TOSHIBA

6F3B0352

INSTRUCTIONS MANUAL

# TOSLINE-S20

# SIF STATION

Main Menu
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TOSHIBA CORPORATION

FCF50003

CODE

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## Preface

The TOSLINE-S20 is a Local Area Network (LAN) for Factory Automation (FA) system. Several kinds of TOSLINE-S20 stations are available for interfacing various equipments, such as PLCs, computers, etc.

This manual describes How To Use the TOSLINE-S20 Serial Interface (SIF) station. The SIF station enables data communications between a host computer and the equipments connected to the TOSLINE-S20 network.

For general information concerning the TOSLINE-S20, refer to separate T2/T3 Stations User's Manual. Also, for the key operations of the TOSLINE-S20 Loader Software (S-LS), refer to separete S-LS Operation Manual.

In this manual, the following abbreviations are used.

| | |
|---|---|
| S20: | TOSLINE-S20 system |
| S-LS: | TOSLINE-S20 Loader Software |
| SIF: | TOSLINE-S20 Serial Interface station |

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# 1. Overview

## 1.1 SIF overview

The SIF is a unit type S20 station, which has two ports of standard serial interface (RS-232C/RS-485). This SIF is used to communicate between a host computer and S20 interfacing equipments, such as programmable controller T2/T3.

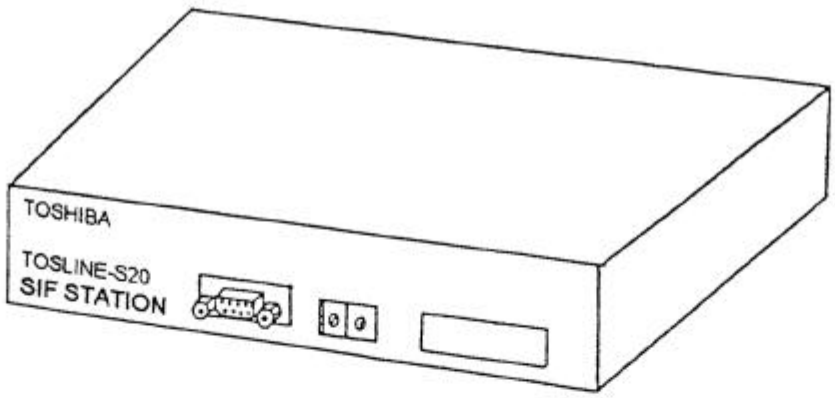
The SIF is available from the following three types depending on the S20 transmission cable.

- Coaxial cable type
- Optical fiber type
- Coaxial/optical mixture type

Also, depending on the serial interface equipped with, the following two types are available.

- RS-232C, 2 ports (standard)
- RS-232C or RS-485 selectable, total 2 ports

So, totally, six types of SIF are available.

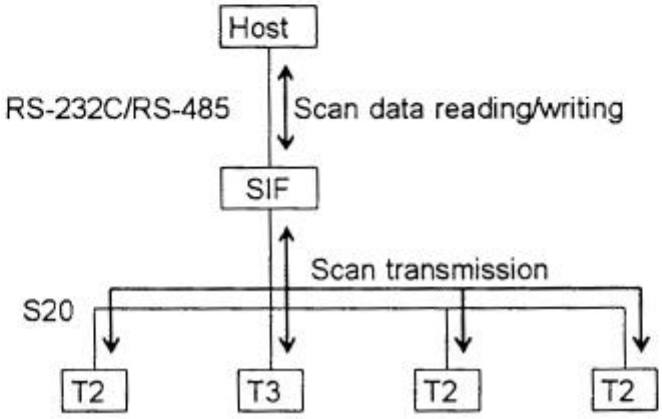


## 1.2 Functions

The SIF supports the following functions.

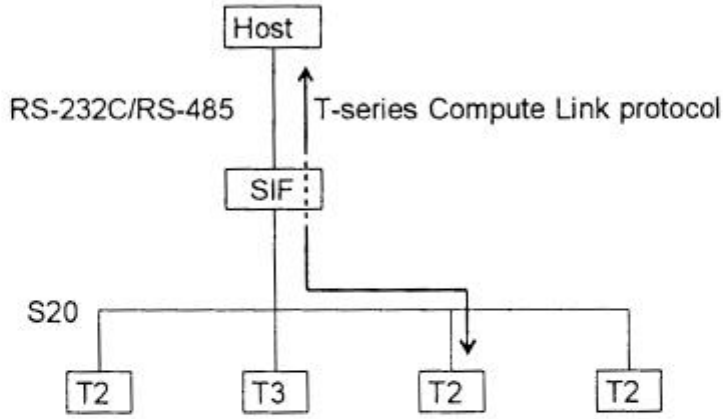
(1) Scan transmission

The SIF supports the S20's scan transmission function. The SIF has 1024 words of common memory for the scan transmission. By setting the data send block, sending the scan data from the SIF is possible. The host computer connecting to the SIF can read/write the common memory through the serial interface.




(2) T-series Computer Link

The SIF supports the T-series Computer Link protocol. By using this function, the host computer connecting to the SIF can communicate with the T2/T3 on the S20 network.



