QSS Network Service

- NetOrder TCP/IP Interface Version -

- Version 1.0.5.1 -

Revision History

Revision date	Contents
Aug. 8, 2002	Newly created (Ver 1.0.3.3)
Sept. 2, 2002	Release version 1.0.4. Member variables PaperWidth and PaperLength, Surface are added to QSS_FRAME_PARAM structure.
Sept. 27, 2002	Reverence number (RefId) is added to WSQSS_FRAME_PARAM, WSQSS_ORDER_PARAM, and WSQSS_ORDER_STATE structures. Command ID 0DH that enables to cancel orders based on reference number is added.
Nov. 1, 2002	Release version 1.0.5. Command ID 0EH that is capable of getting order status based on the reference number is added. △2 Command ID 0FH that is capable of getting order history. △2 IPAdress, Port, Version, and Level are added to QSS_CLIENT_INFO structure. △2 QSS_ORDER_PRINTED and QSS_ORDER_CANCELED are added to QrderState. △2
Nov. 26, 2002	IPAddress is added to WSQSS_FRAME_PARAM structure. Δ3 Values to be set to PrintSize of WSQSS_FRAME_PARAM structure are changed. Δ3 PaperLength is available in WSQSS_FRAME_PARAM structure. Δ3 QSS_ORDER_STATE structure is now in the original state, and WSQSS_ORDER_STATE_EX structure is added instead. Δ3 Description for response message to command ID 0EH is changed. Δ3
Dec. 19, 2002	Restrictions were added to command ID's 08H and 0EH. This is because there are cases where these commands do not function properly due to the restriction of RPC. △4
Nov. 12, 2003	Allowable ranges were defined to request number of request messages of command ID's 04H and 05H. △5 Allowable range was defined to reference number of request message of command ID 0DH. △5 Allowable ranges were defined to OrderNo of WQSS_FRAME_PARAM, WQSS_ORDER_PARAM, and WQSS_ORDER_STATE structures. △5 Allowable range was defined to RefId of WQSS_ORDER_STATE_EX structure. △5
June 24, 2008	Corrected the unit of Resolut of WSQSS_PAPER_INFO structure.

Table of Contents

1. Overview

Introduction

This document describes the interface to enable TCP/IP communication between the external terminals such as server and QSS such as 28, 29, and 30 series on QSS Network Service.

The description in this manual is made on assumption of using Auto Print mode only.

Environment

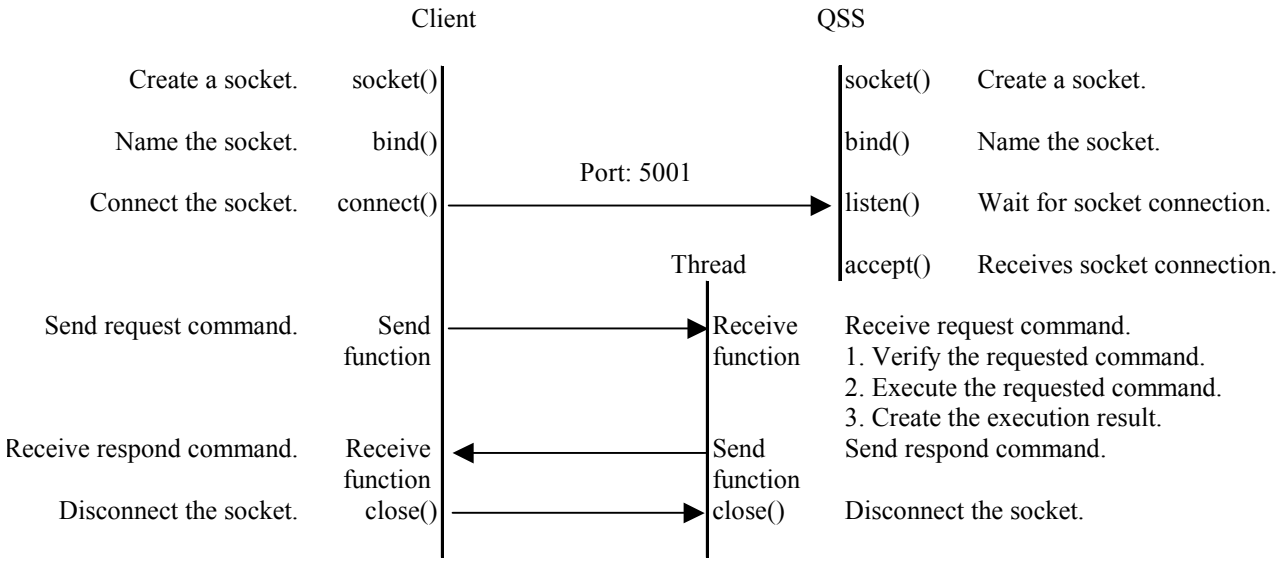
This interface can be used under the circumstance that the QSS and external terminal ("Client") are connected via Ethernet and that the TCP/IP setting has been completed.

Communication Sequence

Client sends command request to QSS, and then QSS responds to Client.

During a session, QSS receives only 1 command, so Client has to establish a connection with QSS every time it issues a command request and close the connection upon the completion of the command communication.

NetOrder service (TCP/IP) utilizes port No. 5001.



(Function used: Berkeley socket library)

Packet Structure

1. Ethernet Frame

   Packet used to send commands have the same structure as the normal TCP/IP packet. This specification explains only the application data, excluding IP, TCP, and Ethernet headers. Refer to Fig. 1 below. (This specification describes the interface in the TCP/IP application layer.)

Ethernet Header	IP Header	TCP Header	Application Data

Fig. 1. Ethernet Frame

2. Application Data Structure

Application data consists of application header and user data. Please refer to Fig. 3 for application header and Fig. 4 for user data. (Unit: octet)

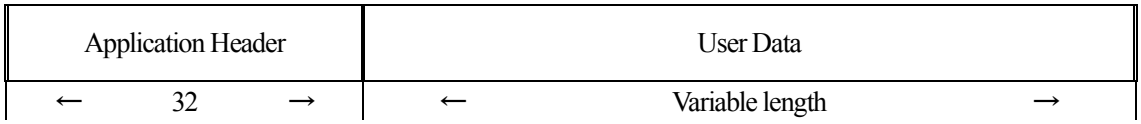


Fig. 2. Application data

NOTE: Byte Order is of Big Endian type.

3. Application Header

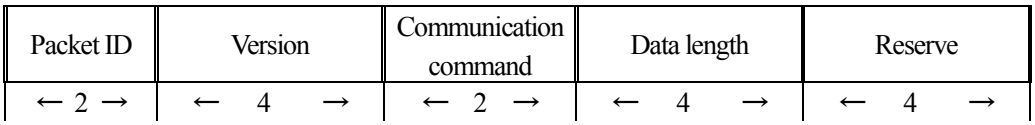


Fig. 3 Application Header

Packet ID

- Defines 514E H (hex).

Version

- Defines the version of this interface specification
  In case of version 1.2.3, it appears 01020300 H.

Communication Command

- Communication command consists of command ID and send/receive ID.
  Please refer to Communication Command List.

Data length

- Defines the number of byte for user data.

