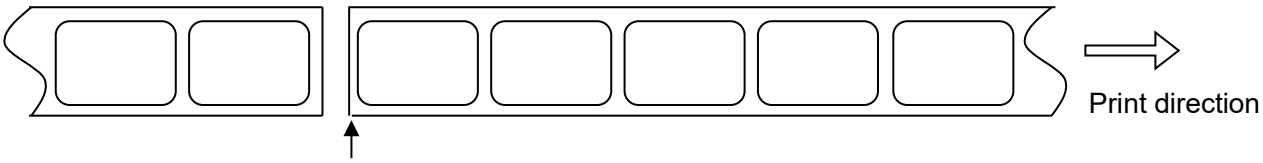
■ Note

- When the MultiCut property is “-1” or “-2”, this property is not used.
- For L’esprit V series and L’esprit V-ex series, when the printer operation mode is set to the partial cut mode and the MultiCut property is “0”, the eject cut will be the full cut.

■ Usage example

Perform the eject cut.

```
Dim Result As Integer
MLComponent.EjectCut =True          ' Set the eject cut to ON.
Result = MLComponent.Output()       ' Print processing
If Result <> 0 Then
```



When “True” is set in the EjectCut property, the sheet is cut at the end of one print unit.
When “False” is set, the eject cut command is not sent.

■ Related items

Property MultiCut
Method Output, Cut

■ Support information

Appendix Support printer

2-15 [Operation] HeaderTailSetting Property

It sets and gets whether to print the header and tail labels.

■ Format

MLComponent.HeaderTailSetting As Boolean

■ Setting value

HeaderTailSetting	Description
True	Printing the header and tail labels according to the layout setting.
False (initial value)	Not printing the header and tail labels.

■ Note

- If “True” is specified and the layout setting is set to “Output for each page”, the header and tail labels will be output for each print instruction.
- This property is disabled when the Setting property is other than DRV (printer driver).

■ Usage example

Print the header and tail labels according to the layout setting.

```
Dim Result As Integer
Dim PrnDataArray(0 to 3) As String
MLComponent.LayoutFile = “C:¥SATO¥ABC.mllayx”
PrnDataArray(0) = “Product A” & Chr$(9) & “1”
PrnDataArray(1) = “Product B” & Chr$(9) & “2”
PrnDataArray(2) = “Product C” & Chr$(9) & “1”
PrnDataArray(3) = “Product D” & Chr$(9) & “1”
Result = MLComponent.SetPrnDataArray(PrnDataArray)          ' Set multiple data
If Result <> 0 Then
   //Setting error
End If
MLComponent.HeaderTailSetting = 1          ' Prvint the header and tail labels according to the layout setting
Result = MLComponent.Output()              ' Print processing
If Result <> 0 Then
   //Print error
End If
```

■ **Related items**

Property	Setting, LayoutFile, PrnData
Method	Output, SetPrnDataArray

2-16 [Operation] HeaderFile Property

It gets the header label file. Read-only property.

■ Format

MLComponent.HeaderFile As String

■ Setting value

HeaderFile	Description
String (path name)	Local file path name of the header label file
Null character	Acquisition failure The header label is not set in the layout file.

■ Note

- This is obtained from the layout file specified in the LayoutFile property.

■ Usage example

Get the header label.

```
Dim Result As Integer
Dim HeaderFile As String
HeaderFile = MLComponent.HeaderFile          ' Get a header label
If HeaderFile <> “” Then                     ' Do you get?
    Debug.Print “HeaderFile = “ & HeaderFile ' Header label view
```

■ Related items

Property LayoutFile, HeaderTailSetting, TailFile

Method OutputHeader

2-17 [Operation] TailFile Property

It gets the tail label file. Read-only property.

■ Format

MLComponent.TailFile As String

■ Setting value

TailFile	Description
String (path name)	Local file path name of the tail label file
Null character	Acquisition failure The tail label is not set in the layout file.

■ Note

- This is obtained from the layout file specified in the LayoutFile property.

■ Usage example

Get a tail label.

```
Dim Result As Integer
Dim TailFile As String
TailFile = MLComponent.TailFile                ' Get a tail label
If TailFile <> “” Then                         ' Do you get?
    Debug.Print “TailFile = “ &TailFile        ' Tail label view
```

■ Related items

Property LayoutFile, HeaderTailSetting, HeaderFile

Method OutputTail

2-18 [Special] Formoverlay Property

It sets and gets the form overlay.

■ Format

MLComponent.Formoverlay As String / SATO.MLComponent.FormoverlayTypes

■ Setting value

Formoverlay	Description
0 – FormoverlayTypes.None（initial vaue）	Using the form overlay.
1 – FormoverlayTypes.Save	Registering the form overlay.
2 – FormoverlayTypes.Load	Calling the form overlay.
3—FormoverlayTypes.Auto	Registering the fixed items automatically and printing multiple items.

■ Note

- The target to be registered with “1” is all data output by Output. Number of target that can be registered is one. If two or more are registered, the last registered data becomes valid.
- If you specify “1” or “2” in Multiple or Both layouts, an error will occur when printing.

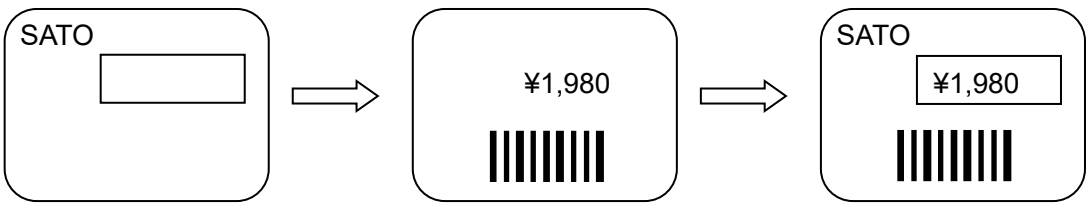
■ Exception

Exception	Description
ArgumentOutOfRangeException	Condition: Setting value out of range The value of Formoverlay property is invalid.

■ Usage example

Register a form overlay and call the registered one.

```
Dim Result As Integer
MLComponent.LayoutFile = “A.mllay”                    ' Set the layout “A.mllay”.
MLComponent.Formoverlay = 1                 ' Register the form overlay.
Return = MLComponent.Output()               ' Print processing (registration of the form overlay)
MLComponent.LayoutFile = “B.mllay”                    ' Set the layout “B.mllay”.
MLComponent.PrnData = “1980” & Chr$(9) & “1”        ' Set the print data.
MLComponent.Formoverlay = 2                 ' Call the form overlay.
Result = MLComponent.Output()               ' Print processing (call of the form overlay)
```



Layout A.mllay　　Layout B.mllay　　Overlaid layout

■ **Related items**

Method Output

■ **Support information**

Appendix Support printer

2-19 [Special] LayoutNameCaption Property

It sets and gets “Layout name”.

■ Format

MLComponent.LayoutNameCaption As String

■ Setting value

LayoutNameCaption	Description
Null character (initial value)	Use the layout name specified in the LayoutFile property.
Any string	Any string used as “Layout name”

■ Note

- This value is applied to the MLV5 system variable “Layout name”.
- When you specify “Local file path”, only the file name will be “Layout name”.

■ Usage example

Set “Layout name”.

```
MLComponent.LayoutNameCaption = “C:¥SATO¥ABC.mllayx”
```

Get “Layout name”.

```
LayoutNameCaption = MLComponent.LayoutNameCaption
```

The print result of “Layout name” is “ABC”.

■ Related items

Property TotalQtyCaption

Method Output

2-20 [Special] TotalQtyCaption Property

It sets and gets “Total print quantity”.

■ Format

MLComponent.TotalQtyCaption As String

■ Setting value

TotalQtyCaption	Description
0 (initial value)	Calculating the total print quantity automatically when the Output method is executed.
Any number (0 or more)	Specifying the system variable “Total print quantity”.

■ Note

- This value is applied to the MLV5 system variable “Total print quantity”.

■ Exception

Exception	Description
ArgumentOutOfRangeException	Condition: Setting value out of range The value of TotalQtyCaption property is invalid.

■ Usage example

Set the caption of the Total print quantity.

```
MLComponent.TotalQtyCaption = 13
```

Get the present caption of the Total print quantity.

```
TotalQtyCaption = MLComponent.TotalQtyCaption
```

■ Related items

Property LayoutFile

Method Output

2-21 [Special] TaxRate Property

It sets and gets the tax rate.

■ Format

MLComponent.TaxRate As String

■ Setting value

TaxRate	Description
Not specified	Initial value
Any string	Specifying the tax rate 1 to 20 separated by a comma (range: 0 to 99.9).

■ Note

- In the layout file, this value is used for the “User tax rate” for the Tax editing set with the variable editing parameters. When “Fixed rate” is specified in Tax editing, this is not used.
- If the value is not specfied, the output method, error 413 will occur in the Output method.
- This value is used when the data type of Conditional print is set to “Tax rate”.

■ Exception

Exception	Description
ArgumentOutOfRangeException	Condition: Setting value out of range (the tax rate is more than 20). The value of TaxRate property is invalid.
	Condition: Setting value out of range (outside the range of 0 to 99.9) The value of TaxRate property is invalid. This property must be within the range from 0 to 99.9.

■ Usage example

Set the user tax rate 1=5.0, user tax rate 2=8.0.

```
MLComponent.TaxRate = “5.0,8.0”
```

Get the present tax rate.

```
Dim TaxRate As String
TaxRate = MLComponent.TaxRate
```

■ Related items

Property LayoutFile
Method Output

2-22 [Information] Version Property

It gets the version information. Read-only property.

■ Format

MLComponent.Version As String

■ Setting value

Version	Description
Multi LABELIST Component, Version x.x.x.x (x: version number)	Version information of MLComponent

■ Usage example

Get the version information.

```
Dim Version As String
Version=MLComponent.Version
```

Getting result: “Multi LABELIST V5 Component, Version 5.0.0.0”

Chapter 3

Methods, Exceptions

3-1 [Communication] OpenPort Method

It opens the communication port.

■ Format

MLComponent.OpenPort(ByVal *SyncMode* As Integer) As Integer

■ Parameters

Parameters	Setting value	Description
SyncMode	1 (fixed)	Synchronous communication mode

■ Return value

Return Value	Description
0	Normal end
1	The value of the Setting property is invalid.
3	Already Open
4	An error occurred when the port opens.
12	The combination of communication settings and communication protocol is not supported.

■ Note

- It opens the device specified in the Setting property.
- After OpenPort has been successful, print can be executed continuously using the Output method. When the Setting property is LAN, USB, COM, or Bluetooth, check the printer status with GetStatus each time before executing Output.
- The return value “4” indicates that the port number, IP address, printer driver name that does not exist in the Setting property is specified, the specified USB device or Bluetooth device is not found, USB specified in a 64-bit application, or the printer is being used by another program. See also Explanation of Setting Property.
- When using Bluetooth with the Setting property, only the Microsoft standard Bluetooth stack can be used. Operation is not guaranteed with other Bluetooth stacks.
- If Bluetooth is set in the Setting property, the specified Bluetooth devices must be paired. If they are not paired, perform pairing on the standard Windows setting screen displayed on the PC. OpenPort processing is not returned while the setting screen is displayed. If the setting screen is not operated for 30 to 40 seconds, an error occurs with the OpenPort return value of “4”.
- Make sure to check the precautions in “Interface”.

■ **Usage example**

Program example of a communication port from open to close.

```
Dim Result As Integer
MLComponent.Setting = “COM1:9600,n,8,1”        ' Initial of communication setting
Result = MLComponent.OpenPort(1)               ' Open the port in the synchronous mode.
If Result = 0 Then
    ' Series of output processing
    Call MLComponent.ClosePort()               ' Close the port.
End If
```

■ Related items

Property	Setting, Protocol, Timeout
Method	Output, GetStatus, Cut, SendCancel, OutputHeader, OutputTail, SendStringData, SendRawData, AuthenticateBluetoothDevice

3-2 [Communication] ClosePort Method

It closes the communication port.

■ Format

MLComponent.ClosePort() As Integer

■ Return value

Return Value	Description
0	Normal end
5	The port is not open.
6	An error occurred when the port closes.