# 2. Specifications

## 2.1 General specifications

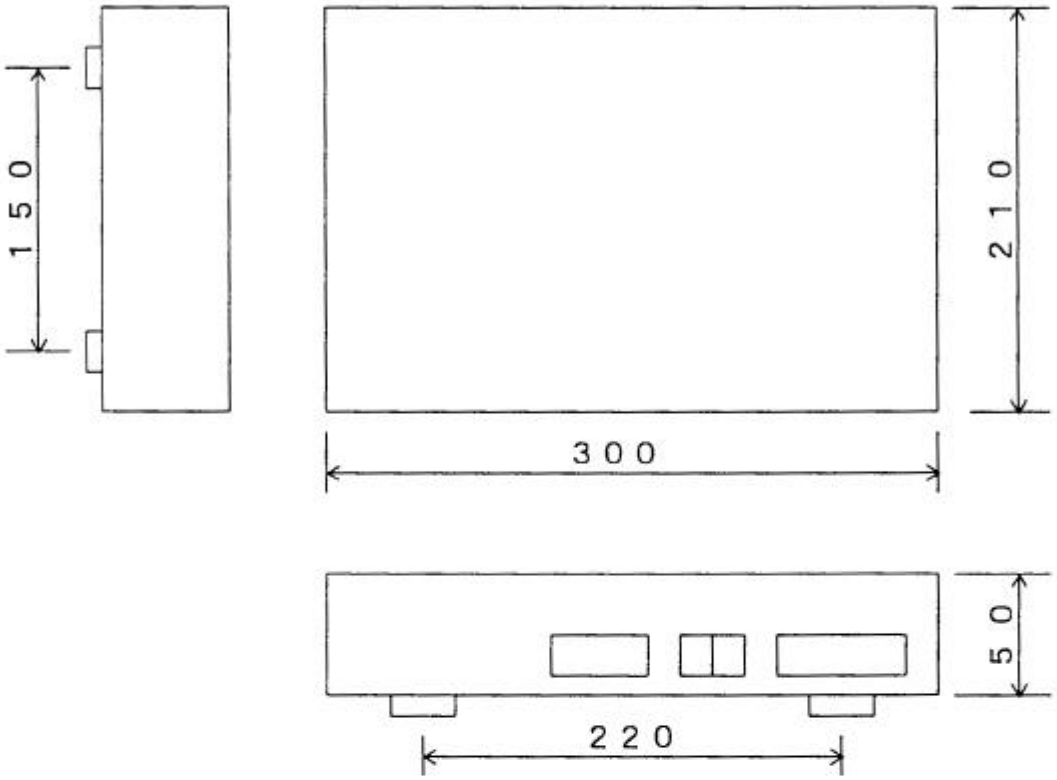
| Item | Specifications |
|---|---|
| Rated power voltage | 100 to 240 Vac, 50/60 Hz |
| Voltage tolerance | 85 to 264 Vac, 47 to 66 Hz |
| Retentive power interruption | 10 ms or less |
| Power consumption | 10 VA |
| Withstand voltage | 1500 Vac for 1 minute |
| Fuse rating | 3 A (built-in) |
| Operating temperature | 0 to 55°C |
| Storage temperature | -20 to 75°C |
| Ambient humidity | 20 to 90% RH (no condensation) |
| Atmosphere | No corrosive gases |
| Dust | 1 $mg/m^3$ or less |
| Vibration immunity | 16.7 Hz, 3 mmp-p |
| Grounding | 100 Ω or less |
| External dimensions | 300 (W) x 210 (D) x 60 (H) mm |
| Weight | Approx. 2.2 kg |
| Cooling | Natural air cooling |

Note) For S20 system specifications, refer to separate T2/T3 Stations User's Manual.

## 2.2 Serial interface specifications

| Item | Specifications |
|---|---|
| Interface | RS-232C/RS-485 |
| Number of ports | 2 ports |
| Connector | D-Sub 25-pin, female (SIF side) |
| Pin assignment | DCE type (SIF side) |
| Synchronizing | Start-stop (asynchronous) |
| Transmission speed | 300, 600, 1200, 2400, 4800, 9600, 19200 bps (selectable by S-LS) |
| Parity | Non, odd, even (selectable by S-LS) |
| Stop bit length | 1, 2 bits (selectable by S-LS) |
| Data bit length | 7, 8 bits (selectable by S-LS) |
| Transmission mode | Harf-duplex |
| Transmission code | ASCII |
| Message length | Max. 1046 bytes |
| Primary/secondary | Primary station |

## 2.3 External dimensions




(Units: mm)

## 3. Station hardware

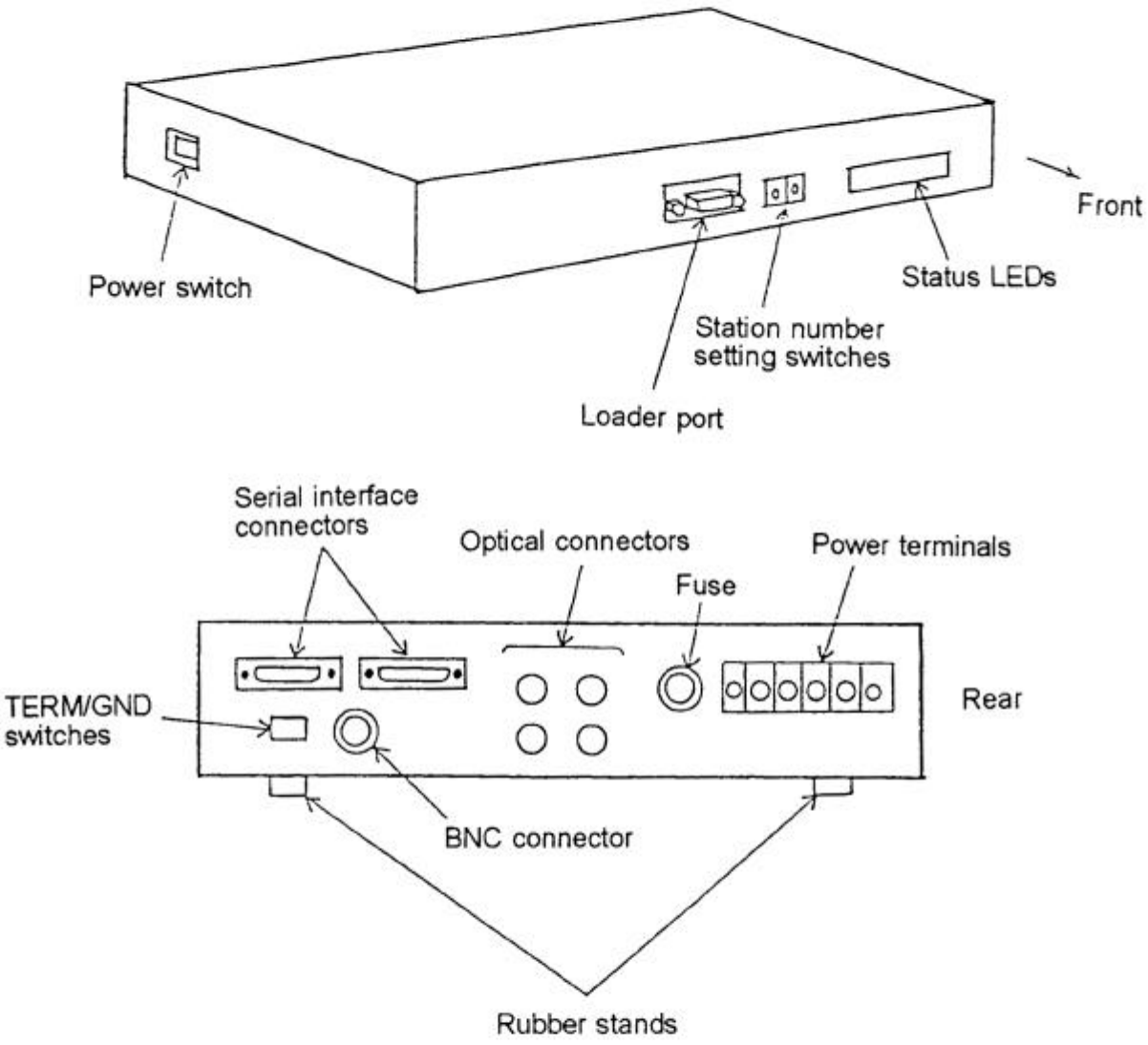
### 3.1 Unit type

The SIF is available from the following six unit types.