4. User Data

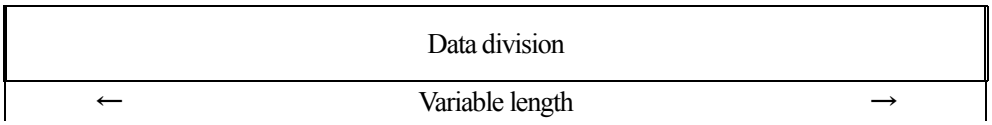


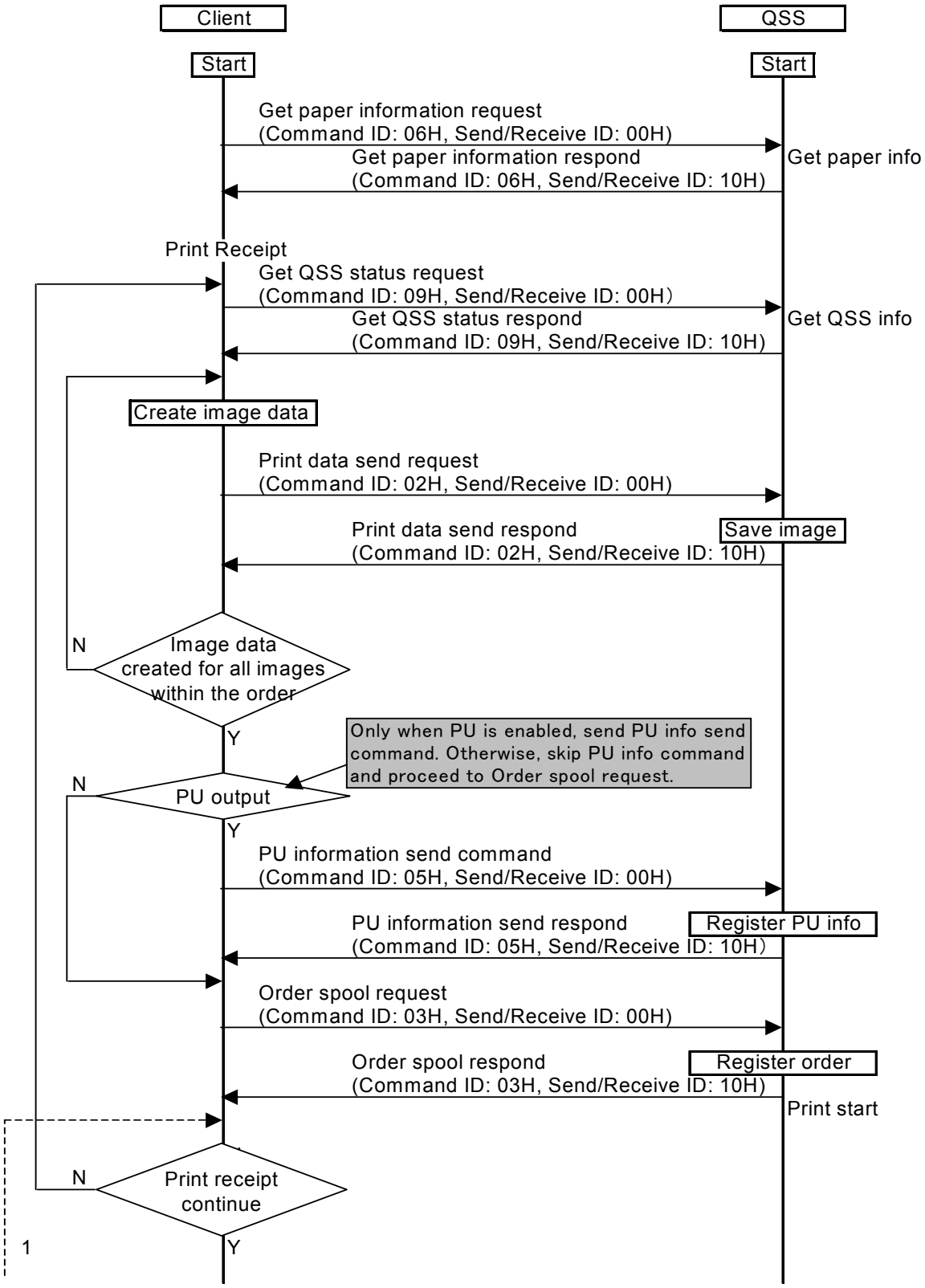
Fig. 4. User Data

Data division

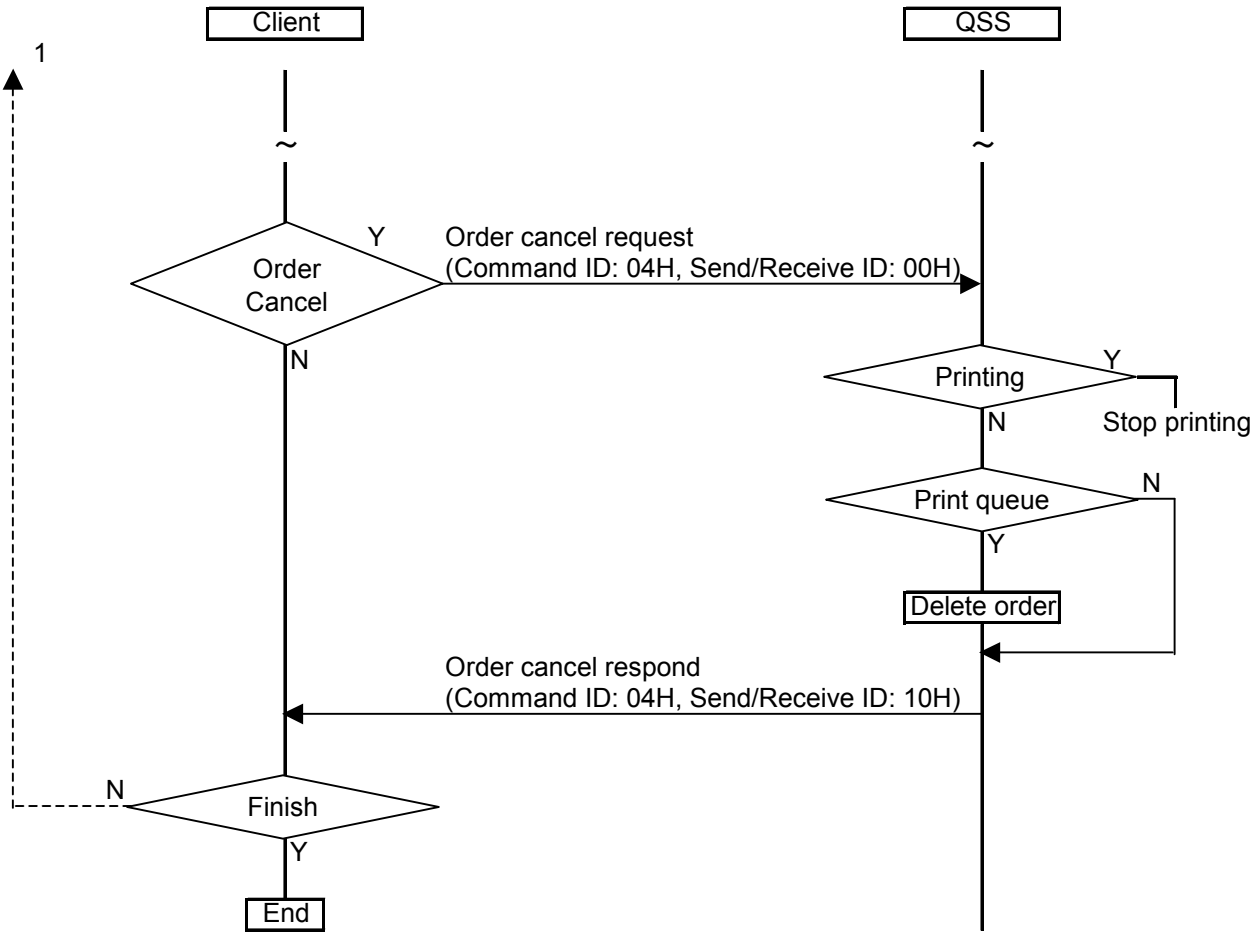
- For the detailed information as to data division, please refer to “2. Communication command and Data division”.

Print Sequence

Below illustrates the basic print sequence.



Continued



2. Communication commands and Data division

Communication Command List:

Command ID (Hex)	Send/Receive ID (Hex)	Description
01 H		Get QSS model name and interface version.
	00 H	Get model name and interface version request
	10 H	Get model name and interface version response
02 H		Send print data to QSS.
	00 H	Send print data request
	10 H	Send print data response
03 H		Spool order.
	00 H	Spool order request
	10 H	Spool order response
04 H		Cancel spooled order.
	00 H	Cancel order request
	10 H	Cancel order response
05 H		Send information to be printed with Pricing Unit to QSS
	00 H	Send PU information request
	10 H	Send PU information response
06 H		Get information on paper registered.
	00 H	Get paper information request
	10 H	Get paper information response
07 H		Get error and/or attention message currently occur on QSS.
	00 H	Get Error/Attention status request
	10 H	Get Error/Attention status response
08 H		Get status of spooled order.
	00 H	Get order status request
	10 H	Get order status response
09 H		Get current status of QSS
	00 H	Get QSS status request
	10 H	Get QSS status response
0A H		Get print channel information.
	00 H	Get print channel information request
	10 H	Get print channel information response
0B H		Get total number of prints or total amount of replenisher solution.
	00 H	Get number of print/solution amount information request
	10 H	Get number of print/solution amount information response
0C H		Get QSS profile information.
	00 H	Get profile request
	10 H	Get profile response
0DH △1		Cancel spooled order based on the reference number
	00 H	Cancel order request
	10 H	Cancel order response
0EH △2		Get the status of spooled order based on the reference number
	00 H	Get order status request
	10 H	Get order status response
		Get order history

0FH △2	00 H	Get order history request
	10 H	Get order history response

Command ID: 01H (Get QSS model name and interface version)

Purpose:

Get QSS model name and interface version.

Use this command to confirm the QSS model name and/or interface version of this API.

Send/Receive ID: 00H (Request)

Data division:

None

Send/Receive ID: 10H (Response)

Data division:

Result	QSS information
← 16 →	← 64 →

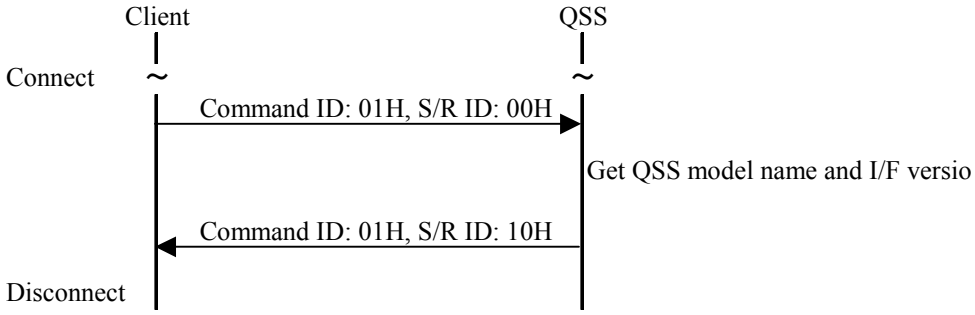
Result:

Refer to WSQSS_RESULT structure.

QSS information:

Refer to WSQSS_PRINTER_INFO structure.

Communication Sequence:



Command ID: 02H (Send print data to QSS)

Purpose:

Send print data to QSS.

In order for Client to request QSS to print, it is required to send print data (image to be printed and parameter needed to print) to QSS first.

Print data sent from Client will be copied to the spool region of QSS. At this time, printing does not start yet. Send command ID: 03H to initiate printing.

Print data stored in spool region will be deleted upon completion of printing. Print data will also be deleted when command ID: 03H is not sent within 10 minutes after print data is stored in spool region.

Send/Receive ID: 00H (Request)

Data division:

Client Information	Frame Print Parameter Information	Image Data
← 96 →	← 320 →	← Variable →

Client Information:

Refer to WSQSS_CLIENT_INFO structure.

Frame Print Parameter Information:

Refer to WSQSS_FRAME_PARAM structure.

Image Data:

Defines image data to be printed

NOTE: Define image data length to FileSize in WSQSS_FRAME_PARAM structure.

Send/Receive ID: 10H (Response)

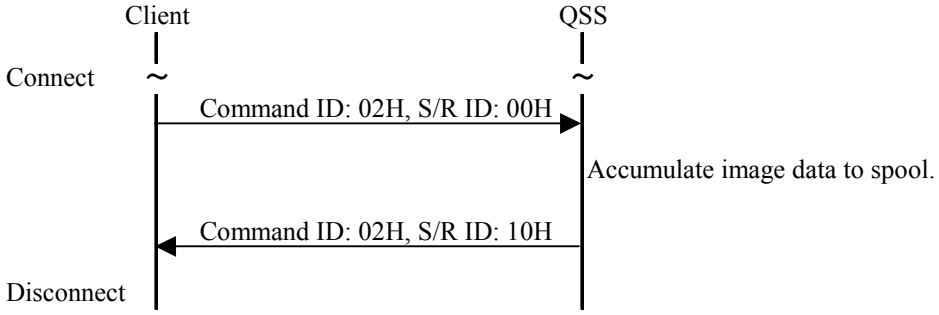
Data division:

Result
← 16 →

Result:

Refer to WSQSS_RESULT structure.

Communication Sequence:



Command ID: 03H (Spool order)

Purpose:

Spool order.

QSS controls print request in units of order. Therefore, every time image file is sent with command ID: 02H, it is required to send this command subsequently in order to spool the order. Every order will be copied to the spool regions with this command and wait for printing to be implemented.

Send/Receive ID: 00H (Request)

Data division:

Client Information	Order Print Parameter Information
← 96 →	← 64 →

Client Information:

Refer to WSQSS_CLIENT_INFO structure.

Order Print Parameter Information:

Refer to WSQSS_ORDER_PARAM structure.

Send/Receive ID: 10H (Response)

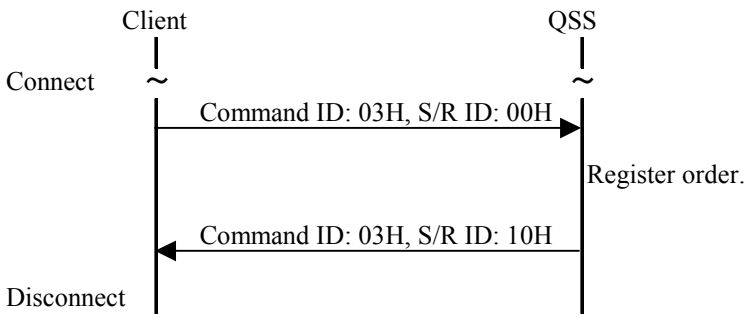
Data division:

Result
← 16 →

Result:

Refer to WSQSS_RESULT structure.

Communication Sequence:



Command ID: 04H (Cancel order)

Purpose:

Cancel spooled order.

Spooled order in print queue and order being printed and their print data can be deleted with this command ID.

When deleting an order, print interruption process is executed on QSS first, and, upon completion of this process, the order will be deleted. This command will return the result to Client without waiting for the completion of print interruption process. Whether order has been deleted or not can be determined by calling command ID: 08H.

Send/Receive ID: 00H (Request)

Data division:

Client Information	Request Number
← 96 →	← 2 →

Client Information:

Refer to WSQSS_CLIENT_INFO structure.

Request Number: (unsigned long)

Defines the request number of the order to be deleted.

The range is 0 – 65534. △5

Send/Receive ID: 10H (Response)

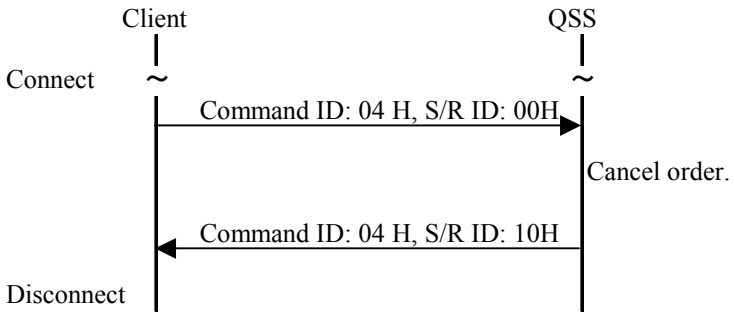
Data division:

Result
← 16 →

Result:

Refer to WSQSS_RESULT structure.