■ Usage example

Program example of a communication port from open to close.

```
Dim Result As Integer
MLComponent.Setting = “COM1:9600,n,8,1”          ' An initial of communication setting
Result = MLComponent.OpenPort(1)                 ' Open the port in the synchronous mode.
If Result = 0 Then
        ' Series of output processing
        Call MLComponent.ClosePort()             ' Close the port.
End If
```

■ Related items

Property Setting

Method OpenPort

3-3 [Print] Output Method

It prints labels and tags.

■ Format

MLComponent.Output() As Integer

■ Return value

Return Value	Description
0	Normal end
5	The port is not open.
11	An error occurred in the printer. Check the printer status with the GetStatus method. Change the sleep mode of the printer.
Other than 0	See “Communication Error“ and “Print Error“.

■ Note

- After OpenPort has been successful, print can be executed continuously using the Output method.
- When specifying USB, LAN, COM, or Bluetooth in the Setting property, make sure to check the printer status with the GetStatus method before executing any of the Output method (Output, SendStringData, or SendRawData).
- Make sure to check the precautions in “Interface”.

■ Usage example

It performs the sequence number print.

```
Dim Result As Integer
Const EndCount = 10
For n = 1 To EndCount                                    ' Loop to the end of the sequence number.
    MLComponent.PrnData = Format$(n) & vbTab & “1”       ' Set the sequence number to the print data.
      ' Required if the Setting property is USB, LAN, COM, or Bluetooth.
      ' Check the printer status (GetStatus method)
    Result = MLComponent.Output()                        ' Print processing
    If Result <> 0 Then
      ' Error processing (see “Communication Error” and “Print Print Error”.)
    End If
Next n
```

■ Related items

Property　Setting, Protocol, Timeout

Method　GetStatus, Cut, SendCancel

■ **Support information**

Method, Exceptions	Communication Error
Method, Exceptions	Print Error

3-4 [Print] OutputHeader Method

It prints the header labels.

■ Format

MLComponent.OutputHeader() As Integer

■ Return value

Return Value	Description
0	Normal end
5	The port is not open.
11	An error occurred in the printer. Check the printer status with the GetStatus method. Change the sleep mode of the printer.
Other than 0	See “Communication Error“ and “Print Error“.

■ Note

- Only one sheet of the header label set in the layout file is printed regardless of the specified print quantity.
- When printing a header label, the setting value of FormoverlayTypes property is not applied.

■ Usage example

The header label is printed at the beginning.

```
Dim Result As Integer
Const EndCount = 10
For n = 1 To EndCount                                   ' Loop to the end of the sequence number.
    MLComponent.PrnData = Format$(n) & vbTab & “1”      ' Set the sequence number to the print data.
    If n = 1 Then
            Result = MLComponent.OutputHeader()         ' Print a header label.
            If Result <> 0 Then
                ' Error processing
            End If
    Endif
    Result = MLComponent.Output()                       ' Print processing
    If Result <> 0 Then
            ' Error processing
    End If
Next n
```

■ **Reference**

Property	Setting, Protocol, Timeout, HeaderTailSetting, HeaderFile, TailFile
Method	GetStatus, Cut, SendCancel, OutputTail

■ **Support information**

Method, Exceptions	Communication Error
Method, Exceptions	Print Error

3-5 [Print] OutputTail Method

It prints the tail labels.

■ Format

MLComponent.OutputTail() As Integer

■ Return value

Return Value	Description
0	Normal end
5	The port is not open.
11	An error occurred in the printer. Check the printer status with the GetStatus method. Change the sleep mode of the printer.
Other than 0	See “Communication Error“ and “Print Error“.

■ Note

- Only one sheet of the tail label set in the layout file is printed regardless of the specified print quantity.
- When printing a tail label, the setting value of FormoverlayTypes property is not applied.

■ Usage example

It prints the tail label at the end.

```
Dim Result As Integer
Const EndCount = 10
For n = 1 To EndCount                                ' Loop to the end of the sequence number.
    MLComponent.PrnData = Format$(n) & vbTab & “1”       ' Set the sequence number to the print data.
    Result = MLComponent.Output()                        ' Print processing
    If Result <> 0 Then
            ' Error processing
    End If
    If n = EndCount    Then
            Result = MLComponent.OutputTail()            ' Print a tail label.
            If Result <> 0 Then
                ' Error processing
            End If
    Endif
Next n
```

■ **Reference**

Property	Setting, Protocol, Timeout, HeaderTailSetting, HeaderFile, TailFile
Method	GetStatus, Cut, SendCancel, OutputHeader

■ **Support information**

Method, Exceptions	Communication Error
Method, Exceptions	Print Error

3-6 [Print] SendStringData Method

It specifies the end condition to send the printer command (SBPL).

■ Format

MLComponent.SendStringData(

ByVal *Type* As Integer

ByVal *Command* As String,

ByVal *Length* As Integer,

ByVal *EndChar* As String) As Object

■ Parameters

Parameters	Setting value	Description
Type	0	The data are received as text (string type).
	1	The data are received as bytes array.
	2	The data are received as hexadecimal code (string type).
Command	Any string	The sending data (printer command) is specified by text.
Length	Any number	The number of bytes is specified to end reception processing.
Endchar	Any character	The character is specified to end reception processing.

■ Return value

Got data. Data return according to the set value.

■ Exception

For details, see "MLComponentException Class".

Exception	Description
5	The port is not open.
7	An error occurred while sending command.
8	A timeout occurred while sending command.
9	An error occurred while receiving response.
10	A timeout occurred while receiving response.
54	Command is empty.
55	It cannot output to the color printer driver.

■ Note

- Depending on the combination of end conditions (Length, EndChar), this method operates as follows:

Length	Endchar	Description
0	No specification	It does not wait for data reception. The return value is a null character (the number of elements is 0 for a byte array).
0	Specified	It waits until the character specified by EndChar is received.
1 or more	No specification	It waits until the number of bytes specified by Length is received.

1 or more	Specified	It waits until the number of bytes specified by Length is received or until the specified character is received.

- When the setting property is USB and 1 or more is specified for Length, it waits until 1 byte or more is received. After that, it continues receiving until the reception becomes longer than Length or a message that contains a character specified by EndChar comes, and sets it as a return value.
- When the Setting property is DRV (printer driver) or FILE, the end conditions of Length and EndChar are not used.
- No error occurs when the transmission is successful, but the operation of the printer depends on the transmitted printer command. Operation cannot be guaranteed if an invalid command is sent.
- If the end conditions do not match, the reception timeout will occur at the time specified in the Timeout property.
- Only one item can be sent as the print command. If multiple items are sent at once, data transmission is not guaranteed for the second and subsequent items.

■ Usage example

It sends a control command to the printer.

```
Dim RecvData As String
Dim Command() As Byte

 Snip (A command is generated.)

Try
      RecvData = MLComponent.SendStringData(0, Command, 10, Chr$(&H15))  ' Command
transmission
      ' Data analysis
Catch ex As MLComponentException
      If ex.Number = 5 Then
            ' Error of port opening
      Else If ex.Number =   54 Then
            ' Error of command string
      End If
End Try
```

■ Related items

Property　　Setting, Timeout

Method　　SendRawData

■ Support information

Method, Exceptions　　Communication Error

Method, Exceptions　　Print Error

3-7 [Print] SendRawData Method

It specifies the end condition to send the printer command (SBPL) in binary format.

■ Format

MLComponent.SendRawData(

ByVal *Type* As Integer,

ByRef *Command* As byte(),

ByVal *Length* As Integer,

ByVal *EndChar* As String) As Object

■ Parameters

Parameters	Setting value	Description
Type	0	The data are received as text (string type).
	1	The data are received as bytes array.
	2	The data are received as hexadecimal code (string type).
Command	Any binary data	The sending data (printer command) is specified in binary format.
Length	Any number	The number of bytes is specified to end reception processing.
Endchar	Any character	The character is specified to end reception processing.

■ Return value

Got data. Data return according to the set value.

■ Exception

For details, see "MLComponentException Class".

Exception	Description
5	The port is not open.
7	An error occurred while sending command.
8	A timeout occurred while sending command.
9	An error occurred while receiving response.
10	A timeout occurred while receiving response.
55	It cannot output to the color printer driver.
56	The array element of the command does not exist.

■ Note

- Depending on the combination of end conditions (Length, EndChar), this method operates as follows:

Length	Endchar	
0	No specification	It does not wait for data reception. The return value is a null character (the number of elements is 0 for a byte array).
0	Specified	It waits until the character specified by EndChar is received.
1 or more	No	It waits until the number of bytes specified by Length is received.

	specification	
1 or more	Specified	It waits until the number of bytes specified by Length is received or until the specified character is received.

- When the setting property is USB and 1 or more is specified for Length, it waits until 1 byte or more is received. After that, it continues receiving until the reception becomes longer than Length or a message that contains a character specified by EndChar comes, and sets it as a return value.
- When the Setting property is DRV (printer driver) or FILE, the end conditions of Length and EndChar are not used.
- No error occurs when the transmission is successful, but the operation of the printer depends on the transmitted printer command. We are not responsible for the operation when an invalid command is sent.
- If the end conditions do not match, the reception timeout will occur at the time specified in the Timeout property.
- Only one item can be sent as the print command. If multiple items are sent at once, data transmission is not guaranteed for the second and subsequent items.

■ Usage example

It sends a control command to the printer.

```
Dim RecvData As String
Dim Command As String

 Snip (A command is generated.)

Try
      RecvData = MLComponent.SendRawData(0, Command, 10, Chr$(&H15))    ' Command
transmission
      ' Data analysis
Catch ex As MLComponentException
      If ex.Number = 5 Then
            ' Error of port opening
      Else If ex.Number =   54 Then
            ' Error of command string
      End If
End Try
```

■ Related items

Property　　Setting, Timeout

Method　　SendStringData

■ Support information

Method, Exceptions　　Communication Error

Method, Exceptions　　Print Error

3-8 [Print] GetStatus Method

You can check the printer status.

■ Format

MLComponent.GetStatus(ByRef *Status* As String) As Integer

■ Parameters

Parameters	Setting value	Description
Status	Status string	Status string indicating the printer status
	Null character	Status check failed.

■ Return value

Return Value	Description
0	Normal end
5	The port is not open.
55	Printer driver output and file output cannot be used.
Other than those above	See "Communication Error.

■ Usage example

It gets the printer status.

```
Dim Result1, Result2 As Integer
Dim Status As String
Result1 = MLComponent.GetStatus(Status)  ' Get a status.
If Result1 = 0 Then                                  ' Do you get?
    If Mid$(Status, 3, 1) = "A" Then          ' Waiting for receiving the status?
        Result2 = MLComponent.Output()           ' Print processing
        If Return <> 0 Then
            ' Error processing
        End If
    End If
End If
```

■ Related items

Property　Setting, Protocol, Timeout

Method　OpenPort

■ Support information

Method, Exceptions　Communication Error

Appendix　Status List

3-9 [Control] Cut Method

It performs the eject cut of the printed sheet.

■ Format

MLComponent.Cut() As Integer

■ Return value

Return Value	Description
0	Normal end
5	The port is not open.
11	An error occurred in the printer. Check the printer status with the GetStatus method. Change the sleep mode of the printer.
53	The printer does not support the cut command.
Other than 0	See "Communication Error.

■ Note

- This is effective when the paper is stopped without being cut after printing.
- Execute this method after specifying the LayoutFile property.

■ Usage example

It performs cutting for each print.

```
Dim Result As Integer
For n = 0 To 5
    Result = MLComponent.Output()        ' Print processing
    If Result <> 0 Then
        Exit For                         ' Print error
    End If
    Result = MLComponent.Cut()           ' Cut processing
    If Result <> 0 Then
        Exit For                         ' Cut error
    End If
Next n
```

■ Related items

Property LayoutFile

Method Output

■ **Support information**

Method, Exceptions	Communication Error
Appendix	Support printer

3-10 [Control] SendCancel Method

It cancels printing.

■ Format

MLComponent.SendCancel() As Integer

■ Return value

Return Value	Description
0	Normal end
5	The port is not open.
11	An error occurred in the printer. Check the printer status with the GetStatus method. Change the sleep mode of the printer.
Other than 0	See "Communication Error.