| Type | S20 transmission cable | Serial interface |
|---|---|---|
| SIF21 | Coaxial cable | RS-232C, 2 ports (standard type) |
| SIF22 | Optical fiber | |
| SIF23 | Coaxial/optical mixture | |
| SIF21A | Coaxial cable | RS-232C/RS-485 selectable for each port, total 2 ports (RS-485 board is added to the standard type) |
| SIF22A | Optical fiber | |
| SIF23A | Coaxial/optical mixture | |

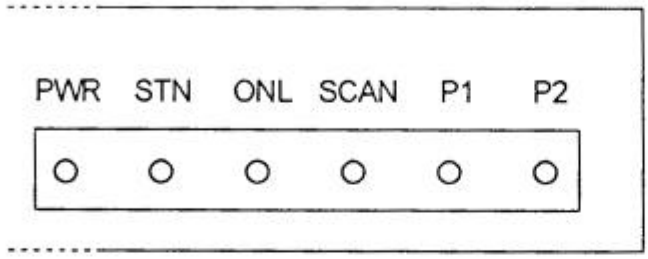
Note) 2 pieces of cable side connectors (D-Sub 25-pin male) for the serial interface are attached as accessories.

### 3.2 External feature



- **Power switch**
  Turns on/off power to the SIF station.

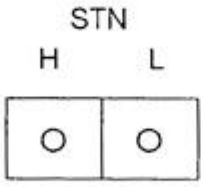
- **Status LEDs:**
  Indicate the status of the SIF station.




All LEDs are red

| | | |
|---|---|---|
| PWR | Lit | Power supply is normal |
| | Not lit | Power off or power supply is abnormal |
| STN | Lit | SIF station normal |
| | Not lit | Down mode |
| ONL | Lit | Online mode |
| | Blink | Standby mode |
| | Not lit | Offline mode |
| SCAN | Lit | Scan transmission is executing |
| | Not lit | Scan transmission is not executing |
| P1 | Lit | Port 1 host is communicating with the SIF |
| | Not lit | Port 1 host is not communicating with the SIF |
| P2 | Lit | Port 2 host is communicating with the SIF |
| | Not lit | Port 2 host is not communicating with the SIF |

- **Station number setting switches:**
  Used to set the station number. (allowable setting is 1 to 64)
  The setting status is read at power on.




Decimal rotary switches

STNH ------- 10's digit
STNL ------- 1's digit

- **Loader port:**
  Used to connect the S-LS (or T-PDS for remote programming/monitoring).

- **Power terminals:**
  Used to connect the power cables.

- **BNC connector:**
  Used to connect coaxial cable. (see Section 4)

- **Optical connectors:**
  Used to connect optical fiber cables. (see Section 4)

- **Transmission cable termination / grounding switches (coaxial type only):**

  TERM ------- When this switch is ON, internal termination resistor will be connected. Set this switch to ON if the station is terminal station.

  GND -------- When this switch is ON, outside conductor of the coaxial cable will be connected to the SIF station's frame ground.
  Set this switch to ON at one station which is in most stable electro-magnetic environment.

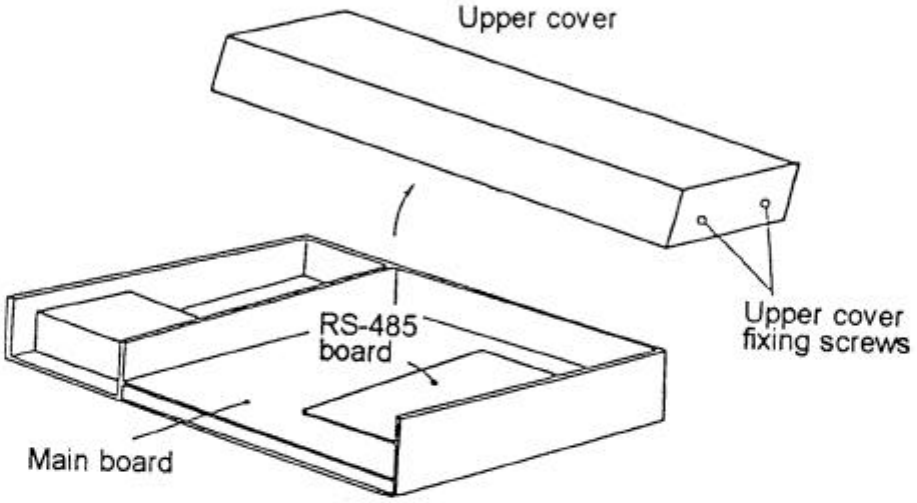
- **Serial interface connectors:**
  Used to connect the host computers through RS-232C/RS-485 interface. Two connectors are provided. (see Section 4)

### 3.3 RS-232C/RS-485 selection

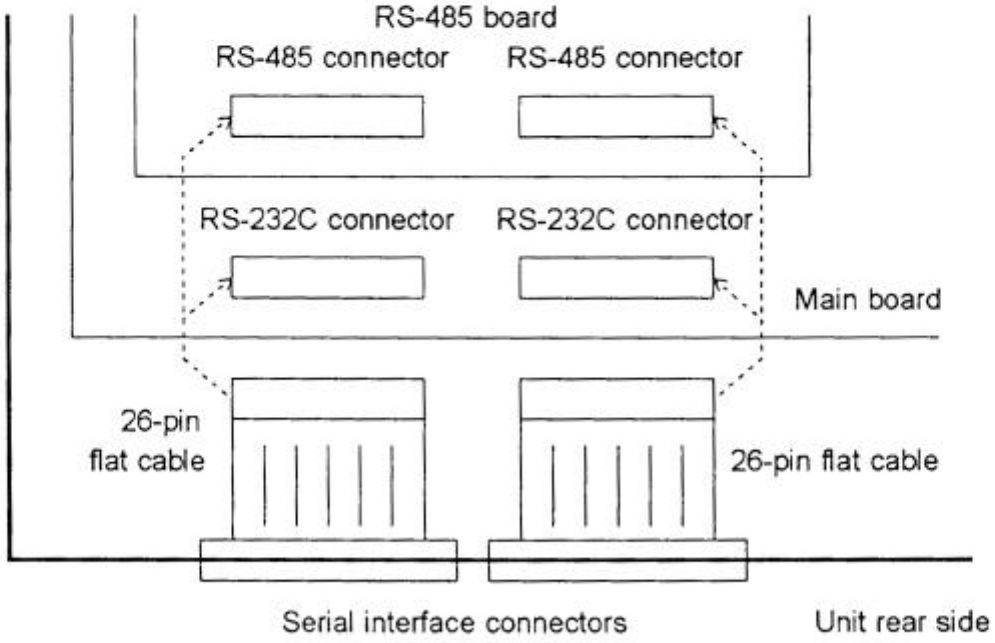
In case of the SIF station which has the RS-485 board (SIF21A, SIF22A and SIF23A), the serial interface can be selected from either RS-232C or RS-485, independently for each port. (Both ports are set as RS-232C at factory shipment)

Follow the procedure below to change the serial interface.