Communication Sequence:



Command ID: 05H (PU output)

Purpose:

Send information to be printed on pricing sheet by Pricing Unit to QSS.

Send information to be printed out on pricing sheet issued with PU (Pricing Unit) connected to QSS. Pricing sheet will be printed out upon the completion of printing of the order (a pricing sheet per order).

PU is optional. When PU is not registered as an optional accessory on QSS, QSS_NOT_CONNECTED_PU is returned as the result.

Option registration of PU can be performed on QSS Option Registration screen.

Send/Receive ID: 00H (Request)

Data division:

Client Information	Request number	PU output information
← 96 →	← 2 →	← 128 →

Client Information:

Refer to WSQSS_CLIENT_INFO structure.

Request number: (unsigned long)

Defines the request number of the order whose information will be printed out on PU.

The range is 0 – 65534. △5

PU output information:

Refer to WSQSS_PU_INFO structure.

Send/Receive ID: 10H (Response)

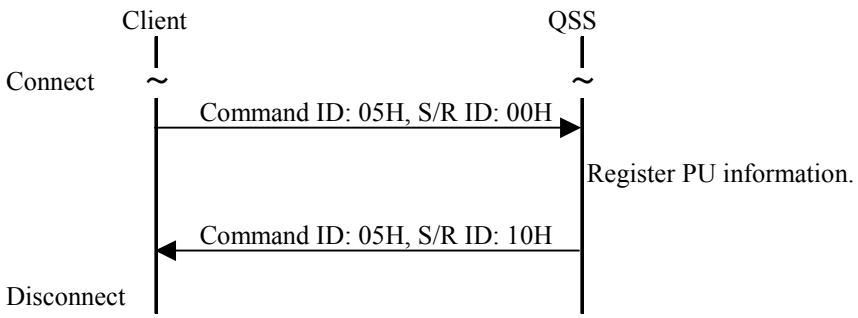
Data division

Result
← 16 →

Result

Refer to WSQSS_RESULT structure.

Communication Sequence:



Command ID: 06H (Get paper information)

Purpose:

Get the information on paper registered.

Paper information of the paper magazine currently installed on QSS or registered will be acquired with get flag. It is required for Client, when setting order parameter, to call command ID: 06H to confirm the paper currently registered on the QSS.

Send/Receive ID: 00H (Request)

Data division:

Get flag
← 2 →

Get flag: (unsigned long)

Defines which paper information you wish to get from the following:

0000H: Get information of the paper of the paper magazine currently installed on QSS.

0001H: Get information of the paper registered on QSS.

Send/Receive ID: 10H (Response)

Data division:

Result	Total number of information to get	Sequence ID	Paper information
← 16 →	← 4 →	← 4 →	← 64 →

Result:

Refer to WSQSS_RESULT structure.

Total number of information to get: (unsigned long)

Number of paper whose information corresponds to the get flag.

QSS will send paper information for each paper respectively, so please receive it successively.

NOTE: When there is no corresponding paper information, 0 will be defined.

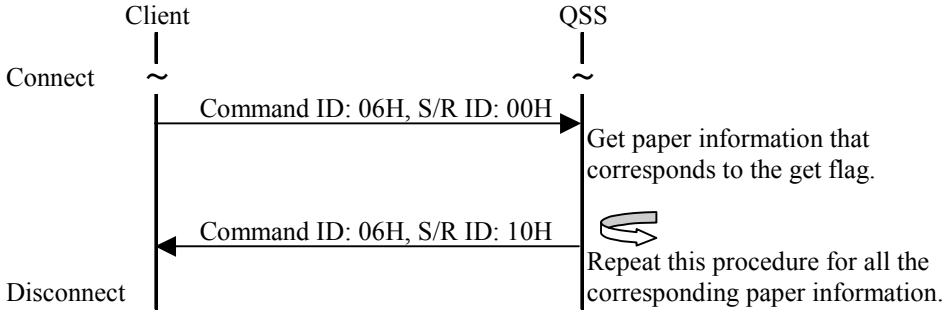
Sequence ID: (unsigned long)

ID is assigned that starts with 1 and increments up to the number of paper whose information is to be got.

Paper information:

Refer to QSS_PAPER_INFO structure.

Communication Sequence:



Command ID: 07H (Get error/attention message)

Purpose:

Get error and/or attention message currently occur on QSS.

Send/Receive ID: 00H (Request)

Data division:

Get flag
← 2 →

Get flag: (unsigned short)

Defines what information you wish to get from the following:

0000 H: Get error related information only

0001 H: Get attention message related information only

0002 H: Get both error and attention message related information

Send/Receive ID: 10H (Response)

Data division:

Result	Total number of information to get	Sequence ID	Error information
← 16 →	← 4 →	← 4 →	← 544 →

Result:

Refer to WSQSS_RESULT structure.

Total number of information to get: (unsigned long)

Number of error/attention whose information corresponds to the get flag.

QSS will send corresponding error information for each error and attention respectively, so please receive it successively.

NOTE: When there is no corresponding error information, 0 will be defined.

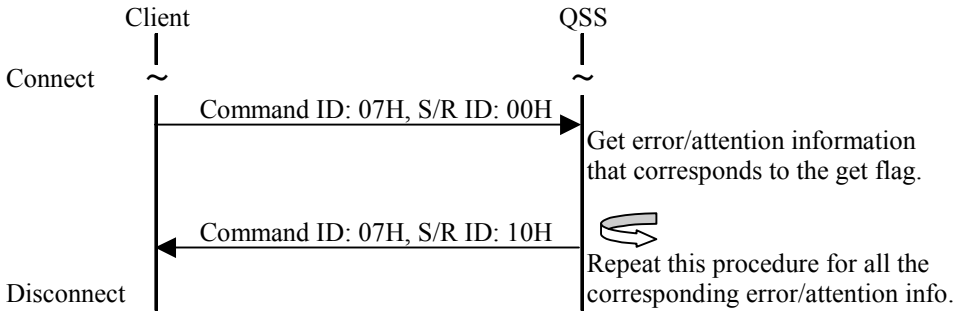
Sequence ID: (unsigned long)

ID is assigned that starts with 1 and increments up to the number of error/attention whose information is to be got.

Error information:

Refer to WSQSS_ERROR_INFO structure.

Communication Sequence:



Command ID: 08H (Get order status)

Purpose:

Get the status of the order spooled.

Use this command to confirm the current status of order is either of the following:
Being accepted, Print queue, Printing, Canceling, and Suspended

Send/Receive ID: 00H (Request)

Get status of the order the caller Client has sent to QSS.

Data division:

Client information	Get flag	Request number
← 96 →	← 2 →	← 2 →

Client information:

Refer to WSQSS_CLIENT_INFO structure.

Get flag: (unsigned short)

Defines which order status you wish to get from the following:

0000H: Get status of the order defined.

0001H: Get status of all the orders that the Client has sent to QSS.

NOTE: You can get the order status of up to 10000 orders. △4

Request number: (unsigned short)

Defines the request number of the order whose order status you wish to get.

Valid only when 0000H is defined for get flag.

Send/Receive ID: 10H (Response)

Data division:

Result	Total number of information to get	Sequence ID	Order status information
← 16 →	← 4 →	← 4 →	← 32 →

Result:

Refer to WSQSS_RESULT structure.

Total number of information to get: (unsigned long)

Number of order whose status information corresponds to the get flag.

QSS will send corresponding order status for each order respectively, so please receive it successively.

NOTE: When there is no corresponding order status information, 0 will be defined.

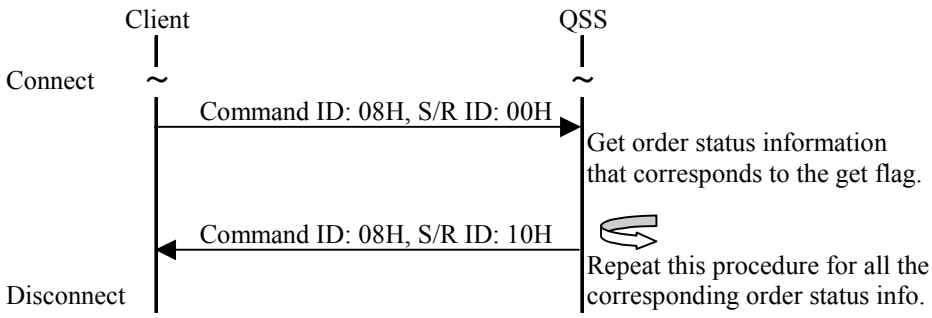
Sequence ID: (unsigned long)

ID is assigned that starts with 1 and increments up to the number of order whose information is to be got.

Order status information:

Refer to WSQSS_ORDER_STATE structure.

Communication Sequence:



Restrictions

Even though there are more than 10000 orders that have been spooled, you can get the order status of up to 10000 orders.

△4

Command ID: 09H (Get QSS status)

Purpose:

Get current status of QSS.

It is required for Client to call this command to confirm the current status of QSS before sending print request.

Send/Receive ID: 00H (Request)

Data division:

Switch request flag	Reserved
← 2 →	← 32 →

Switch request flag: (unsigned short)

Defines whether to send request to urge operator to active NetOrder mode or not.

0000 H: Do NOT send request.

0001 H: Send request (so the NetOrder icons blinks on QSS screen).

Reserved: (unsigned short[16])

Unused

Send/Receive ID: 10H (Response)

Data division:

Result	QSS status
← 16 →	← 192 →

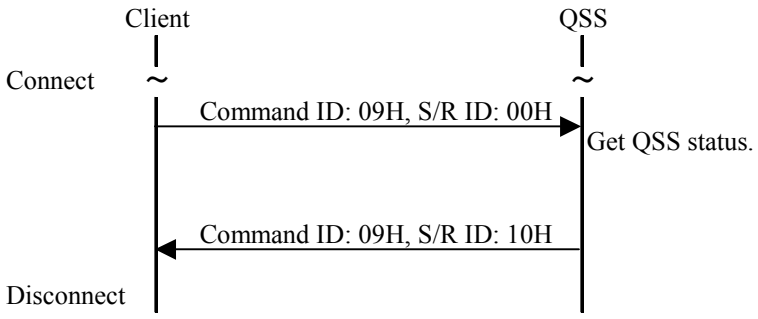
Result:

Refer to WSQSS_RESULT structure.

QSS status:

Refer to WSQSS_PRINTER_STATE structure.

Communication Sequence:



Command ID: 0AH (Get print channel information)

Purpose:

Get print channel information.

Use this command to check the print channel information defined.

Send/Receive ID: 00H (Request)

Data division:

None

Send/Receive ID: 10H (Response)

Data division:

Result	Total number of information to get	Sequence ID	Print channel information
← 16 →	← 4 →	← 4 →	← 162 →

Result:

Refer to WSQSS_RESULT structure.

Total number of information to get: (unsigned long)

Number of print channel whose information corresponds to the get flag.

QSS will send corresponding print channel information for each print channel respectively, so please receive it successively.

NOTE: When there is no corresponding print channel information, 0 will be defined.