■ Note

- It ends the print operation and clears all data received in the printer.
  After executing SendCancel, wait for 500 milliseconds or more before executing the next Output method.

■ Usage example

It prompts to cancel if a print error occurs.

```
Dim Result1, Result2 As Integer
Result1 = MLComponent.Output()              ' Print processing
If Result1 <> 0 Then                        ' Print error?
    If MsgBox(" An error has occurred when printing. Do you want to cancel?" , vbOKCancel) = vbOK
Then
        Result2 = MLComponent.SendCancel()      ' Cancel of the print
    End If
End If
```

■ Related items

Property Setting

Method Output, SendStringData, SendRawData, GetStatus, Cut

■ Support information

Method, Exceptions Communication Error

3-11 [Information] GetPrinter Method

It gets the printer information from the layout file.

■ Format

MLComponent.GetPrinter() As String

■ Return value

Return Value	Description
String	Model name of the printer specified in the layout file
Null character	Acquisition failure

■ Note

- This is obtained from the layout file specified in the LayoutFile property.

■ Usage example

It gets the printer model from the layout file “C:¥SATO¥ABC.mllayx”.

```
Dim PrinterModel As String
MLComponent.LayoutFile = “C:¥SATO¥ABC.mllayx”   ' Specifying the layout file name.
PrinterModel = MLComponent.GetPrinter                    ' Printer model is got.
If PrinterModel <> ““ Then
      ' Got successfully
Else
      ' Getting error
End If
```

■ Related items

Property LayoutFile

■ Support information

Appendix Support printer

3-12 [Data] GetInputFields Method

It gets the input information in the layout file.

■ Format

MLComponent.GetInputFields

(ByRef *InputCount* As Integer, ByRef *InputStatus* As Object) As Integer

■ Parameters

Parameters	Setting value	Description
InputCount	Numeric reference type	Number of input items
InputStatus	String reference type	Input information (2D array).

- *InputStatus* format

  Each element (record) of input information is returned as a comma-delimited string.

  (1) Item name — Name of the input item

  (2) Header, row — 0 (header)/1 (row)

  (3) Display position — Y (vertical) X (horizontal) H (height) W (width) Unit: Pixel

  ※ For row items, Y and X are 0.

  (4) Number of digits — Number of digits to input

  (5) Input permission — 0 (possible to input) / 1 (impossible to input) / 2 (hidden)

  (6) Clear after print — 0 (OFF)/1 (ON)

  (7) Kanji input — 0 (OFF) /1 (ON)

  (8) Sort, cut — “0” OFF/ “1” ON

  (9) Input check — 0 (none)/1 (numeric)/2 (alphabet)/3 (alphanumeric)4 (single-byte)
  5 (double-byte)/10 (date)/11 (hexadecimal)/12 (CODE39)/13 (NW-7)

  (10) Character type on the input screen
  P (number of points) N (font name)

  (11) Other check — 0 (none)/1 (CD)/2 (table)/3 (rounding) 4 (range of date)
  5 (special) /6 (condition)

  (12) Initial value — String of initial value

■ Return value

Return Value	Description
0	Normal end
1	An error occurred when loading the layout information file. • The specified layout file does not exist. • The specified layout file does not open. • Corresponding input item does not exist.
61	The layout file is created with MLV5 whose version is newer than MLComponent. Update your MLComponent.

■ **Note**

- This is obtained from the layout file specified in the LayoutFile property.
- The order of input information that is acquired by the parameters InputStatus indicates the input order of the layout file. This is the order of items specified in PrnData.
- Character type on the input screen is the character type for displaying input items specified in the input definition of ML design.
  This is not for text fonts of the labels.

■ **Usage example**

It gets the input information.

```
Dim vInputStatus As Variant
Dim nInputCount As Integer
Dim n As Integer
Dim Result As Integer
Result = MLComponent.GetInputFields(nInputCount, vInputStatus)        ' Input information is got.
If Result <> 0 Then
    Debug.Print “GetInputFields Error !! “                             ' Error message view
Else
    For n = 0 To nInputCount - 1
        Debug.print vinputstatus(n) '                                  Input information view
    Next n
End If
```

- Output result (When the variables are entered in the following order: (1) Article number (2) Product code (3) Print quantity)

  Article number,0,Y100X150H10W70,7,0,0,0,0,1, P12NMS Ｐ Gothic,0,12345,
  Product code,1,Y0X0H10W80,8,0,0,0,0,1,,P12NMS Ｐ Gothic, 0,12345678
  Print quantity,1,Y0X0H10W50,6,0,0,0,0,0,,P12NMS Ｐ Gothic,0,1

■ **Related items**

Property	LayoutFile, PrnData
Method	SetPrnDataField

3-13 [Data] SetPrnDataField Method

It sets the print data of the specified input items.

■ Format

MLComponent.SetPrnDataField

(ByVal *Name* As String, ByVal *Data* As String) As Integer

■ Parameters

Parameters	Setting value	Description
Name	Any string	Input item name
Data	Any string	Data to set The character format is Unicode (UTF-16) compliant with MLV5.

■ Return value

Return Value	Description
0	Settings are complete.
1	An error occurred when loading the layout information file. • The specified layout file does not exist. • The specified layout file does not open. • Corresponding input item does not exist.
61	The layout file is created with MLV5 whose version is newer than MLComponent. Update your MLComponent.

■ Note

- If the same name exists more than once, the print data is set only for the first input item.
- When the LayoutFile property is set, all the set data are cleared.
- When specifying data that include a check digit to a barcode, be sure to check whether the check digit is correct with another application in advance. If you cannot check it, change the data to one that does not include the check digit, or change the layout file so that the check digit part is removed by setting the variable.
- The number of sheets issued can be specified up to 9999 (9999 for the Lapin series except for PW208). Please specify the number of data items according to the number of items in the layout file.
- When using the PrnData properties together with this method, specify the PrnData property first to avoid confusion.
- Do not set the separation character of the format specified by the PrnDataType property as data. Example: If the tab (0x08) is entered in the data when the PrnDataType property is “Tab-separated”, the input order of the items is changed and the input data become invalid.
- When using tabs (0x08) and line feed codes (0x0D, 0x0A) in the data, set the PrnDataType property to “Comma-separated” and enclose the data in double quotations (0x22).

■ **Usage example**

It sets the print data at the position of each input name.

```
Dim Result As Integer
Result = MLComponent.SetPrnDataField(“Article number”, “12-34”)        ' Article number set
If Result <> 0 Then
   //Setting error
End If
Result = MLComponent.SetPrnDataField(“Product No”, “012345”)           ' Product No. set
If Result <> 0 Then
   //Setting error
End If
Result = MLComponent.SetPrnDataField(“Customer name”, “SATO”)          ' Customer name set
If Result <> 0 Then
   //Setting error
End If

Result = MLComponent.SetPrnDataField(“Print quantity”, “1”)            ' Print quantity set
If Result <> 0 Then
   //Setting error
End If
```

■ **Related items**

Property	LayoutFile, PrnData, PrnDataType
Method	Output, GetInputFields

3-14 [Data] GetPrnDataArray Method

It gets multiple data.

■ Format

MLComponent.GetPrnDataArray() As String()

■ Return value

null	Disabled
Other than null	Multiple data

■ Note

- When the LayoutFile property is set, all the input data are cleared.

■ Usage example

It gets multiple data for the Multiple layout.

```
Dim Result As Integer
Dim PrnDataArray1(0 to 3) As String
Dim PrnDataArray2() As String
PrnDataArray1(0) = “Product A” & Chr$(9) & “1”
PrnDataArray1(1) = “Product B” & Chr$(9) & “2”
PrnDataArray1(2) = “Product C” & Chr$(9) & “1”
PrnDataArray1(3) = “Product D” & Chr$(9) & “1”
Result = MLComponent.SetPrnDataArray(PrnDataArray1)          ' Multiple data setting
If Result <> 0 Then
   //Setting error
End If
PrnDataArray2 = GetPrnDataArray()                            ' Multiple data are got.
```

■ Related items

Property	LayoutFile, PrnData, PrnDataType
Method	SetPrnDataArray

3-15 [Data] SetPrnDataArray Method

It sets multiple data.

■ Format

MLComponent.SetPrnDataArray(ByRef *PrnDataArray* As String()) As Integer

■ Parameters

Parameters	Setting value	Description
PrnDataArray	Any string	It specifies each item with a character separator corresponding to the setting of the PrnDataType property. The character format is Unicode (UTF-16) compliant with MLV5.

■ Return value

Return Value	Description
0	Settings are complete.
Number other than 0	Setting has failed.

■ Note

- When the LayoutFile property is set, the set data are initialized.
- When a value is set, the data set in the PrnData property and SetPrnDataField method are initialized.
- When specifying data that include a check digit to a barcode, be sure to check whether the check digit is correct with another application in advance. If you cannot check it, change the data to one that does not include the check digit, or change the layout file so that the check digit part is removed by setting the variable.
- The number of sheets issued can be specified up to 9999 (9999 for the Lapin series except for PW208). Please specify the number of data items according to the number of items in the layout file.
- Do not set the separation character of the format specified by the PrnDataType property as data. Example: If the tab (0x08) is entered in the data when the PrnDataType property is “Tab-separated”, the input order of the items is changed and the input data become invalid.
- When the Setting property is other than DRV (printer driver), specify a number that does not exceed one sheet for the print quantity. If any value other than 1 sheet is specified for the print quantity, an error will occur in the Output method.

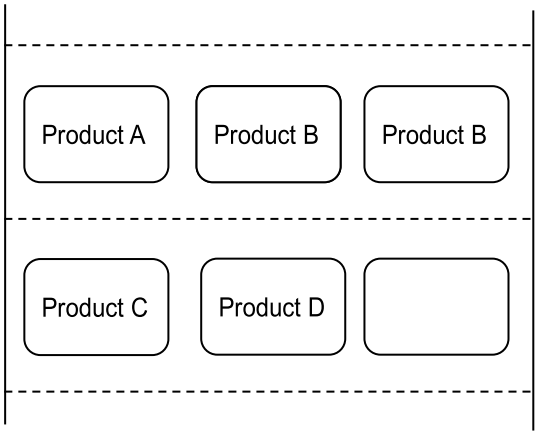
■ Usage example

It sets multiple data for the Multiple layout (horizontal triple).

```
Dim Result As Integer
Dim PrnDataArray(0 to 3) As String
PrnDataArray(0) = “Product A” & Chr$(9) & “1”
PrnDataArray(1) = “Product B” & Chr$(9) & “2”
```

```
PrnDataArray(2) = “Product C” & Chr$(9) & “1”
PrnDataArray(3) = “Product D” & Chr$(9) & “1”
Result = MLComponent.SetPrnDataArray(PrnDataArray)          ' Multiple data are set.
If Result <> 0 Then
   //Setting error
End If

Result = MLComponent.Output()                               ' Print processing
If Result <> 0 Then
   //Print error
End If
```



■ **Related items**

Property　　LayoutFile, PrnData, PrnDataType

Method　　Output, GetPrnDataArray

3-16 [Device] EnumerateBluetoothDevices Method

It searches a Bluetooth device.

■ Format

MLComponent.EnumerateBluetoothDevices(
ByVal *SearchTime* As Integer) As Object

■ Parameters

Parameters	Setting value	Description
SearchTime	Any number	Search time setting in seconds (1 to 61)

■ Return value

Return Value	Array	Description
Device information (2D array)	Number of rows	Number of searched devices
	Row 1	BD address (12-digit hexadecimal number)
	Row 2	Device name
	Row 3	Pairing status (True: Paired, False: Not paired)

■ Note

- Only the Microsoft standard Bluetooth stack (Microsoft Bluetooth Enumerator) can be used as the Bluetooth device on the PC side. Operation is not guaranteed with other Bluetooth stacks.
- In the following cases, the number of elements in the return value is “0”: The search result is 0, an invalid value is specified for SearchTime, no Bluetooth device exists, and the Bluetooth stack is not Microsoft standard.
- Paired devices are reflected in search results even when they are not actually detected (power is turned off or signal do not reach).