(1) Unfasten the upper cover fixing screws, then remove the upper cover.




(2) Change the flat cable connection to desired interface connector.



# 4. Connections

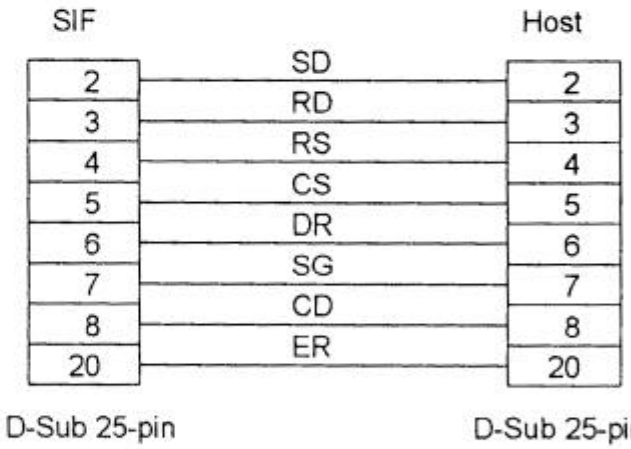
## 4.1 RS-232C connection

Two D-Sub 25-pin female connectors are provided on the SIF station. The cable side connectors are attached as accessories.
The pin assignment is DCE type.

- Pin assinment

| Pin No. | Signal name | Description | Signal direction |
|---|---|---|---|
| 2 | SD | Transmitted data | SIF ← Host |
| 3 | RD | Received data | SIF → Host |
| 4 | RS | Request to send | SIF ← Host |
| 5 | CS | Clear to send | SIF → Host |
| 6 | DR | Data set ready | SIF → Host |
| 7 | SG | Signal ground | SIF — Host |
| 8 | CD | Carrier detect | SIF → Host |
| 20 | ER | Data terminal ready | SIF ← Host |

- Standard connection




Notes) (1) Shielded twisted-pair cable should be used.
(2) Cable length should be less than 15 m.
(3) Cable characteristics should meet the RS-232C requirements.
(4) Cable shield should be connected to the connector fixing screw at the SIF side.
(5) Unused lines in the cable should be connected to SG line.

### 4.2 RS-485 connection

Two D-Sub 25-pin female connectors are provided on the SIF station. The cable side connectors are attached as accessories.
The pin assignment is DCE type.

- Pin assinment

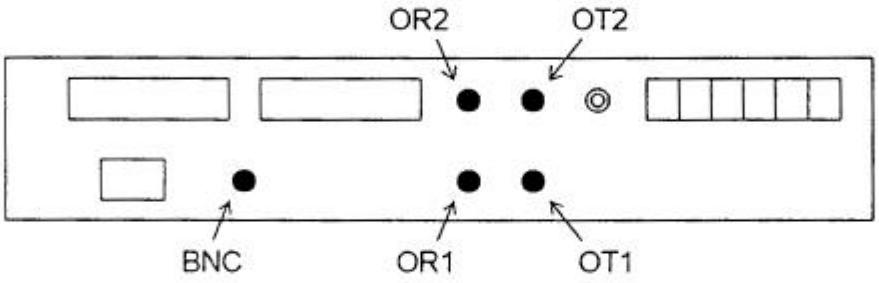
| Pin No. | Signal name | Description | Signal direction |
|---|---|---|---|
| 3 | SD(+) | Transmitted data | SIF ← Host |
| 16 | SD(-) | | |
| 2 | RD(+) | Received data | SIF → Host |
| 15 | RD(-) | | |
| 5 | RS(+) | Request to send | SIF ← Host |
| 18 | RS(-) | | |
| 4 | CS(+) | Clear to send | SIF → Host |
| 17 | CS(-) | | |
| 6 | DR(+) | Data set ready | SIF → Host |
| 19 | DR(-) | | |
| 1 | SG | Signal ground | SIF — Host |
| 11 | | | |
| 14 | | | |
| 24 | | | |
| 20 | ER(+) | Data terminal ready | SIF ← Host |
| 7 | ER(-) | | |

Notes) (1) Connection pin number at the host side depends on the specification.
(2) Shielded twisted-pair cable should be used.
(3) Cable length should be less than 50 m.
(3) Cable characteristics should meet the RS-485 requirements.
(4) Cable shield should be connected to the connector fixing screw at the SIF side.
(5) Unused lines in the cable should be connected to SG line.

## 4.3 Transmission cable connection

Depending on the unit type, coaxial cable (5C-2V) or optical cable (GI 50/125) is used as S20 transmission cable. For detailed information concerning the cable selection and cabling, see separate T2/T3 Stations User's Manual.

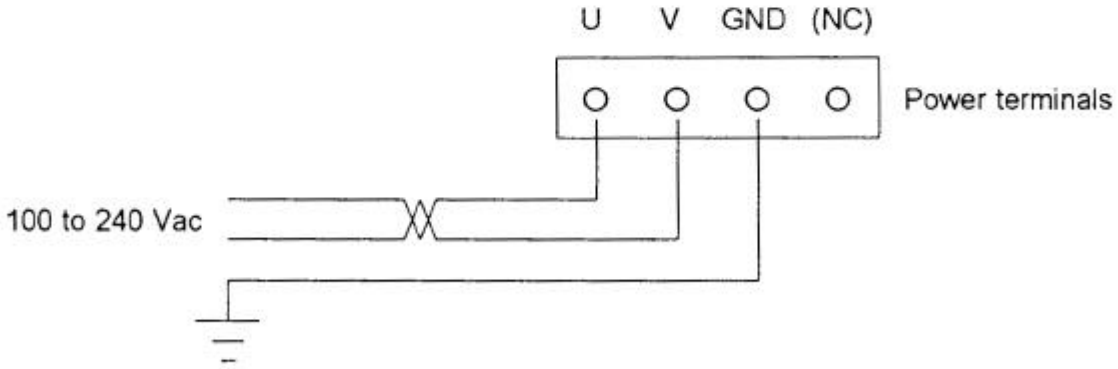
The transmission connectors are provided on the rear side of the SIF station as below. These connectors are not all provided. It depends on the unit type as described on the table below.




| Unit type | Transmission cable | Provided connectors | | | | |
|---|---|---|---|---|---|---|
| | | BNC | OT1 | OR1 | OT2 | OR2 |
| SIF21/21A | Coaxial cable | Yes | No | No | No | No |
| SIF22/22A | Optical fiber | No | Yes | Yes | Yes | Yes |
| SIF23/23A | Coaxial/optical mixture | Yes | Yes | Yes | No | No |

## 4.4 Wiring the power supply

Wire the specified voltage of AC power to the power terminals provided on the rear side of the SIF station.