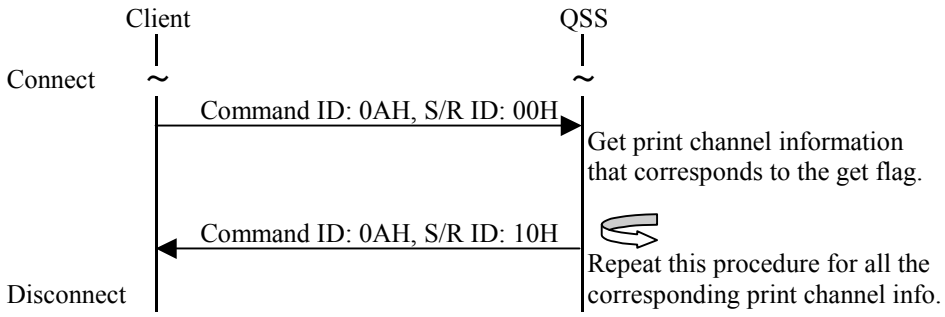
Sequence ID: (unsigned long)

ID is assigned that starts with 1 and increments up to the number of print channel whose information is to be got.

Print channel information:

Refer to WSQSS_PRINT_CHANNEL structure.

Communication Sequence:



Command ID: 0BH (Get total number of prints or total amount of replenisher solution)

Purpose:

Get total number of prints and/or total amount of replenisher solution of QSS.

Use this command to confirm the total number of print made and/or total amount of replenisher solution consumed on QSS.

Send/Receive ID: 00H (Request)

Data division:

None

Send/Receive ID: 10H (Response)

Data division:

Result	Total information
← 16 →	← 1312 →

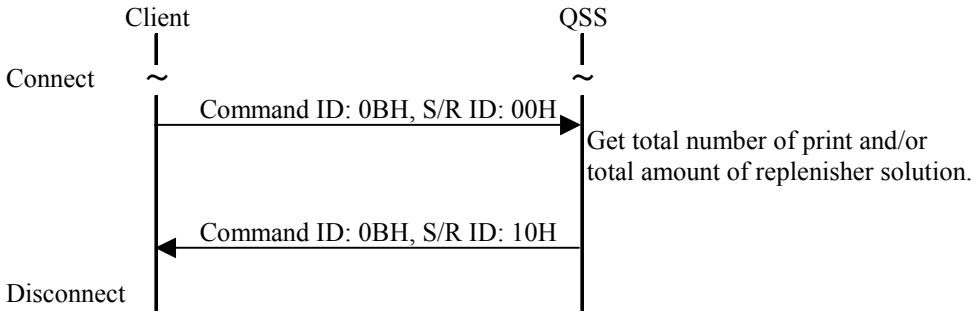
Result:

Refer to WSQSS_RESULT structure.

Total information:

Refer to WSQSS_SUM_INFO structure.

Communication Sequence:



Command ID: 0CH (Get profile information)

Purpose:

Get QSS profile information.

Use this command to get monitor profile and/or printer profile to be used for CMS (Color Management System) of QSS.
Printer profile is available for each paper width and surface type.
The profile you get is the ICC (International Color Consortium) profile type of data.

Send/Receive ID: 00H (Request)

Data division:

Profile information
← 32 →

Profile information:

Refer to WSQSS_PROFILE_INFO structure.

Send/Receive ID: 10H (Response)

Data division:

Result	Data length	Profile data
← 16 →	← 4 →	← Variable →

Result:

Refer to WSQSS_RESULT structure.

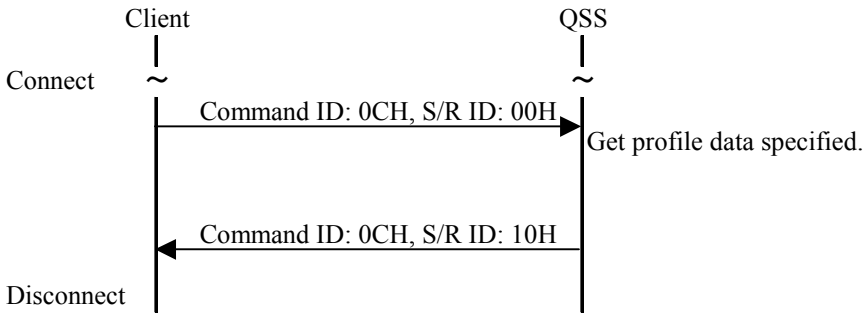
Data length: (unsigned long)

Defines the data length of the profile data. (unit: Byte)

Profile data:

Defines profile data.

Communication Sequence:



Command ID: 0DH (Cancel order)

Purpose:

Cancel spooled order based on the reference number.

With this command you may delete spooled orders and print data currently in print queue or being printed.

When the order being printed is to be deleted, print interruption process will be performed on QSS first, and then the order will be deleted. Command ID 0DH returns the result to the client without waiting for the completion of print interruption process. Call command ID08H in order to confirm the order is deleted successfully.

Send/Receive ID: 00H (Request)

Data division:

Client information	Reference number
← 96 →	← 8 →

Client information:

Refer to WSQSS_CLIENT_INFO structure.

Reference number (unsigned int64)

Define the reference number of the order to be deleted.

The range is 1 – 9999999999999999999 (19 digits). △5

Send/Receive ID: 10H (Response)

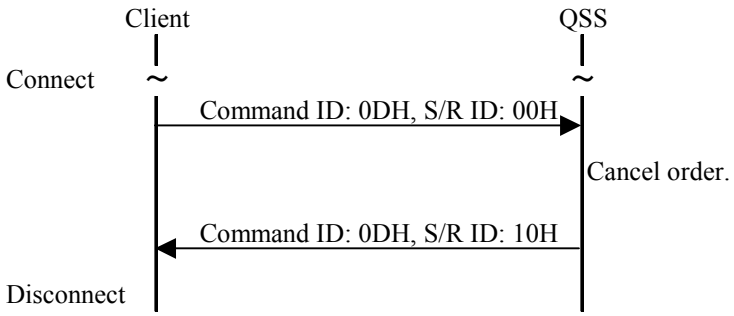
Data division:

Result
← 16 →

Result

Refer to WSQSS_RESULT structure.

Communication Sequence:



Command ID: 0EH (Get order status) △2

Purpose:

Get the current status of the spooled order based on the reference number.

Send/Receive ID: 00H (Request)

Get status of the order the caller Client has sent to QSS.

Data division:

Client information	Get flag	Reference number
← 96 →	← 2 →	← 8 →

Client information:

Refer to WSQSS_CLIENT_INFO structure.

Get flag: (unsigned short)

Defines which order status you wish to get from the following:

0000H: Get status of the order defined.

0001H: Get status of all the orders that the Client has sent to QSS.

NOTE: You can get the order status of up to 10000 orders. △4

Reference number: (unsigned short)

Defines the reference number of the order whose order status you wish to get.

Valid only when 0000H is defined for get flag.

Send/Receive ID: 10H (Response)

Data division:

Result	Total number of information to get	Sequence ID	Order status information
← 16 →	← 4 →	← 4 →	← 32 →

Result:

Refer to WSQSS_RESULT structure.

Total number of information to get: (unsigned long)

Number of order whose status information corresponds to the get flag.

QSS will send corresponding order status for each order respectively, so please receive it successively.

NOTE: When there is no corresponding order status information, 0 will be defined.

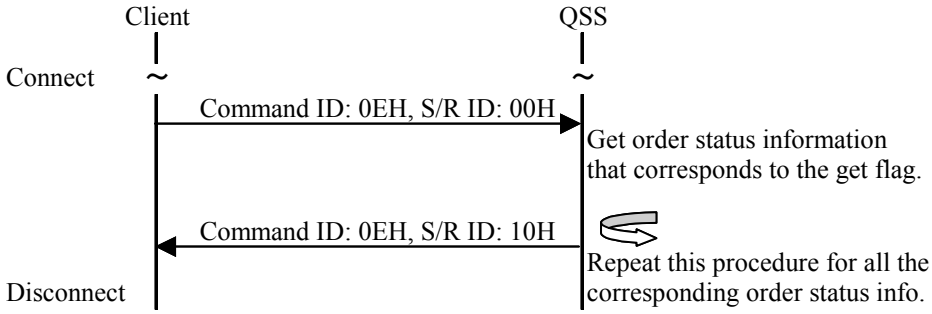
Sequence ID: (unsigned long)

ID is assigned that starts with 1 and increments up to the number of order whose information is to be got.

Order status information: △3

Refer to WSQSS_ORDER_STATE_EX structure.

Communication Sequence:



Restrictions

Even though there are more than 10000 orders that have been spooled, you can get the order status of up to 10000 orders.

△4

Command ID: 0FH (Get order history) △2

Purpose:

Get order history.

Send/Receive ID: 00H (Request)

Get order history.

Data division:

Client information	Receipt date	Order type
← 96 →	← 10 →	← 2 →

Client information:

Refer to WSQSS_CLIENT_INFO structure.

Receipt date (Mandatory): (unsigned short)

Define the day when QSS has received the order with WSQSS_DATETIME structure as a condition to get order history. Year, month, and day must be defined in WSQSS_DATETIME structure.

Order type (Optional): (unsigned short)

Define the type of order – either printed or canceled order - you wish to get history of as a condition to get order history as follows. When 0 is defined, order history returned will include both types of orders.

Value	Description
QSS_ORDER_STATUS_PRINTED	Printed order
QSS_ORDER_STATUS_CANCELED	Canceled order

Send/Receive ID: 10H (Response)

Data division:

Result	Total number of information to get	Sequence ID	Order history information
← 16 →	← 4 →	← 4 →	← 140 →

Result:

Refer to WSQSS_RESULT structure.

Total number of information to get: (unsigned long)

Number of order that meets the conditions specified in Receipt date and Order type.

QSS will send corresponding order status for each order respectively, so please receive it successively.

NOTE: When there is no corresponding order, 0 will be defined.

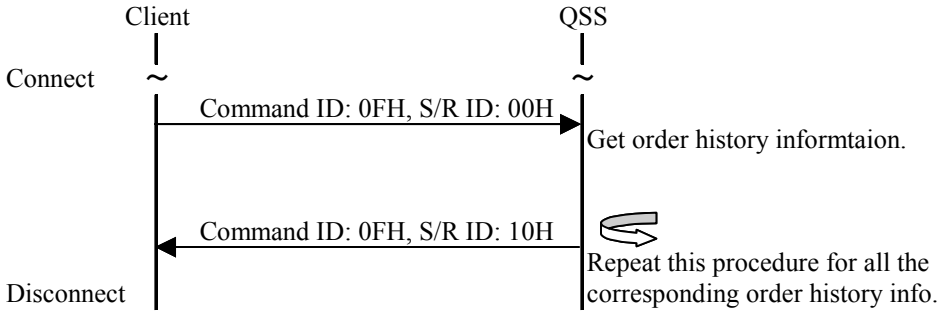
Sequence ID: (unsigned long)

ID is assigned that starts with 1 and increments up to the number of order whose information is to be got.

Order history information: (unsigned long)

Refer to WSQSS_ORDER_HISTORY structure.

Communication Sequence:



3. Structures to be used for communications

Data alignment is of big endian of network byte order. In case host byte order is of little endian, conversion is required.
Alignment of structure member is 2 byte.

WSQSS_PRINTER_INFO structure

```
typedef struct _WSQSS_PRINTER_INFO {
    unsigned char       Name[20];
    unsigned long       Version;
    unsigned char       IPAddress[4];                                   △3
    unsigned char       Reserve[36];
} WSQSS_PRINTER_INFO;
```

Member:

Name [Output]

Defines QSS model name.
The string should be NULL terminated.
e.g.
QSS-2801 -> “QSS-28”
QSS-2901 -> “QSS-29”

Version [Output]

Defines version of QSS network service.
Version number is described in hex.
e.g.
When QSS network service is of version 1.2.3, 0x01020300 is set.

IPAddress [Output] △3

Defines IP address of QSS.