■ Usage example

Search a device.

```
Dim arrayVar As Object = MLComponent.EnumerateBluetoothDevices (10)    'Device is searched for 10 seconds.
Dim DevArray As Object(,) = CType(arrayVar, Object(,))                  'Conversion into an array
For n = DevArray.GetLowerBound(0) To DevArray.GetUpperBound(0)
        Dim address As String = CType(DevArray(n, 0), String)           'BD address is got.
        Dim name As String = CType(DevArray(n, 1), String)              'Device name is got.
        Dim isauth As String = CType(DevArray(n, 2), String)            'Pairing status is got.
        Debug.WriteLine(address & “, “ & name & “, “ & isauth)
Next
'Output example 00aabbccddee, SATO MOBILE PRINTER, False
```

■ **Related items**

Method AuthenticateBluetoothDevice

3-17 [Device] AuthenticateBluetoothDevices Method

It performs authentication (pairing) of the Bluetooth device.

■ Format

MLComponent.AuthenticateBluetoothDevice(
ByVal *Address* As String,
ByVal *PIN* As String,
ByVal *SearchTime* As Integer) As Integer

■ Parameters

Parameters	Setting value	Description
Address	Any string	BD address (12-digit hexadecimal number)
PIN	Any string	PIN code of the Bluetooth device
SearchTime	Any number	Search time setting in seconds (1 to 48)

■ Return value

Return Value	Description
0	Pairing is complete.
3	Already Open
700	There is no Bluetooth device on the PC (Bluetooth device is disabled). The Bluetooth stack is not a Microsoft standard.
701	An invalid BD address is specified. The device with the specified BD address does not exist (search timeout).
702	An invalid PIN code is specified.
703	Authentication cannot be done with the specified PIN code. (Authentication rejected by the printer.)

■ Note

- Only the Microsoft standard Bluetooth stack (Microsoft Bluetooth Enumerator) can be used as the Bluetooth device on the PC side. Operation is not guaranteed with other Bluetooth stacks.
- This method performs pairing only. Service registration to the virtual COM port is not performed.
- This method is not required if the authentication level is set to level 1 (no authentication) for the printer with Bluetooth Ver.3.0.
- Pairing is performed after search of the specified time. If no device is found, increase the search time and try again.
- If the device with the specified BD address is already paired, delete the device information and then pair again.

■ **Usage example**

It pairs the device with the specified address.

```
Dim Result As Integer
Dim Address As String = “00aabbccddee”                    'BD address is set.
Dim PIN As String = “1234”                                'PIN is set.
Dim SearchTime As Integer = 3                             'Search time is set.
Result = MLComponent.AuthenticateBluetoothDevice (Address, PIN, SearchTime)
If Result = 0 Then
        'Pairing is successful.
End If
```

■ **Related items**

Method EnumerateBluetoothDevices

3-18 [Exception] MLComponentException Class

Exceptions notified by execution errors of MLComponent.

■Methods that raise exceptions

SendStringData, SendRawData

■ Name space

SATO.MLComponent

■ Inheritance hierarchy

System.Exception

└SATO.MLComponentException

■ Public property

Property name	Type	Get	Set	Description
Number	int	Yes	No	It stores the error number.

■ Usage example

```
Dim RecvData As String
Dim Command As String

 Snip (A command is generated.)

Try
    RecvData = MLComponent.SendStringData(0, Command, 10, Chr$(&H3))    ' Command
transmission
    ' Data analysis
Catch ex As MLComponentException
    If ex.Number = 5 Then
        ' Error of port opening
    Else If   ex.Number =   54 Then
        ' Error of command string
    End If
End Try
```

■ Description of error

Error number	Err object Error code	Description
5	&H80040205	Port is not open.
7	&H80040207	An error occurred while sending command.

8	&H80040208	A timeout occurred while sending command.
9	&H80040209	An error occurred while receiving response.
10	&H8004020A	A timeout occurred while receiving response.
54	&H80040236	Command is empty.

■ Note

- If an exception is caught in Visual Stutio (2010/2012), the message is stored in the Message property of Exception.
- If the Err object is used, the error code is stored in the Number property and the message is stored in the Description property.

3-19 Communication Error

Description of the communication error.

■ Methods that raise communication errors

Output, OutputHeader, OutputTail, SendStringData, SendRawData, GetStatus, Cut, SendCancel

■ Communication error list

If a communication error occurs, disconnect using the ClosePort method, take the following measures, and then execute the OpenPort method again.

Return Value	Description	Cause
7	An error occurred while sending command (or requesting status).	(1)(2)(3)(4)
8	A timeout occurred while sending command (or requesting status).	(5)
9	An error occurred while receiving response (or status).	(1)(2)(3)(4)(6)(7)
10	A timeout occurred while receiving response (or status).	

Cause (1) The printer is not turned on.
⇒ Check the power of the printer.

Cause (2) The cable is not connected.
⇒ Check that the PC and printer are securely connected with the cable and that the cable is not broken.

Cause (3) The printer is already in use. (only when using LAN)
⇒ Check if another PC, software or printer driver is using the printer.

Cause (4) The printer driver is not turned on.
⇒ Check if the “Print Spooler” service is running normally using the management tool on the control panel.

Cause (5) Baud rate is different. (only when using RS-232C)
⇒ Match the baud rate of the printer and the setting of the Setting property.

Cause (6) The communication protocol is different.
⇒ Match the communication protocol of the printer and Protocol property setting.
Be sure to set it to the ENQ response mode when using LAN or Status 4.
See “5-3 Communication Protocol Setting in the Printer“ for details about the setting process.

Cause (7) Communication is delayed due to the network environment. (only when using LAN)
⇒ Adjust the value of the Timeout property. (Initial value is 3 seconds.)

3-20 Print Error

Description of the print error.

■ Methods that raise print errors

Output, OutputHeader, OutputTail

■ Print error list

The print error occurs when there is no information necessary for print, such as the layout file or printer information file. If an error occurs, take appropriate action according to the content of the error.

Return Value	Description Detail
File load error: Prepare the necessary files.	
51	An error occurred when loading the layout information file. The layout file (.mllayx) does not exist or cannot be read. Check the file path specified in the request. If it is used by another application, it cannot be read if you do not have access privileges. PC font information cannot be read due to a Windows update bug. Apply the update program. https://support.microsoft.com/ja-jp/help/4074906/
52	An error occurred when loading the printer information. The printer model used in the layout file is not supported by the current version. Update your MLComponent.
57	The print data is invalid. The set data is different from the data type that is set in the PrnDataType property. Check the specified data.
61	An error occurred when loading the layout file. The layout file is created with MLV5 whose version is newer than MLComponent. Update your MLComponent.
62	An error occurred when loading the global information file. The global information file is created with MLV5 whose version is newer than MLComponent. Update your MLComponent.
63	An error occurred when loading the header label file. The header label file is created with MLV5 whose version is newer than MLComponent. Update your MLComponent.
64	An error occurred when loading the tail label file. The tail label file is created with MLV5 whose version is newer than MLComponent. Update your MLComponent.
65	An error occurred when loading the global table file. The global table file is created with MLV5 whose version is newer than MLComponent. Update your MLComponent.
66	An error occurred when loading the global check table file.

	The global check table file is created with MLV5 whose version is newer than MLComponent. Update your MLComponent.
100	An error occurred when loading the global file.
	The global information file (.mlglex) specified in the layout does not exist or cannot be read. Check the file path specified in the layout. If it is used by another application, it cannot be read if you do not have access privileges.
101	An error occurred when loading the header label file.
	The header label layout file (.mlhtlx) specified in the layout does not exist or cannot be read. Check the file path specified in the layout. If it is used by another application, it cannot be read if you do not have access privileges.
102	An error occurred when loading the tail label file.
	The tail label layout file (.mlhtlx) specified in the layout does not exist or cannot be read. Check the file path specified in the layout. If it is used by another application, it cannot be read if you do not have access privileges.
103	The global information file settings do not match those of the header and tail labels.
	Check the global information file (.mlgle) settings specified in the layout and the header and tail labels layout.
110	An error occurred when saving the layout information file.
	The layout file cannot be saved. Check whether writing is prohibited.
111	An error occurred when saving the global file.
	The global file cannot be saved. Check whether writing is prohibited.
152	The print type of the header label does not match.
	Match the layout and the printer type (SATO printer/color printer) of the header label layout file (.mlhtlx).
153	The print type of the tail label does not match.
	Match the layout and the printer type (SATO printer/color printer) of the tail label layout file (.mlhtlx).
Exception Error	
201	An exception error occurred in the process before generating the printer command.
	See Exception Error.
202	An exception error occurred in the generating process of the printer command.
	See Exception Error.
Target variable error: Set the target variable again.	
300	An error occurred when searching the target of the date variable.
	The variable specified as the passed value of the date variable does not exist in the layout.
301	An error occurred when searching the target of the copy variable before editing.
	The variable specified as the copy target of the copy variable before editing does not exist in the layout.
302	An error occurred when searching the target of the input date variable.
	The variable specified as the passed value or primary target of the input date variable does not exist in the layout.
303	An error occurred when searching the target variable of the table conversion.
	The variable specified as the target key of the table conversion does not exist in the layout.

304	An error occurred when searching the target of the price rounding variable.
	The variable specified as the target of rounding in the price rounding of the calculation variable does not exist in the layout.
306	An error occurred when searching the target of the price check CD variable.
	The variable specified as the calculation target in the price check CD of the calculation variable.
307	An error occurred when searching the target of the cross check variable.
	The variable specified as the comparison target in the cross check of divide variable does not exist in the layout.
308	An error occurred when searching the target of the copy variable after editing.
	The variable specified as the copy target of the copy variable after editing does not exist in the layout.
309	An error occurred when searching the child variable of the join variable.
	The variable specified as the child item of the join variable does not exist in the layout.
310	An error occurred when searching the parent variable of the join item.
	The variable specified as the parent item of the join variable does not exist in the layout.
320	An error occurred when searching the local variable assigned to the layout.
	The local variable specified in the design object does not exist in the layout.
321	An error occurred when searching the global variable assigned to the layout.
	The global variable specified in the design object does not exist in the layout.
Edit error: Occurs when the “graphic conversion error”is valid in the error processing of the print action settings.	
330	The required graphic file does not exist in the paste graphic.
	No graphic exists in the specified path. Check the specified path.
332	The registered graphic which is required does not exist in the call graphic.
	Check whether the graphic with the specified number is registered to the graphic table.
333	The graphic specified in the variable graphic does not exist.
	Check whether there is the specified path or the graphic with the specified graphic number.
Edit error: Occurs when the setting described in parentheses is enabled in the error processing of the print action settings.	
400	An error occurred when editing the date variable. (Date item edit error)
	The date cannot be calculated. Check the passed value.
403	An error occurred in the table conversion. (Table conversion error)
	No value in the table list matches the input value.
404	An error occurred in the ODBC table conversion. (ODBC table conversion error)
	No value in the table list (ODBC) matches the input value.
405	An error occurred in the price rounding calculation. (Price rounding conversion error)
	The price rounding calculation cannot be done. Check the input value of target variable for the rounding calculation.
406	An error occurred in four arithmetic operations. (Expression calculation error)
	Four arithmetic operations cannot be done. Check the input value.
407	An error occurred in the price check CD calculation. (Price C/D calculation error)
	The price check CD calculation cannot be done. Check the input value of the target variable.
408	An error occurred when editing ¥ and comma. (Currency and comma editing error)

	There are not enough digits to add ¥ and comma for the table conversion or calculation. Check the number of digits for the input value or variable.
409	An error occurred when editing the one character filling. (One character filling editing error)
	There are not enough digits to fill one character for the table conversion or calculation. Check the number of digits for the input value or variable.
410	An error occurred in the CD calculation. (C/D calculation error)
	An error occurs when the CD replacement is judged as error by Modulus 11 and the CD value cannot be replaced. Check the input value.
411	An error occurred in the special editing.
	There is not enough information such as DLL or function used for the special editing. Set again.
413	An error occurred in the tax editing. (Tax edit error)
	The consumption tax rate is not set. Set the TaxRate property.
430	An error occurred with condition judgment. (Condition judgment error).
	Judgment result cannot be calculated in the conditional expression of the condition variable. Check whether the correct values are set for the conditional expression and target variable.
431	The variable used in the condition judgment result cannot be found. (Condition judgment error).
	Check whether the specified variable exists in the judgment result of the condition variable.
610	Some items cannot be printed on paper. (When the specified item exists outside paper)
	Objects are assigned on the outside of paper. Check if there are any error objects with the ML design. Set the object that is not required for printing to “Do not print” in the print attribute setting.
Rendering error: Occurs when the "When a rendered image is shown as a black square it shows an error message" is enabled in the other of the print action settings.	
130	The rendered image is displayed as a black square.
	• There may be a problem with Windows Update. Please apply the latest update and see if it improves. • This may occur when a login user to the PC is switched or the operating PC connecting to remote desktop is switched during printing. This is a Windows limitation. Avoid operations that switch the logged-in user or operating PC during printing.
Rendering error: There is no information necessary to draw the object.	
450	An error occurred in the judgment of the conditional print.
	The variable or check table specified in the print condition settings does not exist, or the global information to be used or global check table file itself does not exist.
470	The text format tag is invalid.
	Check the format tag description method, such as whether the number of start/exit tags matches.
471	A variable that cannot be used as a text format tag is set.
	The format tag cannot be set for the symbol variables. Change the variable of the text object.
472	Automatic C/D adding is not available when text format tag is enabled.
	Disable the automatic C/D adding.
473	Font width should be Auto when text format tag is enabled.
	Set the font width to Auto.
600	The Windows layout font used in the layout does not exist.