# 5. Software

## 5.1 Supporting protocols

The SIF station has two ports of RS-232C/RS-485 interface. These two ports work independently each other.
This section describes the communication protocols between the host computer and the SIF station through the RS-232C/RS-485 port.

The following protocols are supported by the SIF station for communicating with the host computer.

(1) SIF protocol
This protocol enables the host computer to read/write the scan transmission data and to read the RAS information from the SIF station or other S20 stations.

(2) T-series Computer Link protocol
This protocol is supported by T2/T3 as built-in Computer Link port (RS-485) function. The SIF station also supports this protocol. So, all the functions of the Computer Link are available through the S20 network.

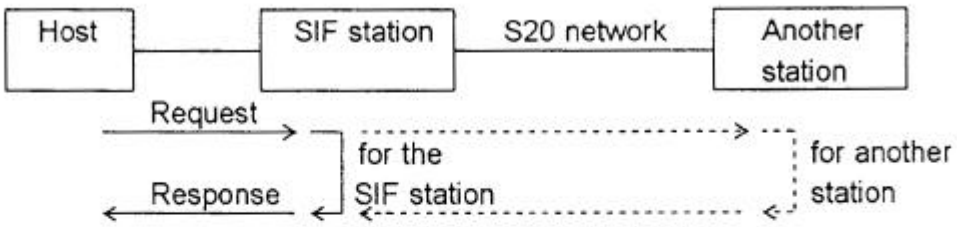
Note) To use the protocols above (1) and (2), set the item "7. Communication" of the SIF information on the S-LS at "Message", not "Virtual circuit".
The "Virtual circuit" is for future use. (See section 6)

## 5.2 SIF protocol

The SIF protocol is a dedicated protocol used to request for the connecting SIF station or other S20 stations. This protocol enables the host computer to perform the following functions.

- Reading and/or writing the scan data
- Reading the online/standby map
- Reading the scan healthy map
- Reading the station down information
- Reading the station status

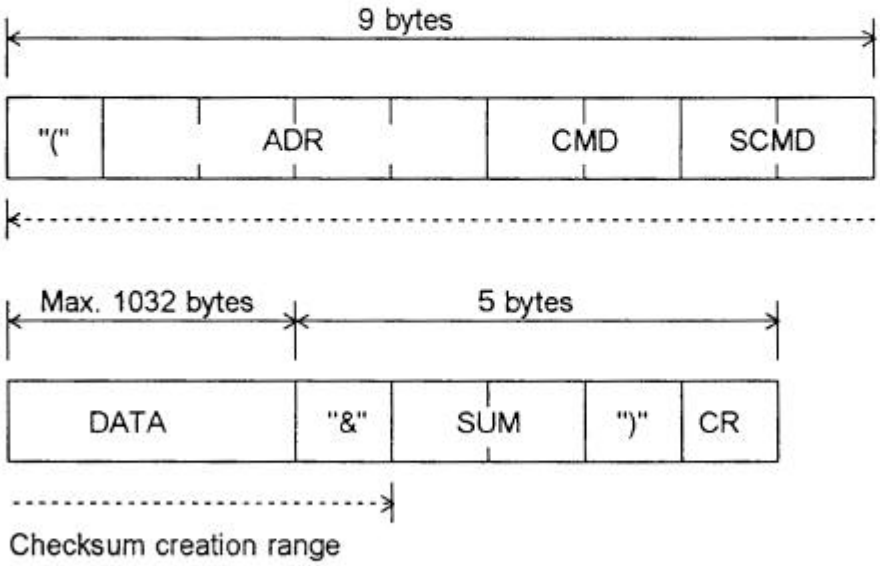
The request/response sequence is shown below.




If the host issues the request for the SIF station which is connected to the host, the SIF processes and returns the response.
And if the host issues the request for another station on the S20 network, the SIF transmits the request to the specified station. Then the specified station returns the response through the SIF station.

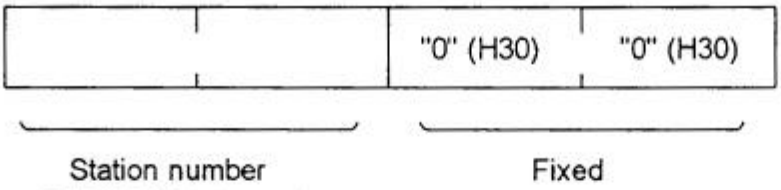
When one cycle of the request/response sequece is completed, the host can issue the next request. If a request is issued during the above cycle, the request is ignored.

The basic text format between the host and the SIF is shown below. ASCII is used as the transmission code for the request/response text.




Text contents

"(" ----- Start code (H28) — 1 byte
ADR ---- Station number — 4 bytes




CMD ---- Command — 2 bytes
SCMD --- Sub-command — 2 bytes
} (explained in each command)
DATA --- Data field (explained in each command)
"&" ----- Checksum delimiter (H26) — 1 byte
Added when checksum is used for the request text. In the response text, checksum is always added.
SUM ---- Checksum — 2 bytes
ASCII code of the lowest one byte of the sum obtained by adding from the start code "(" to the checksum delimiter "&".
")" ----- End code (H29) — 1 byte
CR ----- Carrige return code (H0D) — 1 byte

### (1) Scan Data Read

This command reads out the specified number of scan data starting with specified address from the station.

Text format (from CMD to DATA)

- Request text

| | 7 0 | |
|---|---|---|
| 1 | "F" (H46) | CMD |
| 2 | "1" (H31) | |
| 3 | "0" (H30) | SCMD |
| 4 | "6" (H36) | |
| 5 | | 0 to 1023 for the Starting address |
| 6 | Starting address | |
| 7 | | |
| 8 | | |
| 9 | | 1 to 256 for the Number of words |
| 10 | Number of words | |
| 11 | | |
| 12 | | |

- Normal response text

| | | |
|---|---|---|
| 1 | "F" (H46) | CMD |
| 2 | "1" (H31) | |
| 3 | "0" (H30) | SCMD |
| 4 | "6" (H36) | |
| 5 | Station status (H) | Refer to (6) Station Status Read command |
| 6 | | |
| 7 | Station status (L) | |
| 8 | | |
| 9 | Reading out data | 1 word binary data (16 bits) is expressed by 4 bytes ASCII<br>(e.g.)<br>Data H4321 is expressed by ASCII "4", "3", "2", "1" |
| n | | |

Note) For abnormal response, see (7) Common Error Response.

### (2) Scan Data Write

This command writes the specified number of scan data starting with specified address into the station.