Reserve

Unused

WSQSS_CLIENT_INFO structure

```
typedef struct _WSQSS_CLIENT_INFO {
    unsigned char       User[20];
    unsigned char       Host[20];
    unsigned char       Address[6];
    unsigned char       IPAddress[4];       // Version 1.0.5            △2
    unsigned short      Port;               // Version 1.0.5
    unsigned long       Version;            // Version 1.0.5
    unsigned short      Level;              // Version 1.0.5
    unsigned char       Reserve[38];
} WSQSS_CLIENT_INFO;
```

Member:

User [Input]

Define user name.
The string should be a maximum of 19 characters and NULL terminated.

Host [Input]

Define host name.
The string should be a maximum of 19 characters and NULL terminated.

Address [Input]
Define MAC address.

IPAddress [Input] △2
Define IP address of Client host PC.

Port [Input]
Define port number of the socket to receive event notification.

Version [Input]
Define version of NetOrder API to use.

Level [Input]
Define Client level.

Value	Description
QSS_CLIENT_LEVEL1	Status of orders that the Client has sent to QSS is received in order status notification from QSS.
QSS_CLIENT_LEVEL2	Status of all orders is received in order status notification from QSS.

Reserve
Unused

Remarks:

Used as the information when QSS manages and controls orders.
This structure serves as an authentication when canceling an order that has been accepted and as identifier when checking the order from the order management screen of QSS.

WSQSS_FRAME_PARAM structure

```
typedef struct _WSQSS_FRAME_PARAM {
    unsigned short      OrderNo;
    unsigned short      FrameNum;
    unsigned short      FrameNo;
    unsigned char       FileName[18];
    unsigned long       FileSize;
    unsigned long       ImageFormat;
    unsigned short      PrintSize;
    unsigned short      RepeatNum;
    unsigned short      RepeatPos;
    unsigned char       CvpString1[120];
    unsigned char       CvpString2[120];
    unsigned short      CvpFlg;
    unsigned short      PaperWidth;         // Version 1.0.4        △1
    unsigned short      PaperLength;        // Version 1.0.5        △3
    unsigned short      Surface;            // Version 1.0.4        △1
    unsigned short      WithBorder;         // (Unused)
    unsigned short      PaperFittingFlg;    // (Unused)
    unsigned short      ImageXPixels;       // (Unused)
    unsigned short      ImageYPixels;       // (Unused)
    unsigned short      Reserve1;           // (Unused)
    unsigned _int64     RefId;              // Version 1.0.4        △1
    unsigned short      SizeRate;           // (Unused)
    unsigned short      Rotate;             // (Unused)
```



```
    short           CenterX;        // (Unused)
    short           CenterY;        // (Unused)
    unsigned char   Reserve[8];
} WSQSS_FRAME_PARAM;
```

Member:

OrderNo [Input]

Request number

The range is 0 – 65535. When 65535 (0xFFFF) is defined, an order will be added using the reference number as the administration key. △5

FrameNum [Input]

Define the total number of frames an order consists of.

The range is 1 to 999.

FrameNo [Input]

Define frame number.

The range is 1 to 999.

FileName [Input]

Define the file name of the image to be sent to QSS.

(Mainly used for index.)

The string should be a maximum of 17 characters and NULL terminated.

FileSize [Input]

Define the file size of the image to be sent to QSS. (unit: Byte)

ImageFormat [Input]

Define the format of the image to be sent to QSS.

Define one of the formats defined in SupportImageFormat of QSS_PRINTER_STATE structure by calling QssGetPrinterState function.

You may define any image format to each individual frame.

PrintSize [Input]

Define print size as follows: △3

Value	Description
QSS_PRINT_SIZE_C	Values of PaperWidth, PaperLengthC, Surface, and WithBorderC of WSQSS_ORDER_PARAM structure are adopted.
QSS_PRINT_SIZE_P	Values of PaperWidth, PaperLengthP, Surface, and WithBorderP of WSQSS_ORDER_PARAM structure are adopted.
QSS_PRINT_SIZE_H	Values of PaperWidth, PaperLengthH, Surface, and WithBorderH of WSQSS_ORDER_PARAM structure are adopted.
QSS_PRINT_SIZE_FREE_C	Values of PaperWidth, PaperLength, and Surface of this structure and value of WithBorderC of WSQSS_ORDER_PARAM structure are adopted.
QSS_PRINT_SIZE_FREE_P	Values of PaperWidth, PaperLength, and Surface of this structure and value of WithBorderP of WSQSS_ORDER_PARAM structure are adopted.
QSS_PRINT_SIZE_FREE_H	Values of PaperWidth, PaperLength, and Surface of this structure and value of WithBorderH of WSQSS_ORDER_PARAM structure are adopted.

RepeatNum [Input]

Define the number of repeat print to be made.

The range is 0 to 999.

NOTE: When you define 0, the frame will not be printed but included in index print.

RepeatPos [Input]

Define the position where repeat count (serial number) is printed as part of CVP (Correction Value Print).

0 to 117: 1st line of CVP

120 to 237: 2nd line of CVP

255: No repeat count number included in CVP.

CvpString1 [Input]

CvpString2 [Input]

Define the string to be printed as CVP.

CvpString1: String to be printed on the 1st line of CVP

CvpString2: String to be printed on the 2nd line of CVP

The strings must be NULL terminated.

The strings are a maximum of 115 characters, but the number of characters actually printed as CVP depends on the QSS model to be used and the advance length of the print.

When a setting is made with RepeatPos so the repeat count is printed as part of CVP, the values of repeat count (3 characters) will supersede the information that is supposed to be printed in the predetermined position where the values of repeat count are printed.

You may use ASCII characters only.

CvpFlg [Input]

Define whether the values for CVP will be the ones defined by QSS or in CvpString1 and CvpString2.

Value	Description
QSS_CVP_AUX	Values defined in CvpString1 and CvpString2 are printed as the 1st and 2nd lines of CVP.
QSS_CVP_1QSS2AUX	Value defined with QSS is printed for the 1st line, and the one defined in CvpString2 is used for the 2nd line.
QSS_CVP_1AUX2QSS	Value defined in CvpString1 is printed for the 1st line, and the one defined with QSS is used for the 2nd line.
QSS_CVP_QSS	Values defined with QSS are printed as the 1st and 2nd lines of CVP.

PaperWidth [Input]

Define width of the paper to be printed. (unit: 1/10mm)

You may define the same number of paper width as that is registered to the connected QSS.

In case of QSS-31, you may define 2 different paper widths for an order.

In order to use this parameter, be sure to set QSS_PRINT_SIZE_FREE_C, QSS_PRINT_SIZE_FREE_P, or QSS_PRINT_SIZE_FREE_H in PrintSize. △3

PaperLength [Input] △1

Define the paper advance length for each frame (unit: 1/10 mm).

When converting the paper width/length from inch to 1/10mm, please refer to "inch – 1/10mm Conversion Table" enclosed in this document.

In order to use this parameter, be sure to set QSS_PRINT_SIZE_FREE_C, QSS_PRINT_SIZE_FREE_P, or QSS_PRINT_SIZE_FREE_H in PrintSize. △3

Surface [Input] △1

Define the surface type of the paper to be printed. The range is 1 to 4.

In order to use this parameter, be sure to set QSS_PRINT_SIZE_FREE_C, QSS_PRINT_SIZE_FREE_P, or QSS_PRINT_SIZE_FREE_H in PrintSize. △3

WithBorder

Unused

PaperFittingFlg

Unused

ImageXPixels

Unused

ImageYPixels

Unused

Reserve1

Unused

RefId [Input]

Reference number

You may define any 64-bit identifier. Setting 0xFFFF to Request number (Order No) enables to add an order based on the reference number.

This also enables to use 64-bit data as administration key in case client manages orders. You may input 1 – 9999999999999999999 (19 digits).

SizeRate

Unused

Rotate

Unused

CenterX

Unused

CenterY

Unused

Reserve

Unused

WSQSS_ORDER_PARAM structure

```
typedef struct _WSQSS_ORDER_PARAM {
    unsigned short      OrderNo;
    unsigned short      FrameNum;
    unsigned short      PaperWidth;
    unsigned short      PaperLengthC;
    unsigned short      PaperLengthP;
    unsigned short      PaperLengthH;
    unsigned short      Surface;
    unsigned short      WithBorderC;
    unsigned short      WithBorderP;
    unsigned short      WithBorderH;
    unsigned short      IndexPrintFlg;
    unsigned short      PaperFittingFlg;
    unsigned short      IndexPaperWidth;
    unsigned short      IndexSurface;
    unsigned short      CmsFlg;
    unsigned short      Reserve1;          // (Unused)
    unsigned _int64     RefId;             // Version 1.0.4
    unsigned char       Reserve[24];
} WSQSS_ORDER_PARAM;
```

Member:

OrderNo [Input]

Define request number.

The range is 0 – 65535. When 65535 (0xFFFF) is defined, an order will be added using the reference number as the administration key. △5

FrameNum [Input]

Define total number of frames an order consists of.

The range is 1 to 999.

PaperWidth [Input]

Define width of the paper to be printed. (unit: 1/10mm)

PaperLengthC [Input]

PaperLengthP [Input]

PaperLengthH [Input]

Define advance length of the paper. (unit: 1/10mm)

PaperLengthC: Define paper advance length for Classical size print.

PaperLengthP: Define paper advance length for Panoramic size print.

PaperLengthH: Define paper advance length for High-definition size print

Get paper information (WSQSS_PAPER_INFO) first with call command ID: 06H, and then define paper length so it falls between the minimum and maximum paper lengths (PaperLengthMin and PaperLengthMax).

Surface [Input]

Define the surface type of the paper to be printed.

The range is 1 to 4.

WithBorderC [Input]

WithBorderP [Input]

WithBorderH [Input]

Define the width of the white boarder of the resultant print (range: 0-99, unit: 1/10mm)

When you define 0, resultant print will have no border.

WithBorderC: Define the width of white boarder for Classical size print.

WithBorderP: Define the width of white boarder for Panoramic size print.

WithBorderH: Define the width of white boarder for High-definition size print.

IndexPrintFlg [Input]

Define the page size of index print from the following:

Value	Index size	X: Support, -: Not support			
		QSS-28	QSS-29	QSS-30	QSS-31
QSS_INDEX_NONE	No index print	X	X	X	X
QSS_INDEX_3HS	3HS (82.5mm x 158mm)	X	X	X	X
QSS_INDEX_3R	3R (89mm x 127mm)	X	X	X	X
QSS_INDEX_3HD	3HD (89mm x 158mm)	X	X	X	X
QSS_INDEX_3W	3W (89mm x 178mm)	-	-	-	-
QSS_INDEX_3WS	3WS (89mm x 178mm)	X	X	X	X
QSS_INDEX_4R	4R (102mm x 152mm)	X	X	X	X
QSS_INDEX_4HD	4HD (102mm x 178mm)	X	X	X	X
QSS_INDEX_5R	5R (127mm x 178mm)	X	X	X	X
QSS_INDEX_6R	6R (152mm x 203mm)	X	X	X	X
QSS_INDEX_6HD	6HD (152mm x 254mm)	X	X	X	X
QSS_INDEX_6W	6W (152mm x 305mm)	X	X	X	X
QSS_INDEX_8RS	8RS (203mm x 254mm)	-	X	X	X
QSS_INDEX_8R	8R (203mm x 305mm)	-	X	X	X
QSS_INDEX_8HD	8HD (203mm x 356mm)	-	X	X	X

Number of frames to be printed on an index print will be calculated based on the size of the index print to be made and the number of frames included in the order.