	Install the appropriate Windows font for the print environment. Use the operation setting file to perform the test printing temporarily in the development environment. For more information about the operation setting file, see the Technique Manual.
601	The barcode information used in the layout does not exist.
	Update your MLComponent.

Unsupported error: The property is set in a combination that cannot be used.	
800	A layout that uses serial number variables [Numeric (Layout)] and [Character] cannot be printed using other than the printer driver output and file output.
	Change to the printer driver output, or change the input variable and enter the serial number from the application.
801	In an output by other than the printer driver and file, you cannot specify more than one sheet for the multiple layout.
	Change to the printer driver output, or change the print quantity to one or less.
802	The print quantity is not specified.
	Check the input data in the PrnData property, SetPrnDataField method, and SetPrnDataArray method.
803	You cannot specify the form overlay in the Multiple or double-sided layout.
	Use a layout that combines registration and printing without using the form overlay.
804	In an output by other than the printer driver and file, you cannot specify multiple data for a layout other than Multiple with the SetPrnDataArray method.
	For interface output (LAN, USB, COM, Bluetooth), specify the data for each page and print it with checking the printer status.
805	The specified quantity cut is disabled in a Multiple layout.
	To use the specified quantity cut, update to Ver.5.1.1.0 or later.
820	The header label is not set in the layout.
	To output the header label, set the header and tail label output of the print action settings.
821	The tail label is not set in the layout.
	To output the tail label, set the header and tail label output of the print action settings.
Other than those above	Check that the layout file is the SATO printer layout. The color printer layout only supports the paid version “MLComponentPlus”.

■ Exception Error

An exception error occurs when MLComponent catches an exception from the OS at an unexpected timing during the print process. To check the details of the exception, enable “debug log” in the action setting file* and see the event “SATO MLV5 MLComponent” output to the event viewer after an error occurs.

- When the error is recovered by restarting the application or by taking an interval between printings. Memory may be insufficient. Enable “Automatic memory release” in the action setting file* and check if the memory usage is stable. If the situation does not improve due to the automatic memory release, check the memory usage of the application handle, GDI object, etc. in Task Manager and improve the application logic.
  Example: Since a thread created by the application for a print remained without being deleted after printing, the handle/GDI object has leaked. This was improved by changing the logic to reuse the print thread.

* For details about how to use the action setting file, see the attached document “**MLComponent Technique Manual**”.

Chapter 4

Notes on Usage/ Precautions

4-1 Programming

Explanations about notes on usage and precautions related to programming.

■ Version upgrade

Simply overwrite “MLComponent.dll” to upgrade. There is no need to recompile the program.

■ Cutting operation

MLComponent does not perform the cutting operation by default.
If the cutting operation is not performed normally, check the descriptions below. The MultiCut property is not available when sequence variable is used in the layout file. Use the Cut method to control the cutting operation.

- Is the print quantity specified to the print data?
  When the print quantity is not specified, only one sheet of the label is printed and the cutting operation is not performed. Check that the data is set correctly by referring to [Inputting Data in Batch] [Specifying Data by Variable Name] in the attached document “MLComponent Technique Manual”.

- Have you set the property or method for cutting operations?
  Set the property or method for cutting operations by referring to [Controlling Cutting Operations] in the attached document “**MLComponent Technique Manual**”.

■ Use on ASP.NET

Use on Web applications (Javascript, ASP.NET, etc.) is not supported. Consider purchasing the Web application development support tool “Multi LABELIST V5 WebEngine”.

■ Problems of “ntdll”

Problems have been reported that cause application errors on an irregular basis (the name of module with the problem is ntdll.dll, and exception code is 0xc0000005, etc.).
There is information on the Microsoft support site that a multi-threaded application may crash due to a bug in “ntdll.dll”. Check the details below to see if it can be improved by applying the patch.
http://support.microsoft.com/kb/2545627/ja

■ Delay at the first startup or loading layout file

When calling MLComponent for the first time after startup of the application or loading of the layout information for the first time (by the Output method, GetPrinter method, etc.), the processing may be delayed due to the library of .NET Framework used in MLComponent being loaded.
If the delay is an obstacle during operation, adopt a method such as calling a temporary layout with MLComponent asynchronously when starting the application or distributing “MLComponent.XmlSerializers.dll” together with MLComponent to avoid the delay. If you use the printing application with a shell launch, consider using the multithread.

■High DPI setting

Windows 8.1 and later applications require additional high DPI settings. Set the manifest file or the property of execution file. When the high DPI is not set, the screen of the application becomes small or Some sizes of Windows fonts are not printed.

- To set <dpiAware> to false in the manifest file
  https://blogs.msdn.microsoft.com/ttanaka/2014/08/22/dpihigh-dpi-3-12503/
  * The setting in the link is true, but set to false to declare that it is not compatible with high DPI.

- Enable “Overwrite high DPI scale behavior.” on the compatibility tab in the application (* .exe) property, and then select “System” or “System (Extended)” as the zoom in/zoom out source. (Windows10 only. It cannot be set on Windows 8.1.)

■ Memory usage (the layout may break)

If the various resources such as “memory”, “handle”, “thread”, and “GDI object” in OS are insufficient, problems occur in the printed contents: the font type and size specified in the layout are not printed, the graphic is missing (blank printing), etc.
In order to stabilize the operation, thoroughly check the consumption and leak of resources at the stress test (load test) of the development application.

■ Output in multithread

If multiple outputs are executed simultaneously in multithread, the processing load increases and printing speed may decrease. If the speed decreases, improve the printing environment and settings as follows:

- Modify the layout to reduce the data size, such as changing the character object to a printer font.
- Distribute the load to two or more printers or print processes (applications).
- Reduce the number of threads that are started simultaneously to shorten the printing time per thread.

When implementing the multithread in the Thread class of Visual Studio, memory may not be released in a deep nest due to a bug in Windows. Use the Task class or review the nest of the print processing thread.

■ Exceptions in Visual Studio

While debugging in Visual Studio, exceptions that MLComponent catches internally may appear in the output window. If this interferes with debugging, change the debug setting to “My code only”.
https://docs.microsoft.com/ja-jp/visualstudio/debugger/just-my-code

■ Sleep mode of the printer（for CL4NX-J, CL6NX-J, and PW208NX/ PW208）

When the printer is in the sleep mode, the error 11 may occur in the output method (Output, OutputHeader, OutputTail, Cut, or SendCancel).

Try one of the following methods:

1. Change the sleep mode to OFF.
   See the user’s manual of the printer for how to change the sleep mode.
   http://www.sato.co.jp/download/manual/

2. Update the printer firmware. (PW208NX/PW208 only)
   Contact our sales representative or your nearest support center.
   http://www.sato.co.jp/company/location/supportsystem/

■Double-byte spaces in Windows fonts vary depending on the version of .NET Framework.

When "Sharp Settings" is enabled, double-byte spaces in the Windows font differ depending on the version of .NET Framework. When you replace your PC or upgrade your OS, XXX is different from versions before 4.6.2. In the case of upgrading to 4.6.2 or later, if more than one double-byte space is used, the print position will be changed to Since there is a possibility of shifting, please check the position of automatic line feeds and other factors to ensure that the printed content is not affected.

4-2 Interface

Explanations about notes on usage and precautions related to the connection.

■ LAN

- **How to specify**

  See Setting Property.

- **Connection and disconnection**

  If you repeat the OpenPort and ClosePort methods for each print, wait 200ms or more after executing the ClosePort method and execute the next OpenPort method. If the OpenPort method is executed without leaving an interval, a double connection may occur.

- **Double connection**

  When another application is using the printer, the OpenPort method succeeds but an error (return value 7, 9, 10) may occur in the output method (GetStatus, Output, SendStringData, SendRawData, Cut, SendCancel). If an error occurs in the method above immediately after connection, execute the ClosePort method, add wait processing, and reconnect to the network.

- **Status check before transmission**

  Make sure to check the printer status with the GetStatus method before executing any of the Output method (Output, SendStringData, or SendRawData). If the output method is executed without checking the printer status with the GetStatus method, the sent print data may be lost or the printing may stop depending on the printer status.

- **Status check after transmission**

  If you execute the ClosePort method immediately after executing the Output method, the transmission data may be interrupted depending on the OS or Pr environment. Make sure to check the communication status with the printer using the GetStatus method before executing the ClosePort method.

- **Communication protocol**

  In the status 4, data arrival confirmation by ACK/NAK is not performed when the Output method is executed. Check the printer status with the GetStatus method after transmission.

■ USB

- **How to specify**

  See Setting Property.

- **Status check before transmission**

  Make sure to check the printer status with the GetStatus method before executing any of the Output method (Output, SendStringData, or SendRawData). If the output method is executed without checking the printer status with the GetStatus method, the sent print data may be lost or the printing may stop depending on the printer status.

- **Communication protocol**

  Specify the status 4.

- **When using in the 64-bit Windows**

  On 64-bit Windows, applications can only be used when operating as 32-bit versions. If the target CPU is specified as “AnyCPU” or “x64” in Visual Studio, an error occurs in OpenPort.

- **Exclusive control**

  Exclusive control is not possible when connected via USB. Be careful not to perform two or more printing processes simultaneously in multiple threads of an application or in multiple applications.