Text format (from CMD to DATA)

• Request text

| | 7 0 | |
|---|---|---|
| 1 | "F" (H46) | CMD |
| 2 | "1" (H31) | |
| 3 | "0" (H30) | SCMD |
| 4 | "5" (H35) | |
| 5 | | 0 to 1023 for the Starting address |
| 6 | Starting address | |
| 7 | | |
| 8 | | |
| 9 | | 1 to 256 for the Number of words |
| 10 | Number of words | |
| 11 | | |
| 12 | | |
| 13 | Writing data | 1 word binary data (16 bits) is expressed by 4 bytes ASCII (e.g.) Data H4321 is expressed by ASCII "4", "3", "2", "1" |
| n | | |

• Normal response text

| | | |
|---|---|---|
| 1 | "F" (H46) | CMD |
| 2 | "1" (H31) | |
| 3 | "0" (H30) | SCMD |
| 4 | "5" (H35) | |
| 5 | Station status (H) | Refer to (6) Station Status Read command |
| 6 | | |
| 7 | Station status (L) | |
| 8 | | |

Note) For abnormal response, see (7) Common Error Response.

### (3) Online Map Read

This command reads out the online map and the standby map from the station.

Text format (from CMD to DATA)

- Request text

| | 7 0 | |
|---|---|---|
| 1 | "F" (H46) | CMD |
| 2 | "2" (H32) | |
| 3 | "0" (H30) | SCMD |
| 4 | "2" (H32) | |

- Normal response text

| | | |
|---|---|---|
| 1 | "F" (H46) | CMD |
| 2 | "2" (H32) | |
| 3 | "0" (H30) | SCMD |
| 4 | "2" (H32) | |
| 5 | Station status (H) | Refer to (6) Station Status Read command |
| 6 | | |
| 7 | Station status (L) | |
| 8 | | |
| 9 | Online map data | Online map data (4 words data) is expressed by 16 bytes ASCII |
| 24 | | |
| 25 | Standby map data | Standby map data (4 words data) is expressed by 16 bytes ASCII |
| 40 | | |

Notes) (1) Refer to separate T2/T3 Stations User's Manual for detailes of the online map and the standby map.
(2) For abnormal response, see (7) Common Error Response.

### (4) Scan Healthy Map Read

This command reads out the scan healthy map from the station.

Text format (from CMD to DATA)

- Request text

| | 7 | 0 | |
|---|---|---|---|
| 1 | "F" (H46) | | CMD |
| 2 | "2" (H32) | | |
| 3 | "0" (H30) | | SCMD |
| 4 | "3" (H33) | | |
| 5 | Page designation | | The scan healthy map consists of total 64 words. Reading out is made in 16 words units by designating the page as follows. |
| 6 | | | |

| Page | Scan healthy map | Corresponding scan address |
|---|---|---|
| "00" | 0 to 15 | 0 to 255 |
| "01" | 16 to 31 | 256 to 511 |
| "02" | 32 to 47 | 512 to 767 |
| "03" | 48 to 63 | 768 to 1023 |

- Normal response text

| | | |
|---|---|---|
| 1 | "F" (H46) | CMD |
| 2 | "2" (H32) | |
| 3 | "0" (H30) | SCMD |
| 4 | "3" (H33) | |
| 5 | Station status (H) | Refer to (6) Station Status Read command |
| 6 | | |
| 7 | Station status (L) | |
| 8 | | |
| 9 | Scan healthy map data | Scan healthy map data (16 words data) is expressed by 64 bytes ASCII |
| 72 | | |

Notes) (1) Refer to separate T2/T3 Stations User's Manual for detailes of the scan healthy map.

(2) For abnormal response, see (7) Common Error Response.

### (5) Down information Read

This command reads out the satation down information from the connectiong SIF station.

Text format (from CMD to DATA)

- Request text

| | 7 | 0 | |
|---|---|---|---|
| 1 | "F" (H46) | | CMD |
| 2 | "2" (H32) | | |
| 3 | "0" (H30) | | SCMD |
| 4 | "1" (H31) | | |

- Normal response text

| | | |
|---|---|---|
| 1 | "F" (H46) | CMD |
| 2 | "2" (H32) | |
| 3 | "0" (H30) | SCMD |
| 4 | "1" (H31) | |
| 5 | Station status (H) | Refer to (6) Station Status Read command |
| 6 | | |
| 7 | Station status (L) | |
| 8 | | |
| 9 | Down information | Possible Down information (codes) are as follows. |
| 10 | | |

| Down code | Meanings |
|---|---|
| "10" | Watch dog timer error |
| "20" | Memory bus error |
| "30" | SIF malfunction |
| "40" | Jabber timeout |
| "60" | Hardware error |
| "67" | SIF initializing error |
| "77" | Receive buffer overflow |

Note) For abnormal response, see (7) Common Error Response.

### (6) Station staus Read

This command reads out the satation status from the station.

Text format (from CMD to DATA)

- Request text

| | 7 | 0 | |
|---|---|---|---|
| 1 | "F" (H46) | | CMD |
| 2 | "2" (H32) | | |
| 3 | "0" (H30) | | SCMD |
| 4 | "4" (H34) | | |

- Normal response text

| | | |
|---|---|---|
| 1 | "F" (H46) | CMD |
| 2 | "2" (H32) | |
| 3 | "0" (H30) | SCMD |
| 4 | "4" (H34) | |
| 5 | Station status (H) | See below |
| 6 | | |
| 7 | Station status (L) | |
| 8 | | |

Contens of the Station status:

| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|---|---|---|---|---|---|---|---|---|
| (H) | DWN | OFL | STBY | ONL | | | DEV1 | DEV2 |
| (L) | | | SCI | MS | | | | TEST |

DWN: 1 = Down mode
OFL: 1 = Offline mode
STBY: 1 = Standby mode
ONL: 1 = Online mode
DEV1: 1 = Serial port 1 abnormal
DEV2: 1 = Serial port 2 abnormal
SCI: 1 = Scan transmission inhibited
MS: 1 = Master station
TEST: 1 = Test executing

Note) For abnormal response, see (7) Common Error Response.

### (7) Common Error Response

This is the abnormal response for a request command.