IndexPrintFlg [Input]

Define the page size of index print from the following:

Value	Index size	X: Support, -: Not support			
		QSS-28	QSS-29	QSS-30	QSS-31
QSS_INDEX_NONE	No index print	X	X	X	X
QSS_INDEX_3HS	3HS (82.5mm x 158mm)	X	X	X	X
QSS_INDEX_3R	3R (89mm x 127mm)	X	X	X	X
QSS_INDEX_3HD	3HD (89mm x 158mm)	X	X	X	X
QSS_INDEX_3W	3W (89mm x 178mm)	-	-	-	-
QSS_INDEX_3WS	3WS (89mm x 178mm)	X	X	X	X
QSS_INDEX_4R	4R (102mm x 152mm)	X	X	X	X
QSS_INDEX_4HD	4HD (102mm x 178mm)	X	X	X	X
QSS_INDEX_5R	5R (127mm x 178mm)	X	X	X	X

QSS_INDEX_6R	6R (152mm x 203mm)	X	X	X	X
QSS_INDEX_6HD	6HD (152mm x 254mm)	X	X	X	X
QSS_INDEX_6W	6W (152mm x 305mm)	X	X	X	X
QSS_INDEX_8RS	8RS (203mm x 254mm)	-	X	X	X
QSS_INDEX_8R	8R (203mm x 305mm)	-	X	X	X
QSS_INDEX_8HD	8HD (203mm x 356mm)	-	X	X	X

Number of frames to be printed on an index print will be calculated based on the size of the index print to be made and the number of frames included in the order.

CmsFlg [Input]

Define whether or not to apply QSS CMS to the received order as follows:

Value	Description
QSS_CMS_ON	CMS conversion is performed by QSS.
QSS_CMS_OFF	CMS conversion is NOT performed by QSS.

Reserve1

Unused.

RefId [Input]

Reference number.

You may define any 64-bit identifier. Setting 0xFFFF to Request number (Order No) enables to add an order based on the reference number.

This also enables to use 64-bit data as administration key in case client manages orders. You may input 1 – 9999999999999999999 (19 digits).

Reserve

Unused

Remarks:

For PaperWidth, Surface, IndexPaperWidth, and IndexSurface, define the value of the paper that has been registered on QSS. You may get information on the registered paper by using QssGetPaper function.

NOTE:

In case of single-magazine type QSS, paper must be consistent between normal print (PaperWidth and Surface) and index print (IndexPaperWidth and Index Surface).

WSQSS_PAPER_INFO structure

```
typedef struct _WSQSS_PAPER_INFO {
    unsigned short      PaperWidth;
    unsigned short      Resolut;
    unsigned short      MagazineState;
    unsigned long       PaperRemaind;
    unsigned short      Surface;
    unsigned short      PaperLengthMin;
    unsigned short      PaperLengthMax;
    unsigned char       Reserve[48];
} WSQSS_PAPER_INFO;
```

Member:

PaperWidth [Output]

Defines the paper width. (unit: 1/10mm)

Resolut [Output]

Defines the printing resolution. (unit: 1/10dpi)

MagazineState: [Output]

Defines the presence of paper magazine.

Value	Description
QSS_MAGAZINE_NONE	No paper magazine installed.
QSS_MAGAZINE_A	Paper magazine is installed on magazine A.
QSS_MAGAZINE_B	Paper magazine is installed on magazine B.

PaperRemaind [Output]

Defines the length of remaining paper. (unit: 1/10mm)

Valid only when MagazineState is set to either QSS_MAGAZINE_A or QSS_MAGAZINE_B; otherwise, 0 is defined.

Surface [Output]

Defines paper surface.

The range is 1 to 4.

PaperLengthMin [Output]

PaperLengthMax [Output]

Defines the range of paper advance length that you may specify. (unit: 1/10mm)

PaperLengthMin: Define the minimum advance length you may specify.

PaperLengthMax: Define the maximum advance length you may specify.

Reserve [Output]

Unused

WSQSS_ERROR_INFO structure

```
typedef struct _WSQSS_ERROR_INFO {
    unsigned short      MainNo;
    unsigned short      SubNo;
    unsigned short      Level;
    wchar_t             Message[256];
    unsigned char       Reserve[26];
} WSQSS_ERROR_INFO;
```

Member:

MainNo [Output]

Defines the error/attention number that currently occurs on QSS.

The range is 1 to 9999, where 1 to 4999 are for attention messages and 5000 to 9999 are for errors.

SubNo [Output]

Defines suffix of error number.

Level [Output]

Defines error level as follows:

Value	Description
QSS_ERROR_LVL1	Error that operator can address easily
QSS_ERROR_LVL2	Error that needs investigation of the cause and sometimes even needs to call service personnel, such as temperature related error
QSS_ERROR_LVL3	Error that needs to call service personnel, such as PCB malfunction

Message [Output]

Defines the error message.

Language of message to be defined will be consistent to language specified on QSS.

Reserve [Output]

Unused

WSQSS_ORDER_STATE structure

```
typedef struct _WSQSS_ORDER_STATE {
    unsigned short      OrderNo;
    unsigned short      OrderState;
    ~~unsigned short      Reserve1[2];          // (Unused)~~                △1 △3
    ~~unsigned hyper      RefId;                // Version 1.0.4~~           △1 △3
    unsigned char       Reserve[28];
} WSQSS_ORDER_STATE;
```

Member:

OrderNo [Input][Output]

Request number

The range is 0 – 65534. △5

OrderState [Output]

Defines the order status as follows:

Value	Description	
QSS_ORDER_ACCEPT	Being accepted	
QSS_ORDER_WAIT	Print queue	
QSS_ORDER_PRINT	Printing	
QSS_ORDER_CANCEL	Canceling	
QSS_ORDER_RESERVE	Suspended	
QSS_ORDER_PRINTED	Finished	△2
QSS_ORDER_CANCELED	Canceled	
QSS_ORDER_NONE	No order	

~~Reserve1~~ △1 △3

~~Unused.~~

~~RefId [Output]~~ △1 △3

~~Reference number.~~

Reserve

Unused

WSQSS_ORDER_STATE_EX structure △3

```
typedef struct _WSQSS_ORDER_STATE {
    unsigned short      OrderNo;
    unsigned short      OrderState;
    unsigned short      Reserve1[2];
    unsigned hyper      RefId;
    unsigned char       Reserve[16];
} WSQSS_ORDER_STATE;
```

Member:

OrderNo [Output]

Request number

OrderState [Output]

Defines the order status as follows:

Value	Description
QSS_ORDER_ACCEPT	Being accepted
QSS_ORDER_WAIT	Print queue

QSS_ORDER_PRINT	Printing
QSS_ORDER_CANCEL	Canceling
QSS_ORDER_RESERVE	Suspended
QSS_ORDER_PRINTED	Finished
QSS_ORDER_CANCELED	Canceled
QSS_ORDER_NONE	No order

Reserve1

Unused.

RefId [Input][Output]

Reference number.

The range is 1 – 9999999999999999999 (19 digits). △5

Reserve

Unused

WSQSS_PRINTER_STATE structure

```
typedef struct _WSQSS_PRINTER_STATE {
    unsigned short      QssState;
    unsigned short      AbleReceive;
    unsigned short      AblePU;
    QSS_PAPER_INFO      MagazineA;
    QSS_PAPER_INFO      MagazineB;
    unsigned long       SupportImageFormat;
    UnsignedWide        TotalPrintNum;
    unsigned short      TemperatureCD;
    unsigned short      TemperatureBF;
    unsigned short      TemperatureSTB;
    unsigned short      RemaindQuantityCD;
    unsigned short      RemaindQuantityBF;
    unsigned short      RemaindQuantitySTB;
    unsigned hyper      SpoolerSpace;
    unsigned char       Reserve[26];
} WSQSS_PRINTER_STATE;
```

Member:

QssState [Output]

Defines the QSS status as follows:

Value	Description
QSS_STATE_PRINT	Printing
QSS_STATE_SETUP	Being adjusted (temperature being adjusted, maintenance screen being displayed, etc.)
QSS_STATE_IDLE	Idling
QSS_STATE_ALERT	Error/Attention message is given.

AbleReceive [Output]

Defines whether the input from an external source is printable or not on QSS.

Value	Description
QSS_RECEIVE_ENABLE	Printable
QSS_RECEIVE_DISABLE	Not printable

AblePU [Output]

Defines whether PU connected to QSS is enabled or not.

Value	Description
QSS_PU_ENABLE	Enabled
QSS_PU_DISABLE	Disabled

MagazineA [Output]

MagazineB [Output]

Defines the information on the paper magazine installed on QSS.

MagazineA: Magazine A

MagazineB: Magazine B

SupportImageFormat [Output]

Defines the image format that QSS supports.

Bit assignment of image format is as follows (Bit 1: Support, 0: Not support):

(There are cases where multiple formats are selected.)

0: JPEG	8: Filmstrip	16: Photo CD	24: Unused
1: BMP	9: FlashPix	17: Photoshop doc	25: Unused
2: RGB raw	10: PCX	18: Unused	26: Unused
3: RGB raw (16Bit)	11: PICT	19: Unused	27: Unused
4: GIF	12: Pixar	20: Unused	28: Unused
5: TIFF	13: PNG	21: Unused	29: Unused
6: Amiga IFF	14: Scitex CT	22: Unused	30: Unused
7: EPS	15: Targa	23: Unused	31: Unused

e.g.) When QSS supports both JPEG and BMP, the bit assignment will be as follows, and the variable is "3" in decadal system.

31	30	29	28	…	5	4	3	2	1	0	Bit
0	0	0	0		0	0	0	0	1	1	

TotalPrintNum [Output]

Defines the total number of prints of the order currently being printed or printed last.

Number of index print is not included.

TemperatureCD [Output]

TemperatureBF [Output]

TemperatureSTB [Output]

Defines the current temperature of each processing solution (unit: 0.01 deg C)

TemperatureCD: Define the temperature of CD

TemperatureBF: Define the temperature of BF

TemperatureSTB: Define the temperature of STB

RemaindQuantityCD [Output]

RemaindQuantityBF [Output]

RemaindQuantitySTB [Output]

Unused

SpoolerSpace [Output]

Defines the free space for the spool. (unit: Byte)

Reserve

Unused

WSQSS_PRINT_CHANNEL structure

```
typedef struct _WSQSS_PRINT_CHANNEL {
    short           ChNo;
    unsigned short  Meishou[11];
```



```
    short           Printtype;
    unsigned char   InpMediaType;
    unsigned short  MeishouCph[3][6];
    short           Haba[3];
    short           Mensitu[3];
    short           Feed[3];
    short           WbHaba[3];
    short           SizeRate[3];
    short           RokouichiHosei[3];
    short           CvpSw;
    short           FPSw;
    short           IDPSize[3];
    short           IndexHaba[3];
    short           IndexMensitu[3];
    unsigned char   OutMediaSw;
    unsigned short  OutMediaFormat;
    unsigned char   OutMediaInfoQuality;
    unsigned char   OutMediaInfoQualityPer;
    unsigned char   OutMediaInfoSize;
    unsigned char   PaperFitSW;
    unsigned short  EditModeNo;
    unsigned short  Template;
    unsigned char   PapScan120;
    unsigned char   Reserve[27];
} WSQSS_PRINT_CHANNEL;
```

Member:

ChNo [Output]

Defines the channel number.

Meishou [Output]

Defines the channel name.