- **[Printer model] of the Setting property**

Name of Select layout	Setting value
L’esprit T408v/R408v	L’esprit 408v
L’esprit T412v/R412v	L’esprit 412v
EtVie EV208R	EV208R
EtVie EV212R	EV212R
EtVie EV208R(SATOC)	EV208R
EtVie EV212R(SATOC)	EV212R
Bartronics CF408T	CF408T
Bartronics RT308R	RT308R
Scantronics HA212R	HA212R
Scantronics HA224R	HA224R
Scantronics M-48Pro8	-
Scantronics M-48Pro12	-
Scantronics M-48Pro24	-
CL4NX-J 08	CL4NX-J 08
CL4NX-J 12	CL4NX-J 12
CL4NX-J 24	CL4NX-J 24
SeaTa CT4-LX DT203/TT203	CT4-LX-J 203
SeaTa CT4-LX DT305/TT305	CT4-LX-J 305
L'esprit HC4-LX DT203/TT203	HC4-LX-J 203
L'esprit HC4-LX DT305/TT305	HC4-LX-J 305
Scantronics SG408R-ex	SG408R-ex

Scantronics SG412R-ex	SG412R-ex
Scantronics SG424R-ex	SG424R-ex
Scantronics BF408R	BF408R
Scantronics BF412R	BF412R
Scantronics MT400e / MT410e	-
CL6NX-J 08	CL6NX-J 08
CL6NX-J 12	CL6NX-J 12
Scantronics SG608R	SG608R
Scantronics SG612R	SG612R
Scantronics SG112T/R	SG112T/R
Scantronics GN412T	GN412T
SATOC ST308R	ST308R
SATOC ST312R	ST312R
FLEQV FX3-LX	Not Supported
Petit lapin PW208NX/PW208mNX/ PW208/PW208m	PW208
Petit lapin PT208m/PT208e/PT208j	-
Lapin PT408e / PT412e	-
Tough arm LR4080SR-T	-
Tough arm LR4120SR-T	-
Scantronics SG408R	SG408R
Scantronics SG412R	SG412R
Scantronics SG424R	SG424R
L’esprit T8/R8	-
L’esprit T12/R12	-
Scantronics M-4800RVe	-
Scantronics SR408/SR412/SR424	-
Scantronics MR400e / MR410e	-
Scantronics MR600e / MR610e	-
Scantronics MT110w/MR110w	-
SATOC TR400e/TR410e	-
CT400/CT410	-
M-84Pro-2/M-84Pro-3/M-84Pro-6	-
GT408e/GT412e/GT424e	-
M-5900RVe	-
CL4NX (203dpi)	CL4NX (203dpi)
CL4NX (305dpi)	CL4NX (305dpi)
CL4NX (609dpi)	CL4NX (609dpi)
CT4-LX DT203/TT203	CT4-LX 203
CT4-LX DT305/TT305	CT4-LX 305
CL408e/CL412e	-

CL6NX (203dpi)	CL6NX (203dpi)
CL6NX (305dpi)	CL6NX (305dpi)
CL608e/CL612e	-
XL400e/XL410e	-
MB200i	-
MB400i/MB410i	-

- **[Serial No.] of the Setting property**

  You can check [Serial no.] on the Windows screen.

  1. Power up the printer and connect it to the computer via USB.
  2. Start Device Manager on Control Panel.
  3. Select USB Print Support from Universal Serial Bus Controller.
  4. Open Property from the right-click menu.
  5. Select “Device Instance Path” from the Property on the Details tab.
  6. The last eight digits of the displayed value are the serial number.
     (Example) USB¥¥VID_XXXX&PID_XXXX¥¥ **(Eight digits serial No.)**

■ COM

- **How to specify**

  See Setting Property.

- **Status check before transmission**

  Make sure to check the printer status with the GetStatus method before executing any of the Output method (Output, SendStringData, or SendRawData). If the output method is executed without checking the printer status with the GetStatus method, the sent print data may be lost or the printing may stop depending on the printer status.

■ Bluetooth

- **How to specify**

  See Setting Property.

- **Bluetooth stack**

  Only the Microsoft standard Bluetooth stack (Microsoft Bluetooth Enumerator) can be used as the Bluetooth device on the PC side. Operation is not guaranteed with other Bluetooth stacks.

  In other Bluetooth stacks, the OpenPort method, EnumerateBluetoothDevices method, and AuthenticateBluetoothDevice method may not work properly. Replace with a standard Microsoft Bluetooth stack. Contact the manufacturers of your PC or Bluetooth adapter for replacement instructions.

- **Double connection**

When another application is using the printer, an error occurs with the return value 7 in the Output method (connection error). The printer can communicate with only one Bluetooth device.

- **Status check before transmission**
  Make sure to check the printer status with the GetStatus method before executing any of the Output method (Output, SendStringData, or SendRawData). If the output method is executed without checking the printer status with the GetStatus method, the sent print data may be lost or the printing may stop depending on the printer status.

- **Number of the available devices**
  Up to 7 Bluetooth devices can be connected simultaneously from the PC due to the Windows specifications.
  If more than 7 devices are connected, an error occurs with the return value 7 in the Output method (connection error).

■ Printer driver

- **How to specify**
  See Setting Property.

- **Properties and methods that are disabled**

Property	Protocol, Timeout
Method	GetStatus

- **[Sending data to the printer directly] in Detailed Settings**
  If [Sending data to the printer directly] is active in [Detailed Settings] of the printer driver, OpenPort fails and does not work properly. Change the activated setting to [Spool print documents and print programs at high speed], or use interface output (LAN, USB, COM, Bluetooth) without using the printer driver.

- **[Spool print documents and print programs at high speed] in Detailed Settings**
  When [Spool print documents and print programs at high speed] is active in [Detailed settings] of the printer driver, the spool transmission method differs depending on the selected contents.
  In the case of “Send print data to the printer immediately”, when the Output method is executed continuously or the transmission is completed with the ClosePort method, the print data is sent to the printer.
  In the case of “Spool the data for all pages and then send the print data to the printer”, when transmission is completed with the ClosePort method, the print data is sent to the printer.

- **The publishing start is slow in Windows 10**
  In Windows 7, every time you execute an Output method, you can use the Spooled data was being sent to the printer, but Windows 10 is an OS specification The change causes spool data to be sent every 256KB. To send the data to the printer immediately, set ClosePort to Execute.

4-3 Layout Information

Descriptions for usage and precautions about the layout information.

■ Input Definitions

The input definitions for layout files (default values, limit of the number of digits, input check, etc.) are the setting items used on the print screen of ML Print. To use the input definitions settings in your application, get them with GetInputFields.

■ Windows font

When “Windows font” is specified in the character object, the character is drawn with graphics.
Various character expressions and free size adjustments can be made, but printing is slow due to the large transmission data. If the print is slow due to a large number of continuous prints or in multithread, try changing the character object to “Printer fonts” for improvement.

Font	Available character * depending on the font type	Size adjustment	Small character	Amount of data
Printer font	○: Sufficient	△ : Specified magnification	○: Sharp	◎: Small
Windows font	◎: Abundant	○: Specified point	△: Illegible	△: Large

■ Graphic object

When the image of the imported file is enlarged or reduced, part of the image may become thinner or rubbed. Try to capture the original image file after zooming in or zooming out it to the size you want to use, or set the stretch mode (graphic object) to “GDI-compatible”.

■ Fixed object (improving print speed)

Fixed objects whose contents do not change depending on the data, such as pasted characters and lines, are analyzed to print and converted to printer commands. On the Other page of Set print operation, the print speed can be improved in the case that the many fixed objects exist or there are many automatic line breaks due to pasted characters of Windows fonts, by saving the layout with “Convert fixed items to the printer commands when saving layout (accelerated)” enabled.

■ Sequence variable

When the sequence variable [Number (layout)] [Character] is used, print the label by the printer driver output. The interface output* will cause the error 800 in the Output.When using a sequence number for the interface output*, specify it on the application, or use the sequence variable [Number (printer)].
The sequence number saved in the layout file cannot be got and changed. Check and change it in MLV5.
If you need to manage the sequence number in your application, set Seq.no.save method of the layout file to “None”.

■ Multiple label

When using the Multiple label with the interface output*, enter the print quantity to be printed for one sheet.
If the specified number exceeds the print quantity for one sheet, error 801 will occur in the Output.

* Interface output
  Output method that specifies “LAN:”, “USB:”, “COM:”, or “BT:” in the Setting property.

Chapter 5

Appendix

5-1 Support Printer

Explanations about the support printer for MLComponent.

The abbreviated letters indicate as follows:

P: Protocol property
D: Darkness property
Spd: Speed property
MCt: MultiCut property
ECt: EjectCut property
Sok: SortMark property
F: Formoverlay property
Cut: Cut method

■ SCeaTa series

Model Name	P	D	Spd	MCt	ECt	Sok	F	Cut
CT4-LX-J 203	3,4	1 to 10	2 to 8	Yes	Yes	No	Yes	Yes
CT4-LX-J 305	3,4	1 to 10	2 to 6	Yes	Yes	No	Yes	Yes

■ L'esprit series

L'esprit T408/R408 ⇒ L'esprit T8/R8

L'esprit T412/R412 ⇒ L'esprit T12/R12

Model Name	P	D	Spd	MCt	ECt	Sok	F	Cut
HC4-LX-J 203	3,4	1 to 10	2 to 8	Yes	Yes	No	Yes	Yes
HC4-LX-J 305	3,4	1 to 10	2 to 6	Yes	Yes	No	Yes	Yes
L'esprit T8/R8	3,4	1 to 5	2 to 6	Yes	Yes	No	Yes	Yes
L'esprit T12/R12	3,4	1 to 5	2 to 4	Yes	Yes	No	Yes	Yes
L'esprit 408v	3,4	1 to 5	2 to 6	Yes	Yes	No	Yes	Yes
L'esprit 412v	3,4	1 to 5	2 to 4	Yes	Yes	No	Yes	Yes

■ Scantronics series

Model Name	P	D	Spd	MCt	ECt	Sok	F	Cut
CL4NX-J 08	3,4	1 to 10	2 to 14	Yes	Yes	No	Yes	Yes
CL4NX-J 12	3,4	1 to 10	2 to 14	Yes	Yes	No	Yes	Yes
CL4NX-J 24	3,4	1 to 10	2 to 6	Yes	Yes	No	Yes	Yes
CL6NX-J 08 (LEFT-JUSTIFY)	3,4	1 to 10	2 to 10	Yes	Yes	No	Yes	Yes
CL6NX-J 12 (LEFT-JUSTIFY)	3,4	1 to 10	2 to 8	Yes	Yes	No	Yes	Yes
CL6NX-J 08	3,4	1 to 10	2 to 10	Yes	Yes	No	Yes	Yes
CL6NX-J 12	3,4	1 to 10	2 to 8	Yes	Yes	No	Yes	Yes
MR600e	3,4	1 to 3	4,6,8	Yes	Yes	No	Yes	Yes
MR610e	3,4	1 to 3	4,6,8	Yes	Yes	No	Yes	Yes
MT/MR110w	3,4	1 to 5	3 to 5	Yes	Yes	No	Yes	Yes
MT400e	3,4	1 to 5	2 to 6	Yes	Yes	No	Yes	Yes

MT410e	3,4	1 to 5	2 to 6	Yes	Yes	No	Yes	Yes
M-48Pro8	3,4	1 to 3	2, 4, 6, 8, 10	Yes	Yes	No	Yes	Yes
M-48Pro12	3,4	1 to 3	2,4,6,8	Yes	Yes	No	Yes	Yes
M-48Pro24	3,4	1 to 3	2 to 6	Yes	Yes	No	Yes	Yes
SR408	3,4	1 to 5	2 to 12	Yes	Yes	No	Yes	Yes
SR412	3,4	1 to 5	2 to 12	Yes	Yes	No	Yes	Yes
SR424	3,4	1 to 5	2 to 6	Yes	Yes	No	Yes	Yes
BF408R	3,4	1 to 5	2 to 6	Yes	Yes	No	Yes	Yes
BF412R	3,4	1 to 5	2 to 6	Yes	Yes	No	Yes	Yes
SG408R	3,4	1 to 5	2 to 10	Yes	Yes	No	Yes	Yes
SG412R	3,4	1 to 5	2 to 10	Yes	Yes	No	Yes	Yes
SG424R	3,4	1 to 5	2 to 6	Yes	Yes	No	Yes	Yes
HA212R	3,4	1 to 5	1 to 4	No	No	No	Yes	No
HA224R	3,4	1 to 5	1 to 4	No	No	No	Yes	No
GN412T	3,4	1 to 5	3 to 10	Yes	Yes	No	Yes	Yes
SG608R	3,4	1 to 10	2 to 10	Yes	Yes	No	Yes	Yes
SG612R	3,4	1 to 10	2 to 8	Yes	Yes	No	Yes	Yes
SG112R/T	3,4	1 to 10	3 to 6	Yes	Yes	No	Yes	Yes
SG408R-ex	3,4	1 to 10	2 to 14	Yes	Yes	No	Yes	Yes
SG412R-ex	3,4	1 to 10	2 to 14	Yes	Yes	No	Yes	Yes
SG424R-ex	3,4	1 to 10	2 to 6	Yes	Yes	No	Yes	Yes