Text format (from CMD to DATA)

- Response text

| | | |
|---|---|---|
| 1 | "F" (H46) | CMD |
| 2 | "B" (H42) | |
| 3 | "0" (H30) | SCMD |
| 4 | "0" (H30) | |
| 5 | Error code (1) | See below |
| 6 | | |
| 7 | Error code (2) | |
| 8 | | |

Error codes and meanings:

| Error code (1) | Category | Error code (2) | Meanings |
|---|---|---|---|
| "01" | Command error | "01" | Command number error |
| | | "02" | Sub-command number error |
| "02" | Format error | "31" | Scan transmission station type error (primary station) |
| | | "32" | Scan data starting address error (primary station) |
| | | "33" | Scan data number of words error (primary station) |
| | | "61" | Scan data starting address error (secondary station) |
| | | "62" | Scan data number of words error (secondary station) |
| | | "81" | Scan healthy map page error |
| "03" | BCC error | "01" | Primary station BCC error |
| | | "02" | Secondary station BCC error |
| "05" | Timeout error | "01" | Request timeout (see Note) |
| "07" | Serial line error | "01" | communication error on the serial line |

| Error code (1) | Category | Error code (2) | Meanings |
|---|---|---|---|
| "08" | Network error | "01" | Target station busy |
| | | "02" | Response timeout |
| | | "03" | Frame length error |
| | | "04" | Communication service type error |
| | | "05" | Primary station message transmission inhibited |
| | | "06" | Secondary station message transmission inhibited |
| "09" | Address error | "01" | Primary station text address error |
| | | "02" | Secondary station text address error |
| "0C" | Station type error | "01" | Station type error |

Note) The SIF station checks the time between characters of the request text. If the time exceeds the limit shown below, the SIF station judges as request timeout.

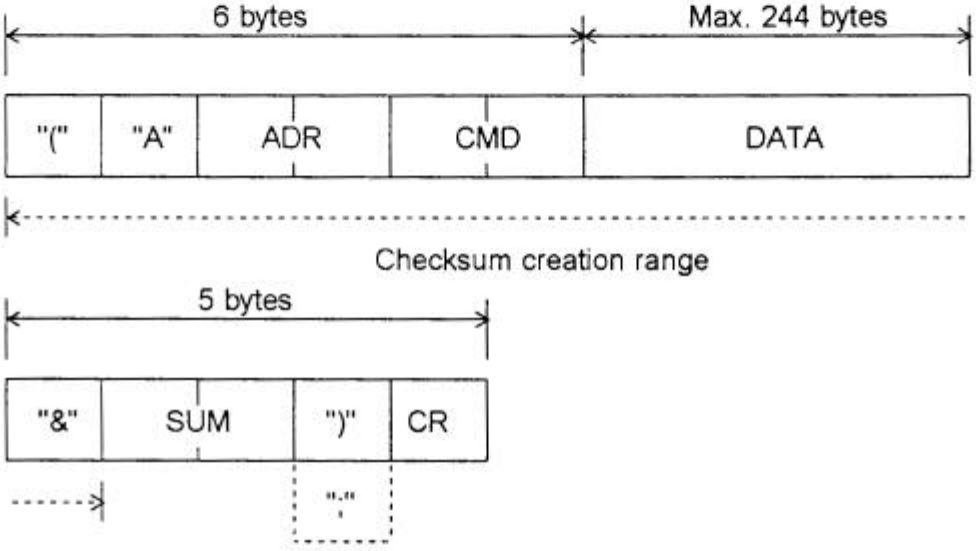
| Baud rate | Time limit |
|---|---|
| 300 bps | 16 sec. |
| 600 bps | 16 sec. |
| 1200 bps | 16 sec. |
| 2400 bps | 8 sec. |
| 4800 bps | 4 sec. |
| 9600 bps | 2 sec. |
| 19200 bps | 1 sec. |

## 5.3 T-series computer link protocol

The SIF station supports the same protocol as the T-series PLC computer link protocol. All the commands of the T-series computer link protocol are available through the S20 network.

Note) Refer to the T-series Computer Link Function manual for it's function details.

The basic text format between the host and the SIF is shown below. ASCII is used as the transmission code for the message text.