Printtype [Output]

Defines the type of print as follows:

Value	Description
QSS_PRINTTYPE_NONE	Undefined
QSS_PRINTTYPE_NORMAL	Normal print
QSS_PRINTTYPE_EDIT	Edit print
QSS_PRINTTYPE_PACKAGE	Package print
QSS_PRINTTYPE_ALBUM	Album

InpMediaType [Output]

Defines the type of input media as follows:

Value	Description
QSS_INPMEDIA_NONE	Undefined
QSS_INPMEDIA_CL_NEGA	Color negative
QSS_INPMEDIA_BW_NEGA	Black and white negative
QSS_INPMEDIA_CL_POSI	Color positive
QSS_INPMEDIA_BW_POSI	Black and white positive
QSS_INPMEDIA_PRN_PHOTO	Capture image
QSS_INPMEDIA_MO	MO
QSS_INPMEDIA_FD	FD

QSS_INPMEDIA_DVD	DVD
QSS_INPMEDIA_CD	CD
QSS_INPMEDIA_ZIP	ZIP
QSS_INPMEDIA_SM	Smart media
QSS_INPMEDIA_CF	Compact flash
QSS_INPMEDIA_PCCARD	PC card
QSS_INPMEDIA_HD	HD
QSS_INPMEDIA_SEPIA	Sepia
QSS_INPMEDIA_BW_OB	Monochrome negative (Orange base)

MeishouCph [Output]

Defines the print name for each type of print.

From the head of the array, Classical, Panoramic, and High-definition sizes are defined.

Haba [Output]

Defines the width of the print for each type of print. (unit: 1/10 mm)

From the head of the array, Classical, Panoramic, and High-definition sizes are defined.

Mensitu [Output]

Defines the type of paper surface for each type of print.

From the head of the array, Classical, Panoramic, and High-definition sizes are defined.

Feed [Output]

Defines the advance length of paper for each type of print. (unit: 1/10 mm)

From the head of the array, Classical, Panoramic, and High-definition sizes are defined.

WbHaba [Output]

Defines the width of the white border for each type of print. (unit: 1/10 mm)

From the head of the array, Classical, Panoramic, and High-definition sizes are defined.

SizeRate [Output]

Defines the magnification ratio of the image for each type of print. (unit: %)

From the head of the array, Classical, Panoramic, and High-definition sizes are defined.

RokouichiHosei [Output]

Defines the exposure position correction for each type of print. (unit: 1/10 mm)

From the head of the array, Classical, Panoramic, and High-definition sizes are defined.

CvpSw [Output]

Defines CVP printing flag as follows:

Value	Description
QSS_CVP_OFF	CVP disenabled
QSS_CVP_ON	CVP enabled

FPSw [Output]

Defines the front print position as follows:

Value	Description
QSS_FP_NONE	Front print will not be made.
QSS_FP_RIGHT	Front print, right justified.
QSS_FP_LEFT	Front print, left justified
QSS_FP_CENTER	Front print, center justified

IDPSize [Output]

Defines the type of index print as follows:

From the head of the array, 135 film, 240 film, and storage media are defined.

Value	Description
QSS_INDEX_4R	4R (102mm x 152mm)
QSS_INDEX_3HD	3HD (89mm x 158mm)
QSS_INDEX_3R	3R (89mm x 127mm)
QSS_INDEX_4HD	4HD (102mm x 178mm)

QSS_INDEX_3W	3W (89mm x 178mm)
QSS_INDEX_5R	5R (127mm x 178mm)
QSS_INDEX_3WS	3WS (89mm x 178mm)
QSS_INDEX_3HS	3HS (82.5mm x 158mm)
QSS_INDEX_6R	6R (152mm x 203mm)
QSS_INDEX_6HD	6HD (152mm x 254mm)
QSS_INDEX_6W	6W (152mm x 305mm)
QSS_INDEX_8RS	8RS (203mm x 254mm)
QSS_INDEX_8R	8R (203mm x 305mm)
QSS_INDEX_8HD	8HD (203mm x 356mm)
QSS_INDEX_CP6_1	Contact index print of 6 x 1 frames
QSS_INDEX_CP6_2	Contact index print of 6 x 2 frames
QSS_INDEX_CP6_3	Contact index print of 6 x 3 frames
QSS_INDEX_CP6_4	Contact index print of 6 x 4 frames
QSS_INDEX_CP6_5	Contact index print of 6 x 5 frames
QSS_INDEX_CP6_6	Contact index print of 6 x 6 frames
QSS_INDEX_CP6_7	Contact index print of 6 x 7 frames
QSS_INDEX_CP4_1	Contact index print of 4 x 1 frames
QSS_INDEX_CP4_2	Contact index print of 4 x 2 frames
QSS_INDEX_CP4_3	Contact index print of 4 x 3 frames
QSS_INDEX_CP4_4	Contact index print of 4 x 4 frames
QSS_INDEX_CP4_5	Contact index print of 4 x 5 frames
QSS_INDEX_CP4_6	Contact index print of 4 x 6 frames
QSS_INDEX_CP4_7	Contact index print of 4 x 7 frames
QSS_INDEX_CP4_8	Contact index print of 4 x 8 frames
QSS_INDEX_CP4_9	Contact index print of 4 x 9 frames
QSS_INDEX_CP4_10	Contact index print of 4 x 10 frames

IndexHaba [Output]

Defines the paper width of index print. (unit: 1/10 mm)

From the head of the array, 135 film, 240 film, and storage media are defined.

IndexMensitu [Output]

Defines the paper surface of index print.

The range is 1 to 4.

From the head of the array, 135 film, 240 film, and storage media are defined.

OutMediaSw [Output]

Defines the type of output media as follows:

Value	Description
QSS_OUTPMEDIA_NONE	No media output
QSS_OUTPMEDIA_FD	FD
QSS_OUTPMEDIA_CDR	CD-R
QSS_OUTPMEDIA_MO	MO
QSS_OUTPMEDIA_ZIP	ZIP
QSS_OUTPMEDIA_DVD	DVD
QSS_OUTPMEDIA_CF	Compact flash
QSS_OUTPMEDIA_SM	Smart media
QSS_OUTPMEDIA_PC	PC card
QSS_OUTPMEDIA_HD	HD
QSS_OUTPMEDIA_CDRWSYS	CD-R writing system

OutMediaFormat [Output]

Defines the output format as follows:

Value	Description
QSS_MEDIA_FORMAT_NONE	None
QSS_MEDIA_FORMAT_JPEG	Jpeg
QSS_MEDIA_FORMAT_FPX	FlashPix
QSS_MEDIA_FORMAT_BMP	Bitmap
QSS_MEDIA_FORMAT_TIFF	TIFF

OutMediaInfoQuality [Output]

Defines the image quality.

OutMediaInfoQualityPer [Output]

Defines the quality ratio of the image to be saved to media. (unit: %)

OutMediaInfoSize [Output]

Defines the output size to media as follows:

Value	Description
QSS_MEDIA_SIZE_NONE	None
QSS_MEDIA_SIZE_1P4	1/4 BASE
QSS_MEDIA_SIZE_1	BASE
QSS_MEDIA_SIZE_4	4 BASE
QSS_MEDIA_SIZE_16	16 BASE
QSS_MEDIA_SIZE_NONE_HS	None (HS)
QSS_MEDIA_SIZE_1P4_HS	1/4 BASE (HS)
QSS_MEDIA_SIZE_1_HS	BASE (HS)
QSS_MEDIA_SIZE_4_HS	4 BASE (HS)
QSS_MEDIA_SIZE_16_HS	16 BASE (HS)

PaperFitSW [Output]

Defines the type of paper fitting as follows:

Value	Description
QSS_PF_CUT	Cut
QSS_PF_WHOLE	Overall
QSS_PF_SAME	Real size

EditModeNo [Output]

Defines the edit type as follows:

Value	Description
QSS_EDIT_POST_CARD	Postcard
QSS_EDIT_BUSINESS_CARD	Business card
QSS_EDIT_CERTIFICATE_PHOTO	ID photo
QSS_EDIT_MULTI	Multi

Template [Output]

Defines the template type.

Bit assignment of template type is as follows (Bit 1: enabled, Bit 2: Disabled):

(There are cases where multiple templates are selected.)

0: C	1: P	2: H	

PapScan120 [Output]

Unused

Reserve [Output]

Unused

WSQSS_PU_INFO structure

typedef struct _WSQSS_PU_INFO {


```
    unsigned char       NameC[20];
    unsigned char       NameP[20];
    unsigned char       NameH[20];
    unsigned short      QuantityC;
    unsigned short      QuantityP;
    unsigned short      QuantityH;
    unsigned short      PriceC;
    unsigned short      PriceP;
    unsigned short      PriceH;
    unsigned long       SumC;
    unsigned long       SumP;
    unsigned long       SumH;
    unsigned long       ChargePrice;
    unsigned long       IndexPrice;
    unsigned char       Reserve[36];
} WSQSS_PU_INFO;
```

Member:

NameC [Input]
NameP [Input]
NameH [Input]

Define the product name to be printed on the pricing sheet.

NameC: Name of Classical print
NameP: Name of Panoramic print
NameH: Name of High-definition print

NOTE: Although you may define a maximum of 19 characters, the number of characters actually printed on pricing sheet depends on the type of QSS model. (e.g. For QSS-28, QSS-29, QSS-30, and QSS-31, maximum number of characters to be printed is 5.)

QuantityC [Input]
QuantityP [Input]
QuantityH [Input]

Define the number of resultant prints to be printed on the pricing sheet.

QuantityC: Number of resultant Classical print
QuantityP: Number of resultant Classical Panoramic print
QuantityH: Number of resultant Classical High-definition print

When "0" is set the information related to the print size is not included in the pricing sheet.

NOTE: The range is 0 to 999.

PriceC [Input]
PriceP [Input]
PriceH [Input]

Define the unit price of each product to be printed on the pricing sheet.

PriceC: Unit price of Classical print
PriceP: Unit price of Panoramic print
PriceH: Unit price of High-definition print

NOTE: The range is 0 to 9999.

SumC [Input]
SumP [Input]
SumH [Input]

Define the total amount of each product to be printed on the pricing sheet.

SumC: Total amount of Classical prints
SumP: Total amount of Panoramic prints

SumH: Total amount of High-definition prints

NOTE: The range is 0 to 999999.

ChargePrice [Input]

Define the base price of a print.

NOTE: The range is 0 to 9999.

IndexPrice [Input]

Define the unit price of an index print.

NOTE: The range is 0 to 9999.

Reserve

Unused

Remarks:

Below is a sample of how the information listed above is allocated on a pricing sheet made by PU. (The order of information is always Classical > Panoramic > High-definition.)

Name	Q'ty	Unit price	Sum
INPUT	1	ChargePrice	ChargePrice
NameC	QuantityC	PriceC	SumC
NameP	QuantityP	PriceP	SumP
NameH	QuantityH	PriceH	SumH
INDEX	*1 999		*2 999,999
TAX	*3 99.999 %		*4 999,999
Total amount	*5 (999,999)		*6 999,999

*1: Number of index print (range: 1 – 999)

*2: Number of index print times unit price (IndexPrice) (range: 0 – 999999)

*3: Tax rate whose setting is made on QSS (range: 0.000 – 99.999)

*4: Tax calculated with the tax rate whose setting is made on QSS (range: 0 – 999999)

*5: Price exclusive of tax (range: 0 – 999999)

*6: Price inclusive of tax (range: 0 – 999999)

As for tax rate, fractions, decimal point position, grouping symbol, ones whose setting has been made on QSS are applied.

Note:

Be sure to make setting of prices so they will fall in each allocated area on a pricing sheet.

WSQSS_SUM_INFO structure

```
typedef struct _WSQSS_SUM_INFO {
    unsigned long    PChC[100];
    unsigned long    PChP[100];
    unsigned long    PChH[100];
    unsigned long    PaperPrint;
    unsigned long    PaperIndex;
    unsigned long    PaperSetup;
    unsigned long    PaperLabel;
    unsigned long    PaperOther;
    unsigned long    PaperTotal;
    unsigned long    WriteMedia;
    unsigned long    WriteImage;
```



```
    unsigned short      DisposalSpec;
    unsigned long       TotalHojyu[9];
    unsigned char       Reserve[42];
} WSQSS_SUM_INFO;
```

Member:

PChC [Output]

PChP [Output]

PChH [Output]

Defines the total number of prints made in each print channel.
In the 0th of an array is the total number of prints from CH1, and in the 1st is that from CH2. Thus, the total numbers of prints in CH1 to CH99 are stored in this structure.
In the 99th is the total number of prints made from the external input source.