■ SATOC series, EtVie series, Bartronics series, FLEQV

Model Name	P	D	Spd	MCt	ECt	Sok	F	Cut
TR400e	3,4	1 to 3	5 to 8	Yes	Yes	Yes	Yes	Yes
TR410e	3,4	1 to 3	4 to 6	Yes	Yes	Yes	Yes	Yes
RT308R	3,4	1 to 5	2 to 5	Yes	Yes	No	Yes	Yes
ST308R	3,4	1 to 3	2 to 10	Yes	Yes	Yes	Yes	Yes
ST312R	3,4	1 to 3	2 to 10	Yes	Yes	Yes	Yes	Yes
EV208R	3,4	1 to 5	2 to 5	Yes	Yes	No	Yes	Yes
EV212R	3,4	1 to 5	2 to 4	Yes	Yes	No	Yes	Yes
EV208R(SATOC)	3,4	1 to 5	2 to 5	Yes	Yes	No	Yes	Yes
EV212R(SATOC)	3,4	1 to 5	2 to 4	Yes	Yes	No	Yes	Yes
CF408T	3,4	1 to 10	2 to 6	Yes	Yes	No	Yes	Yes
FX3-LX	3,4	1 to 10	2 to 6	Yes	Yes	No	Yes	Yes

■ Lapin series

PW208NX/PW208mNX, PW208m ⇒ PW208

Model Name	P	D	Spd	MCt	ECt	Sok	F	Cut
PW208	3,4	1 to 10	3 to 6	No	No	No	Yes	No
PT208m/e/j	3	1 to 5	3 to 4	No	No	No	No	No
PT408e	3	1 to 5	3 to 4	No	No	No	No	No
PT412e	3	1 to 5	1 to 2	No	No	No	No	No

■ Tough arm series

Model Name	P	D	Spd	MCt	ECt	Sok	F	Cut
LR4080SR-T	3,4	1 to 5	2 to 12	Yes	Yes	No	Yes	Yes
LR4120SR-T	3,4	1 to 5	2 to 12	Yes	Yes	No	Yes	Yes

■ Foreign printer

Model Name	P	D	Spd	MCt	ECt	Sok	F	Cut
CT400	3,4	1 to 5	2 to 6	Yes	Yes	No	Yes	Yes
CT410	3,4	1 to 5	2 to 4	Yes	Yes	No	Yes	Yes
CL408e	3,4	1 to 5	1 to 5	Yes	Yes	No	Yes	Yes
CL412e	3,4	1 to 5	1 to 5	Yes	Yes	No	Yes	Yes
CL608e	3,4	1 to 3	4,6,8	Yes	Yes	No	Yes	Yes
CL612e	3,4	1 to 3	4,6,8	Yes	Yes	No	Yes	Yes
MB200i	3	1 to 5	1 to 2	No	No	No	No	No
MB400i	3	1 to 5	3 to 4	No	No	No	No	No
MB410i	3	1 to 5	3 to 4	No	No	No	No	No
XL400e	3,4	1 to 5	5 to 8	Yes	Yes	Yes	Yes	Yes
XL410e	3,4	1 to 5	4 to 6	Yes	Yes	Yes	Yes	Yes
M-5900RVe	3,4	1 to 5	2 to 6	Yes	Yes	No	Yes	Yes
M-84Pro-2	3,4	1 to 5	1 to 5	Yes	Yes	No	Yes	Yes
M-84Pro-3	3,4	1 to 5	1 to 4	Yes	Yes	No	Yes	Yes
M-84Pro-6	3,4	1 to 5	1 to 5	Yes	Yes	No	Yes	Yes
GT408e	3,4	1 to 5	1 to 11	Yes	Yes	No	Yes	Yes
GT412e	3,4	1 to 5	1 to 11	Yes	Yes	No	Yes	Yes
GT424e	3,4	1 to 5	1 to 5	Yes	Yes	No	Yes	Yes
CL4NX (203dpi)	3,4	1 to 10	2 to 10	Yes	Yes	No	Yes	Yes
CL4NX (305dpi)	3,4	1 to 10	2 to 8	Yes	Yes	No	Yes	Yes
CL4NX (609dpi)	3,4	1 to 10	2 to 6	Yes	Yes	No	Yes	Yes
CL6NX (203dpi)	3,4	1 to 10	2 to 10	Yes	Yes	No	Yes	Yes
CL6NX (305dpi)	3,4	1 to 10	2 to 8	Yes	Yes	No	Yes	Yes
CT4-LX 203	3,4	1 to 10	2 to 8	Yes	Yes	No	Yes	Yes
CT4-LX 305	3,4	1 to 10	2 to 6	Yes	Yes	No	Yes	Yes

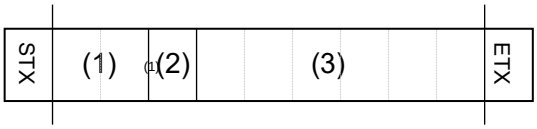
5-2 Status List

Explanations about the communication protocol status.

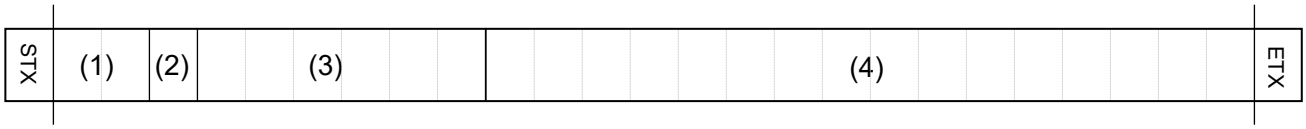
The GetStatus method returns a status string that the head and tail parts (STX and ETX) have been omitted from the status string received from the printer.

■ Status string

<Status 3, Status L> (9 bytes)



<Status 4> (25 bytes)



(1) Status ID (2 bytes) StatusID property value set to use the Output method.

(2) Status (1 byte) Printer status (See the list)

(3) Remaining number of print sheets (6 bytes) For a single print instruction.

(4) Job name (16 bytes) JobName property value set to use the Output method.

■ Status list (status 3, status 4)

Status			ASCII	Hexadecimal code	Can be transmitted	Recoverable
Offline	No error		0	30	Yes	Yes
	Label/Ribbon near end		1	31	Yes	Yes
	Buffer near full		2	32	No	Yes
	Label/Ribbon near end and Buffer near full		3	33	No	Yes
	Stop printing (no error) *Status 4 only		4	34	Yes	Yes
Online	Waiting for reception	No error	A	41	Yes	Yes
		Label/Ribbon near end	B	42	Yes	Yes
		Buffer near full	C	43	No	Yes
		Label/Ribbon near end and Buffer near full	D	44	No	Yes
	Printing	No error	G	47	Yes	Yes
		Label/Ribbon near end	H	48	Yes	Yes
		Buffer near full	I	49	No	Yes
		Label/Ribbon near end and Buffer near full	J	4A	No	Yes
	Waiting (Wait for cutting and peeling)	No error	M	4D	Yes	Yes
		Label/Ribbon near end	N	4E	Yes	Yes
		Buffer near full	O	4F	No	Yes
		Label/Ribbon near end and Buffer near full	P	50	No	Yes
	Analyzing and editing	No error	S	53	Yes	Yes
		Label/Ribbon near end	T	54	Yes	Yes
		Buffer near full	U	55	No	Yes
		Label/Ribbon near end and Buffer near full	V	56	No	Yes
	Stop printing (no error) *Status 4 Only	Waiting for reception	E	45	Yes	Yes
		Printing	K	4B	Yes	Yes
		Waiting (for cutting and peeling)	Q	51	Yes	Yes
		Analyzing and editing	W	57	Yes	Yes
Error detection	Reception buffer full		a	61	No	No
	Head open		b	62	No	Yes

(offline)	Paper end	c	63	No	Yes
	Ribbon end	d	64	No	Yes
	Media error	e	65	No	Yes
	Sensor error	f	66	No	Yes
	Head error	g	67	No	No
	Cover open	h	68	No	Yes
	Card error	i	69	No	No
	Cutter error	j	6A	No	No
	Other errors	k	6B	No	No
	Cutter sensor error	l	6C	No	Yes
	Stacker full and Refinder full	m	6D	No	Yes
	RFID tag error	o	6F	No	Yes
	RFID protect error	p	70	No	Yes

- Buffer overflow may occur on some interfaces.

■ Status list (L'esprit V series, PW208NX/PW208mNX/PW208/PW208m addition)

Status			ASCII	Hexadecimal code	Transmission transmitted	Recoverable
Offline	Battery near end		5	35	Case by case	Yes
	Battery near end and Ribbon near end		6	36	Case by case	Yes
	Battery near end and Buffer near full		7	37	No	Yes
	Battery near end, Ribbon near end, Buffer near full		8	38	No	Yes
Online	Waiting for reception	Battery near end	!	21	Case by case	Yes
		Battery near end and Ribbon near end	“	22	Case by case	Yes
		Battery near end and Buffer near full	‘#	23	No	Yes
		Battery near end, Ribbon near end, Buffer near full	$	24	No	Yes
	Printing	Battery near end	%	25	Case by case	Yes
		Battery near end and Ribbon near end	&	26	Case by case	Yes
		Battery near end and Buffer near full	‘	27	No	Yes
		Batterynear end, Ribbon near end, Buffer near full	(	28	No	Yes
	Waiting (Wait for cutting and peeling)	Battery near end	)	29	Case by case	Yes
		Battery near end and Ribbon near end	*	2A	Case by case	Yes
		Battery near end and Buffer near full	+	2B	No	Yes
		Battery near end, Ribbon near end, Buffer near full	,	2C	No	Yes
	Analyzing and editing	Battery near end	-	2D	Case by case	Yes
		Battery near end and Ribbon near end	.	2E	Case by case	Yes
		Battery near end and Buffer near full	/	2F	No	Yes
		Battery near end, Ribbon near end, Buffer near full	@	40	No	Yes
Error detection	Battery error		q	71	No	No

- Ribbon near end is not detected in PW208NX/PW208mNX/PW208/PW208m.

■ Status list (addition for Status L)

Status			ASCII	Hexadecimal code	Transmission	Recoverable
Online	Wait for printing (Wait for passing)	No error	M	4D	Yes	Yes
		Label/Ribbon near end	N	4E	Yes	Yes
		Buffer near full	O	4F	No	Yes
		Label/Ribbon near end and Buffer near full	P	50	No	Yes
	Print adsorption Waiting start signal/Pasting	No error	o	6F	Yes	Yes
		Label/Ribbon near end	p	70	Yes	Yes
		Buffer near full	q	71	No	Yes
		Label/Ribbon near end and Buffer near full	r	72	No	Yes
	Passing	No error	s	73	Yes	Yes
		Label/Ribbon near end	t	74	Yes	Yes
		Buffer near full	u	75	No	Yes
		Label/Ribbon near end and Buffer near full	v	76	No	Yes
Error detection	Label connection error (paper end)		c	63	No	No
	Label pasting error		l	6C	No	No
	Label absorption failure		#	23	No	No
	Ability over		$	24	No	No
	Cylinder malfunction		%	25	No	No
	Timer error		&	26	No	No
	Error specific for user		+	2B	No	No

■ Status list (Pt408e, Pt412e, Status 3 for PT200m/e/j)

Status			ASCII	Hexadecimal code	Transmission	Recoverable
Offline	No error		0	30	Yes	Yes
	Battery near end		1	31	Case by case	Yes
	Buffer near full		2	32	No	Yes
	Battery near end and Buffer near full		3	33	No	Yes
Online	Waiting for reception	No error	A	41	Yes	Yes
		Battery near end	B	42	Case by case	Yes
		Buffer near full	C	43	No	Yes
		Battery near end and Buffer near full	D	44	No	Yes
	Printing	No error	G	47	Yes	Yes
		Battery near end	H	48	Case by case	Yes
		Buffer near full	I	49	No	Yes
		Battery near end and Buffer near full	J	4A	No	Yes
	Wait for peeling	No error	M	4D	Yes	Yes
		Battery near end	N	4E	Case by case	Yes
		Buffer near full	O	4F	No	Yes
		Battery near end and Buffer near full	P	50	No	Yes
	Analyzing and editing	No error	S	53	Yes	Yes
		Battery near end	T	54	Case by case	Yes
		Buffer near full	U	55	No	Yes
		Battery near end and Buffer near full	V	56	No	Yes
Error detection (offline)	Reception buffer over		a	61	No	No
	Paper end		c	63	No	Yes
	Battery error		d	64	No	Yes
	Sensor error		f	66	No	Yes
	Head error		g	67	No	No
	Cover open		h	68	No	Yes
	Other errors		k	6B	No	No

■ Transmission/Recoverable in the status list

- In the GetStatus method call, if the parameter (the third byte) of the returned status is “No”of [Transmission], do not execute the sending method (Output, SendStringData, or SendRawData) for the print data until the status with “Yes” of [Transmission] returns.