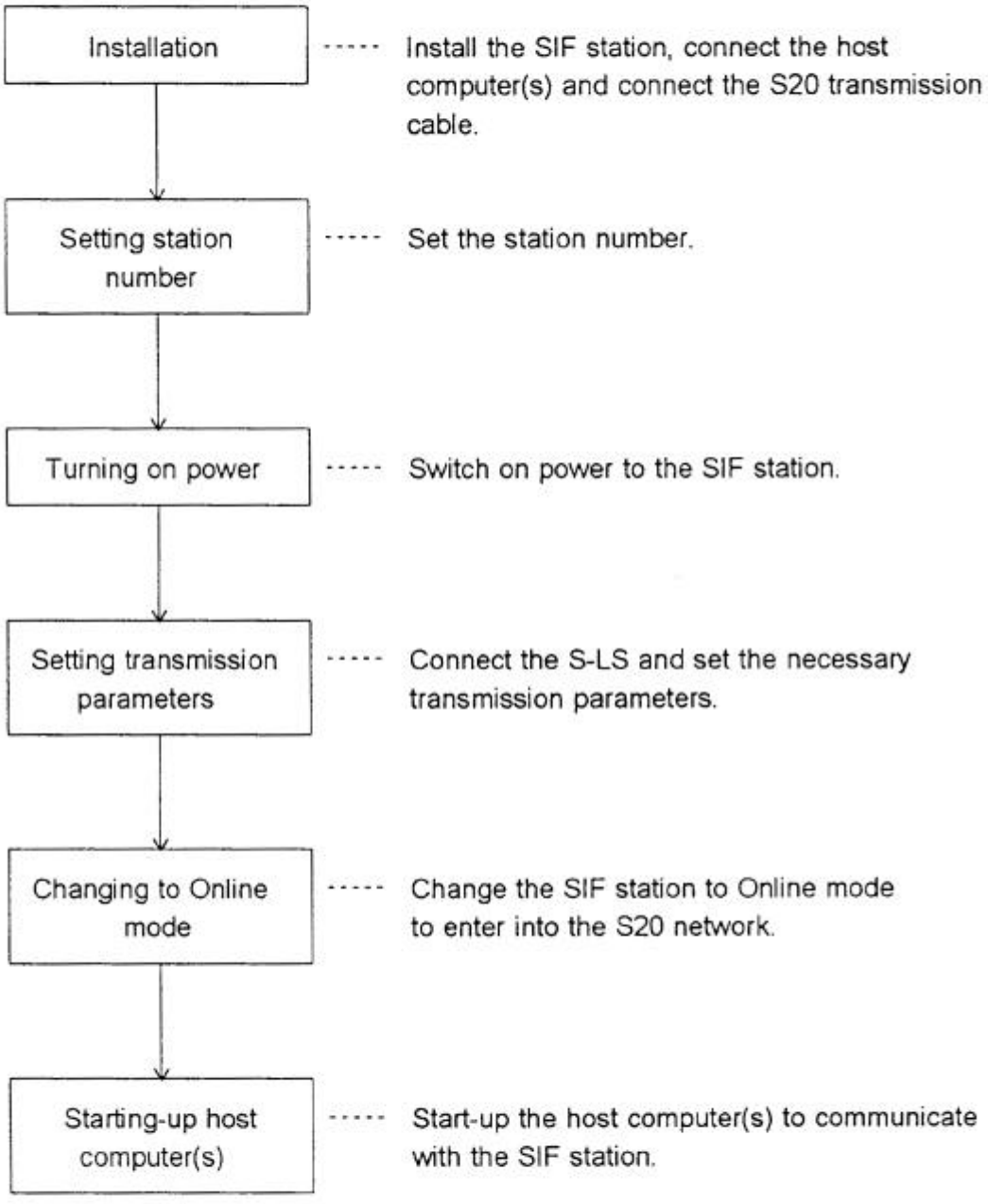

Text contents

"(" ----- Start code (H28) — 1 byte
"A" ----- Format identification code (H41) — 1 byte
ADR ---- Station number — 2 bytes
"01" (H3031) through "64" (H3634)
CMD ---- Command — 2 bytes
DATA --- Data field — depending on the command
"&" ----- Checksum delimiter (H26) — 1 byte
Added when checksum is used for the request text. In the response text, checksum is always added.
SUM ---- Checksum — 2 bytes
ASCII code of the lowest one byte of the sum obtained by adding from the start code "(" to the checksum delimiter "&".
")" ----- End code (H29) — 1 byte
":" ----- End code (H3B) — 1 byte (in case of halfway of entire data)
CR ----- Carrige return code (H0D) — 1 byte

If any abnormality is occurred in the S20 network, the abnormal response "SE" will be returned. The error codes added in the "SE" text are the same as the SIF protocol.
All other request/response text formats are the same as the T-series PLC computer link protocol.

## 6. SIF start-up procedure

The flow chart below shows the general procedure to start-up the SIF station.




This section summarizes the important information for above each step.

(1) Installing the SIF station

Normally, the SIF station is installed in the room where the host computer is located. If the SIF station is installed in a control panel, mounting attachment is available as option. In this case, in addition to the standard horizontal mounting, vertical mounting is allowable. However, inverted horizontal mounting (upside down) is not allowed. For cable connections, refer to Section 4.

(2) Setting the station number

Each station should have unique station number. If a station number is duplicated, the S20 network cannot be established. Allowable station number is 1 to 64. To set the station number, two rotary switches (STNH and STNL) are provided on the SIF station. STNH is for 10's digit setting, and STNL is for 1's digit setting. Refer to Section 3.

(Setting example)

STNH = 1
STNL = 5 ⟵ Station number is 15

(3) Turning on power

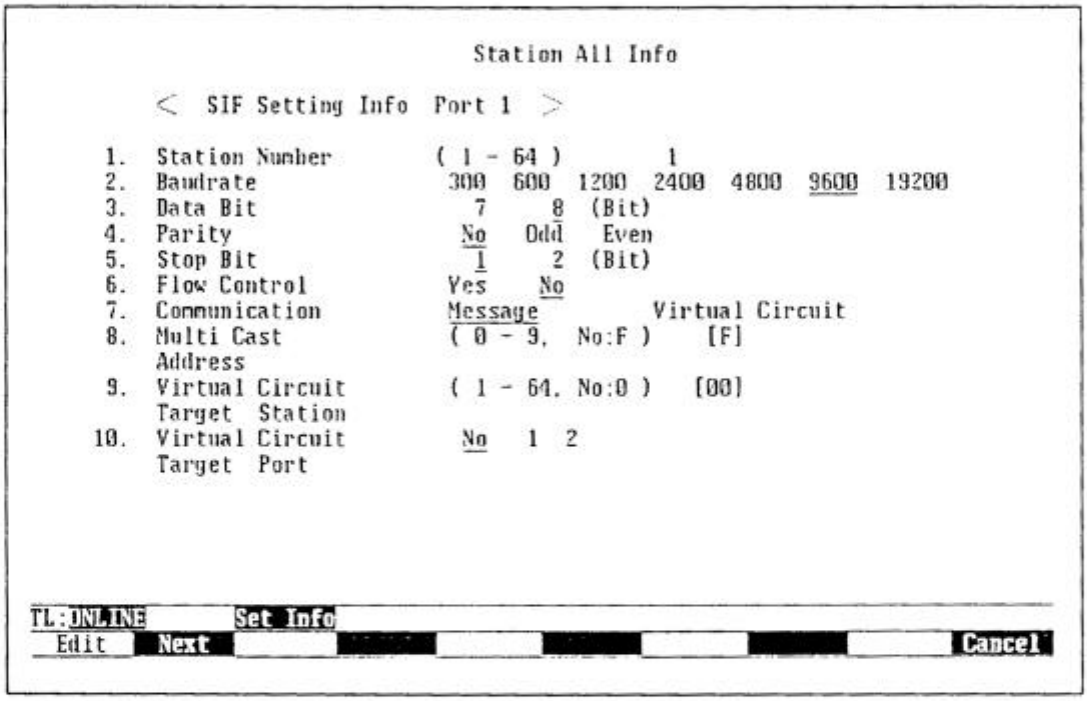
The power switch is provided on the side surface of the SIF station. The station number setting status (above (2)) is read at powe on.

(4) Setting the transmission parameters

The transmission parameters for S20 operation and for serial interface are set by using the S-LS. Refer to the S-LS Operation Manual for general key operation.

For the scan transmission information and the station control information, refer to separate T2/T3 Stations User's Manual.

The serial interface parameters are set on the SIF information screen of the S-LS as follows. The parameters are set independently for each serial port.




**1. Station Number**

Enter the station number of the SIF station.

**2. Baudrate**

Select the baudrate from among the followings according to the host side setting.

**300, 600, 1200, 2400, 4800, 9600** or **19200** bps

**3. Data bit**

Select the data bit length according to the host side setting, **7** or **8** bits.

**4. Parity**

Select the parity according to the host side setting, **Non, Odd** or **Even**.

**5. Stop bit**

Select the stop bit length according to the host side setting, **1** or **2** bits.

**6. Flow Control**
This is invalid when **Message** is selected in **7. Communication**. Select **No**.

**7. Communication**
Communication service type selection. Select **Message** to use the SIF protocol and the T-series computer link protocol.

**8. Multi Cast Address**
This is invalid when **Message** is selected in **7. Communication**. Select **F (No)**.

**9. Virtual Circuit Target Station**
This is invalid when **Message** is selected in **7. Communication**. Select **0 (No)**.

**10. Virtual Circuit Target Port**
This is invalid when **Message** is selected in **7. Communication**. Select **No**.

Notes) (1) These parameters are stored in EEPROM of the SIF station.
(2) Before writing these parameters into the SIF station, confirm the SIF station is in Standby mode. If not, change the mode to Standby by using the S-LS.

(5) Changing to Online mode
After completion of all parameters settings, change the SIF station mode to Online by using the S-LS. When the SIF station functions correctly, it joins into the S20 network.

(6) Starting-up the host computer(s)
Refer to Section 5 for creating the communication software on the host computer.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