PChC: Total number of prints of Classical print

PChP: Total number of prints of Panoramic print

PChH: Total number of prints of High-definition print

PaperPrint [Output]

PaperIndex [Output]

PaperSetup [Output]

PaperLabel [Output]

PaperOther [Output]

Defines the total number of prints made by QSS.

PaperPrint: Total number of prints in Print Totals

PaperIndex: Total number of prints in Index Print Totals

PaperSetup: Total number of prints in Setup Print Totals

PaperLabel: Total number of prints in Label Totals

PaperOther: Total number of prints of Others

PaperTotal: Total of PaperPrint, PaperIndex, PaperSetup, PaperLabel, and PaperOther.

WriteMedia [Output]

WriteImage [Output]

Total number of media to which images have been written and total number of images written to media by QSS.

WriteMedia: Total number of media

WriteImage: Total number of images written into media

DisposalSpec [Output]

Defines the process specification of QSS as follows:

Value	Description
QSS_SPEC_NORMAL	Standard spec.
QSS_SPEC_SM	SM spec.
QSS_SPEC_J	J spec.
QSS_SPEC_EX	EX spec.

TotalHojyu [Output]

Defines the total amount of replenisher solution used on QSS. (unit: ml)

The value stored in array varies depending on the process specification of QSS (DisposalSpec). Refer to the table below:

No	QSS_SPEC_NORMAL	QSS_SPEC_SM	QSS_SPEC_J	QSS_SPEC_EX
0	CD	CD-A	———	CD-
1	BF	BF-A	———	BF-A
2	STB	STB	———	STB
3	———	CD-B	———	BF-B
4	———	CD-C	———	CD-W
5	———	BF-B	———	BF-W
6	———	CD-W	———	STB-W

7	———	BF-W	———	———
8	———	STB-W	———	———

Reserve

Unused

WSQSS_PROFILE_INFO structure

```
typedef struct _WSQSS_PROFILE_INFO {
    unsigned short      DeviceKind;
    unsigned short      PaperWidth;
    unsigned short      Surface;
    unsignedchar        Reserve[26];
} WSQSS_PROFILE_INFO;
```

Member:

DeviceKind [Input]

Define the device whose profile you wish to get as follows:

Value	Description
QSS_PROFILE_MON	Get monitor profile.
QSS_PROFILE_PRN	Get printer profile.

PaperWidth [Input]

Define the paper width whose profile you wish to get. (unit: 1/10 mm)

NOTE: Use this member when you define QSS_PROFILE_PRN for DeviceKind.

Surface [Input]

Define the paper surface whose profile you wish to get.

The range is 1 to 4.

NOTE: Use this member when you define QSS_PROFILE_PRN for DeviceKind.

Reserve [Input]

Unused

WSQSS_DATETIME structure △2

```
typedef struct _WSQSS_DATETIME {
    unsigned short      Year;
    unsigned short      Month;
    unsigned short      Day;
    unsigned short      Hour;
    unsigned short      Minute;
} WSQSS_DATETIME;
```

Year [Output]

Define year (dominical year).

Month [Output]

Define month. The range is 1 – 12.

Day [Output]

Define day. The range is 1 – 31.

Hour [Output]

Define hour. The range is 0 – 23.

Minute [Output]

Define minute. The range is 0 – 59.

WSQSS_ORDER_HISTORY structure △2

```
typedef struct _QSS_ORDER_HISTORY {
    QSS_DATETIME        ReceiptTime;
    QSS_DATETIME        CompleteTime;
    unsigned short      ReceiptNo;
    unsigned short      Status;
    unsigned short      FrameNum;
    unsigned short      PaperWidth;
    unsigned short      Surface;
    unsigned short      IndexPrintFlg;
    unsigned short      PaperFittingFlg;
    unsigned short      ReceiptFlg;
    unsigned short      OrderNo;
    char                Host[20];
    char                User[20];
    unsigned short      RequestNo;
    unsigned char       Address[6];
    unsigned short      PrintNumC;
    unsigned short      PrintNumP;
    unsigned short      PrintNumH;
    unsigned short      IndexPrintNum;
    unsigned short      MediaTotal;
    unsigned short      OutputPrint;
    unsigned short      OutputMedia;
    unsigned short      CT1MediaOutput;
    unsigned short      CT1OutputMedia;
    QSS_DATETIME        PrintTime;
    unsigned short      PaperWidthB;
    unsigned short      SurfaceB;
    unsigned short      Reserve1[6];
    unsigned hyper      RefId;
    unsigned char       Reserve[8];
} QSS_ORDER_HISTORY;
```

ReceiptTime [Output]

Defines the receipt time.

CompleteTime [Output]

Defines the printing completed time.

ReceiptNo [Output]

Defines the receipt number.

Status [Output]

Defines the order type as follows:

Value	Description
QSS_ORDER_STATUS_PRINTED	Printed order
QSS_ORDER_STATUS_CANCELED	Canceled order

FrameNum [Output]

Defines the total number of frames.

PaperWidth [Output]

Defines the paper width (unit: 1/10 mm).

Surface [Output]

Defines the paper surface.

IndexPrintFlg [Output]

Defines the index size. For detail, refer to IDPSize of WSQSS_PRINT_CHANNEL structure.

PaperFittingFlg [Output]

Defines the type of paper fitting. For detail, refer to PaperFitSW of WSQSS_PRINT_CHANNEL structure.

ReceiptFlg [Output]

Defines whether or not to issue order sheet.

Value	Description
QSS_RECEIPT_ON	Issue order sheet.
QSS_RECEIPT_OFF	Not issue order sheet.

OrderNo [Output]

Defines order number.

Host [Output]

Defines host name.

User [Output]

Defines user name.

RequestNo [Output]

Defines request number.

Address [Output]

Defines MAC address.

PrintNumC [Output]

PrintNumP [Output]

PrintNumH [Output]

Defines number of print.

IndexPrintNum [Output]

Defines number of index print.

MediaTotal [Output]

Defines number of media to which data is output.

OutputPrint [Output]

Defines whether to print or not.

OutputMedia [Output]

Defines the type of output media. For detail, refer to OutMediaSw of WSQSS_PRINT_CHANNEL structure.

CT1MediaOutput [Output]

Defines media output on CT-1. When the value is NOT 0, it means the media output is performed on CT-1.

CT1OutputMedia [Output]

Defines the type of output media used on CT-1. For detail, refer to OutMediaSw of WSQSS_PRINT_CHANNEL structure

PrintTime [Output]

Defines printing start time.

PaperWidthB [Output]

Defines paper width (unit: 1/10 mm).

SurfaceB [Output]

Defines paper surface.

Reserve1

Unused.

RefId [Output]

Defines reference number.

Reserve

Unused.

WSQSS_RESULT structure

```
typedef struct _WSQSS_RESULT {
    unsigned long       ReturnValue;
    unsigned char       Reserve[12];
} WSQSS_RESULT;
```

Member:

ReturnValue

Define the result of request process as follows:

Value	Description
QSS_SUCCESS	Request process succeeded
QSS_FAIL	Request process failed
QSS_INVALID_ORDERNO	Request number is illegal.
QSS_INVALID_FRAMENO	Frame number is illegal.
QSS_NOT_SUPPORT_FORMAT	Image format is not supported.
QSS_INVALID_REPEATNUM	Repeat number is illegal.
QSS_DISKFULL_SPOOL	Insufficient free space in spool region.
QSS_INVALID_FRAMENUM	Number of frame is illegal.
QSS_INVALID_PAPER	Cannot use the paper specified.
QSS_INVALID_WBSIZE	White boarder width is illegal.
QSS_INVALID_INDEXSIZE	Index print size is illegal.
QSS_INVALID_PAPERFITTING	Paper fitting is illegal.
QSS_INVALID_ID_AUTHORITY	No authority to delete.
QSS_NO_SUCH_ORDER	Cannot find an order.
QSS_NOT_CONNECTED_PU	PU is not installed.
QSS_REMAINING_DATA	There is unacquired data.
QSS_DISABLE_MODE	NetOrder mode is not enabled.
QSS_INVALID_PAPERLENGTH	Paper advance length is illegal.
QSS_RECEIVE_ABORT	Order receipt was denied. (e.g. The order was deleted on QSS while being received.)
QSS_NOTEXIST_PROFILE	Profile does not exist. △2

Reserve

Unused

4. QSS Search function

This chapter describes the function to search QSS connected to Ethernet from printer driver.

1. Interface
   This function uses UDP for protocol.

2. Sequence
   Printer driver sends inquiry message (packet) to QSS. Once QSS receives the message, it returns the response message to the sender of the message. Printer driver can get QSS model and IP address from the response message that QSS returns.

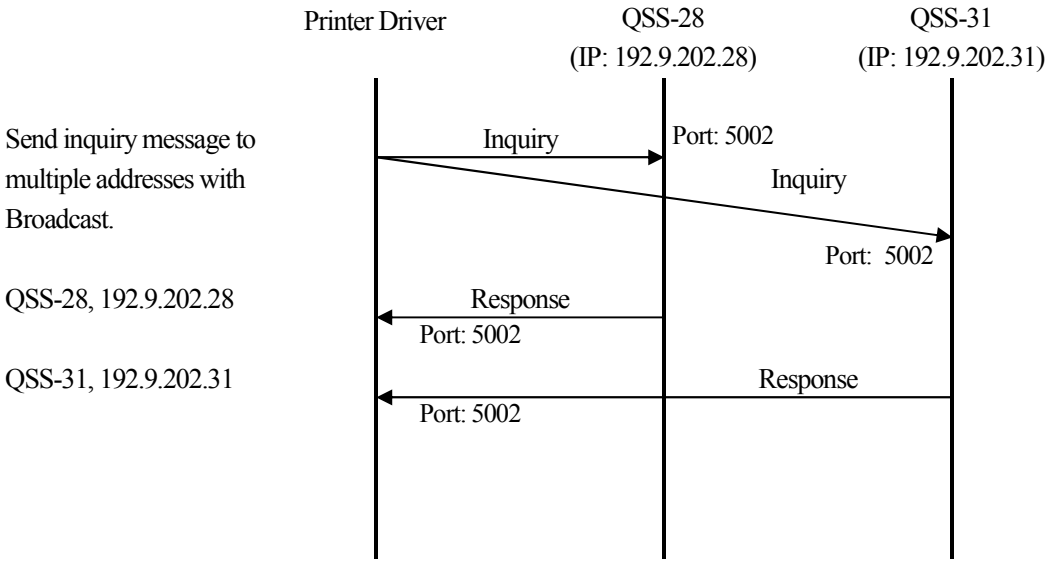


Fig. 1. Search sequence

NOTE: IP address of QSS varies from unit to unit.

3. Message format
   Though QSS and printer driver send and receive Ethernet frame, they both use application data only. Byte order is of little endian which is the network standard.

Ethernet header	IP header	UDP header	Application data

Fig. 2. Ethernet frame

Inquiry message

0 x 000F	0 x 0001	Reserved
2 (Byte)	← 2 →	← 40 →

Response message

0 x 000F	0 x 0002	Model name	IP address	Printer resolution	Reserved
2 (Byte)	← 2 →	← 20 →	← 4 →	← 2 →	← 14 →

Model name

Stores QSS model name.

Model	Model name
QSS-28	QSS-28
QSS-29	QSS-29
QSS-30	QSS-30
QSS-31	QSS-31

IP address

Stores IP address of QSS.

Printer resolution

Stores default printer resolution.