- In the GetStatus method call, if the parameter (the third byte) of the returned status is “Case by case” of [Transmission], the print data can be sent. However, label/tag printing may not be completed normally depending on the combination of the remaining battery level and the print data (print darkness, print quantity, etc.).

- In the GetStatus method call, if the parameter (the third byte) of the returned status is “Yes” of [Transmission], the printing can be recovered on the printer by releasing the error status of the printer (replacing the label, etc.) even if the printer detects an error. If [Transmission] is “No”, the print data that has already been sent will be discarded due to an error that requires the printer to be turned on again.

■ How to clear printer errors

See the user’s manual of the printer.
http://www.sato.co.jp/download/manual/

5-3 Communication Protocol Setting in the Printer

Explanations about how to set the communication protocol in the printer.

For details about settings, see “**Instruction Manual**”, “**Setup Guide**”, and “**SBPL Programming Guide** (accessory CD)” included with the printer.

http://www.sato.co.jp/download/manual/

Printer model	Interface	Communication protocol	
		Status 3	Status 4
(1)L’esprit series (L’esprit V, L’esprit V-ex) T8/R8/T12/R12, T8-2/R8-2/T12-2/R12-2, T408/R408/T412/R412 T408v/R408v/T412v/R412v T408v-ex/R408v-ex/T412v-ex/R412v-ex	RS-232C	(1)-R	
	IEEE1284	-	(1)-I
	LAN (wireless LAN)	(1)-L	
	USB	-	(1)-U
(2) EtVie series EV208R/EV212R	RS-232C	(2)-R	
	LAN	(2)-L	
	USB	-	(2)-U
(3) Scantronics , TR400e/TR410e BF408R/BF412R, MR400e/MR410e, MR600e/MR610e, MT400e/MT410e, M-48Pro8/M-48Pro12/M-48Pro24, M-4800Rve, MR110w/MT110w, TR400e/TR410e	RS-232C	(3)-R	
	IEEE1284	-	(3)-I
	LAN (wireless LAN)	(3)-L	
	USB	-	(3)-I
(4) SR400 series, SG400R series, SG400R-ex series, SG600R series, SG112R/T, HA200R series, LR4000SR-T series SR408/SR412/SR424, SG408R/SG412R/SG424R SG408R-ex/SG412R-ex/SG424R-ex SG608R, SG612R, SG112R, SG112T HA212R/HA242R LR4080SR-T/LR4120SR-T	RS-232C	(4)-R	
	IEEE1284	-	(4)-I
	LAN (wireless LAN)	(4)-L	
	USB	-	(4)-U
(5) CL4NX-J, CL6NX-J CL4NX-J 08/CL4NX-J 12/CL4NX-J 24, CL6NX-J 08/CL6NX-J 12	RS-232C	(5)-R	
	IEEE1284	-	(5)-I
	LAN (wireless LAN)	(5)-L	
	USB	-	(5)-U

	Bluetooth	(5)-B	
(6) SATOC ST308R/ST312R	RS-232C	(6)-R	
	IEEE1284	-	(6)-I
	LAN (wireless LAN)	(6)-L	
	USB	-	(6)-U
(7) Bartronics RT308R	RS-232C	(7)-R	
	IEEE1284	-	(7)-I
	LAN	(7)-L	
	USB	-	(7)-U
(8) Lapin series Pt200m/e/j, Pt408e, PT412e (SBPL mode only)	RS-232C	(8)-R	-
	Wireless LAN	(8)-L	-
	USB	(8)-U	-
	Bluetooth	(8)-B	-
(9) Scantronics GN412T	RS-232C	(9)-R	
	LAN	(9)-L	
	USB	-	(9)-U
(10) Bartronics CF408T	Wireless LAN	(10)-L	
	USB	-	(10)-U
(11) Lapin series PW208 PW208NX/PW208mNX/PW208/PW208m	Wireless LAN	(11)-L	
	USB	-	(11)-U
	Bluetooth	(11)-B	
(12) SCeaTa series, L'esprit series (HC4-LX-J) CT4-LX-J 203/CT4-LX-J 306 HC4-LX-J 203/HC4-LX-J 306	RS-232C	(12)-R	
	IEEE1284	-	(12)-I
	LAN (wireless LAN)	(12)-L	
	USB	-	(12)-U
	Bluetooth	(12)-B	

■ L'esprit series (L'esprit V, L'esprit V-ex)

Use the L'esprit printer setting tool for setting.

(1)-R Start the setting tool, and set [Device]-[Printer Setting]-[Serial Setting]-[Control] in the menu. Set Status 3 to "Status 3" and Status 4 to "Protocol dedicated for driver".

(1)-I Start the setting tool, and set [Reception Mode] of the menu [Device]-[Printer Setting]-[IEEE1284 Setting] to "Multi Reception".

(1)-L Start the setting tool, and set [Device]-[Printer Setting]-[LAN Setting]-[LAN Mode] in the menu. Set Status 3 to "Status 3 Mode" and Status 4 to "ENQ response mode".

(1)-U No setting is required.

■ EtVie Series

Use the EtVie printer setting tool for setting.

(2)-R Start the setting tool, and set [Device]-[Printer Setting]-[Serial Setting]-[Control] in the menu. Set Status 3 to “Status 3” and Status 4 to “Protocol dedicated for driver”.

(2)-L Start the setting tool, and set [Device]-[Printer Setting]-[LAN Setting]-[LAN Mode] in the menu. Set Status 3 to “Status 3 Mode” and Status 4 to “ENQ response mode”.

(2)-U No setting is required.

■ Scantronics series, TR400e/TR410e

(3)-R Set in DSW1 of the RS-232C board and DSW2 in the printer. Set Status 3 to DSW1-7 ON, DSW1-8 OFF, and DSW2-8 ON, Status 4 to DSW1-7 ON, DSW1-8 OFF, and DSW2-8 OFF.

(3)-I Set DSW2-5 of the printer to OFF.

(3)-L Set in DSW2 of the printer. Set Status 3 to DSW2-5 ON and DSW2-8 ON, Status 4 to DSW2-5 ON and DSW2-8 OFF.

■ Scantronics SR400 series, SG400R series, SG400R-ex series, SG600R series, SG112R/T, HA200R series, LR4000SR-T series (Status L can also be selected)

(4)-R In [Communication setting]-[Communication protocol] of LCD, set Status 3 to “Status 3”, Status 4 to “Dedicated for driver”, and Ready/Busy to “Ready/Busy”.

(4)-I In LCD, set [Communication setting]-[Communication protocol] to “Dedicated for driver”and “Reception buffer” to “Multi reception”.

(4)-L In [Communication setting]-[Communication protocol] of LCD, set Status 3 to “Status 3”. For Status 4, set [Printer status return timing] to “ENQ” in “Dedicated for driver”.

(4)-U In LCD, set [Communication setting]-[Communication protocol] to “STATUS4”.

■ CL4NX-J, CL6NX-J

(5)-R Select [Communication setting]-[RS-232C]-[Communication protocol] in LCD, and then set Status 3 to “STATUS3”and Status 4 to “STATUS4”.

(5)-I Select [Communication setting]-[IEEE1284]-[Communication protocol] in LCD and set it to “STATUS4”.

(5)-L Select [Communication setting]-[Network]-[Settings]-[Service]-[Port]-[Communication protocol] in LCD, and then set Status 3 to “STATUS3”and Status 4 to “STATUS4 ENQ”.

(5)-U In LCD, set [Communication setting]-[USB]-[Communication protocol] to “STATUS4”.

(5)-B In LCD, set [Communication setting]-[Bluetooth]-[Communication protocol] to “STATUS4”.

■ SATOC ST308R/ST312R

Use the buttons on the LCD of the printer for settings.

(6)-R In [Communication setting]-[Communication protocol] of LCD, set Status 3 to “STATUS3”and Status 4 to “STATUS4”.

(6)-I In LCD, set [Communication setting]-[Communication protocol] to “STATUS4”and [Reception buffer] to “Multi”.

(6)-L In [Communication setting]-[Communication protocol] of LCD, set Status 3 to “STATUS3”. For

Status 4, set [Printer status return timing] to “ENQ” in “STATUS4”.

(6)-U In LCD, set [Communication setting]-[Communication protocol] to “STATUS4”.

■ Bartronics RT308R

Use the buttons on the LCD of the printer for settings.

(7)-R In [INTERFACE MODE]-[PROTOCOL] of LCD, set Status 3 to “STATUS3”and Status 4 to “STATUS4”.

(7)-I In LCD, set [INTERFACE MODE]-[RECEIVE BUFFER] to “MULTI”.

(7)-L In [INTERFACE MODE]-[PROTOCOL] of LCD, set Status 3 to “STATUS3”. For Status 4, set [STATUS REPLY] to “ENQ”in “STATUS4”.

(7)-U No setting required.

■ Lapin series

Use DSW1 of the printer for settings.

(8)-R Set to DSW1-1 OFF, DSW1-2 OFF, DSW1-3 OFF, and DSW1-4 OFF. Start up the Printer Setting Tool, and set [Printer Setting]-[RS-232C]-[Flow control] in the menu. Set Status 3 to “NONE”.

(8)-L Set to DSW1-1 OFF, DSW1-2 ON, DSW1-3 OFF, and DSW1-4 OFF. The printer must compatible with wireless LAN.

(8)-U Set to DSW1-1 ON, DSW1-2 ON, DSW1-3 OFF, and DSW1-4 OFF. This is for Pt408e/412e only.

(8)-B Set to DSW1-1 OFF, DSW1-2 ON, DSW1-3 OFF, and DSW1-4 OFF. The printer must compatible with Bluetooth.

■ Scantronics GN412T

Use the buttons on the LCD of the printer for settings.

(9)-R In [Communication setting]-[Communication protocol] of LCD, set Status 3 to “STATUS3”and Status 4 to “STATUS4”.

(9)-L In [Communication setting]-[Communication protocol] of LCD, set Status 3 to “STATUS3”. For Status 4, set [Printer status return timing] to “ENQ” in “STATUS4”.

(9)-U In LCD, set [Communication setting]-[Communication protocol] to “STATUS4”.

■ Bartronics CF408T

Use the CF408T setting tool for setting.

(10)-L Start the setting tool, and set the [LAN Setting] tab -[LAN Mode] in the menu. Set Status 3 to “Status 3 Mode” and Status 4 to “ENQ response mode”.

(10)-U No setting is required.

■ Lapin series PW208NX/PW208mNX/PW208/PW208m

Use the buttons on the LCD of the printer for settings.

(11)-L In [Communication setting]-[Network]-[Service]-[Port]-[Communication protocol] of LCD, set Status 3 to “Status3”and Status 4 to “Status4”.

(11)-U In LCD, set [Communication setting]-[USB]-[Communication protocol] to “STATUS4”.

(11)-B In [Communication setting]-[Bluetooth]-[Communication protocol] of LCD, set Status 3 to

“Status3”and Status 4 to “Status4”.

■ SCeaTa series, L’esprit series (HC4-LX-J)

(12)-R Select [Setting]-[Communication setting]-[RS-232C]-[Communication protocol] in LCD, and then set Status 3 to “STATUS3”and Status 4 to “STATUS4”.

(12)-L Select [Setting]-[Communication setting]-[Network]-[Settings]-[Service]-[Port]-[Communication protocol] in LCD, and then set Status 3 to “STATUS3”and Status 4 to “STATUS4 ENQ”.

(12)-W Select [Wi-Fi]-[Wi-Fi setting]-[Port]-[Communication protocol] in LCD, and then set Status 3 to “STATUS3”and Status 4 to “STATUS4 ENQ”.

(12)-U In LCD, set [Setting]-[Communication setting]-[USB]-[Communication protocol] to “STATUS4”.

(12)-B In LCD, set [Bluetooth]-[Communication protocol] to “STATUS4”.