

# 24V DRIVE INTERFACE BOARD (PARALLEL) FTP-622DCL001/011/ FTP-622DSL001/011/012

## FOR FTP-622/632/642MCL001/002/301/302/303/304

### ■ INTERFACE

#### 1. Centronics

##### (1) Connector (CN1)

Connector part number : FCN-605Q030-G/S (Fujitsu Components)

Mating connector part number : FCN-607B030-G/D (Fujitsu Components) or equivalent

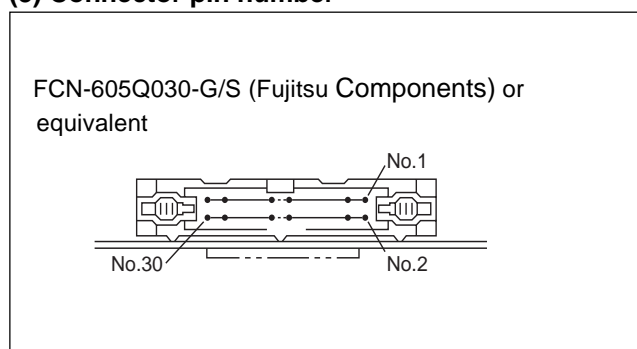
##### (2) Connector pin assignment

| No. | Signal | I/O | Contents               | No. | Signal     | I/O | Contents               |
|-----|--------|-----|------------------------|-----|------------|-----|------------------------|
| 1   | PRSTB  | I   | Data strobe            | 2   | PRSTB-RET  | —   | Connected to logic GND |
| 3   | PRDT0  | I   | Data 0                 | 4   | PRDT0-RET  | —   | Connected to logic GND |
| 5   | PRDT1  | I   | Data 1                 | 6   | PRDT1-RET  | —   | Connected to logic GND |
| 7   | PRDT2  | I   | Data 2                 | 8   | PRDT2-RET  | —   | Connected to logic GND |
| 9   | PRDT3  | I   | Data 3                 | 10  | PRDT3-RET  | —   | Connected to logic GND |
| 11  | PRDT4  | I   | Data 4                 | 12  | PRDT4-RET  | —   | Connected to logic GND |
| 13  | PRDT5  | I   | Data 5                 | 14  | PRDT5-RET  | —   | Connected to logic GND |
| 15  | PRDT6  | I   | Data 6                 | 16  | PRDT6-RET  | —   | Connected to logic GND |
| 17  | PRDT7  | I   | Data 7                 | 18  | PRDT7-RET  | —   | Connected to logic GND |
| 19  | ACKNLG | O   | Data input acknowledge | 20  | ACKNLG-RET | —   | Connected to logic GND |
| 21  | BUSY   | O   | Busy                   | 22  | BUSY-RET   | —   | Connected to logic GND |
| 23  | RINF2  | O   | Printer status         | 24  | INPRM-RET  | —   | Connected to logic GND |
| 25  | SLCTIN | I   | Printer select         | 26  | INPRM      | I   | Reset                  |
| 27  | RINF1  | O   | Printer status         | 28  | RINF3      | O   | Printer status         |
| 29  | ATF    | I   | Paper feed request     | 30  | GND        | —   | Logic GND              |

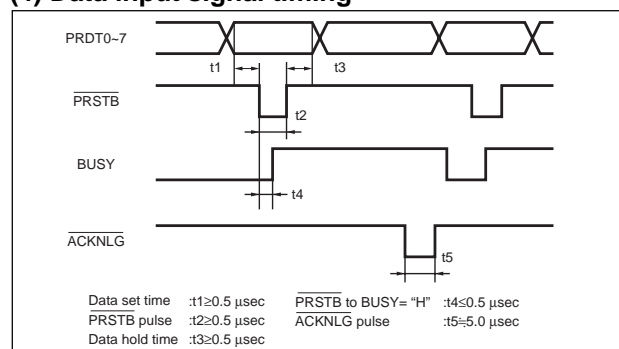
#### Notes:

- Symbol “—” means a negative logic signal.
- “-RET” signal is a return signal of the twisted pair cable.
- “I” or “O” means a signal direction from the interface board side.

##### (3) Connector pin number



##### (4) Data input signal timing



# FTP-622DCL/DSL

| Product                  | Part Number   | Function                           |
|--------------------------|---------------|------------------------------------|
| Parallel Interface Board | FTP-622DCL001 | Standard (without cutter)          |
|                          | FTP-622DCL011 | With cutter control                |
| Serial Interface Board   | FTP-622DSL001 | Standard (without cutter)          |
|                          | FTP-622DSL011 | With cutter controller             |
|                          | FTP-622DSL012 | With cutter controller + FLASH ROM |
|                          | FTP-622DSL112 | With Cutter + KANJI+FLASH ROM      |

## ■ SPECIFICATION

| Item               | Specification   |
|--------------------|---|
| Data receive speed | 19200, 9600, 4800, 1200 bps (set by dip switch)                 |
| Synchronous method | Asynchronous, full duplex                                       |
| Hand shake         | DTR/DSR signal or XON/XOFF                                      |
| Input output level | RS232C  |
| Signal level       | Space (logic = 0) +3 V ~ +12 V<br>Mark (logic = 1) -3 V ~ -12 V |

## 2. SERIAL INTERFACE (RS232C)

### (1) Connector (CN2)

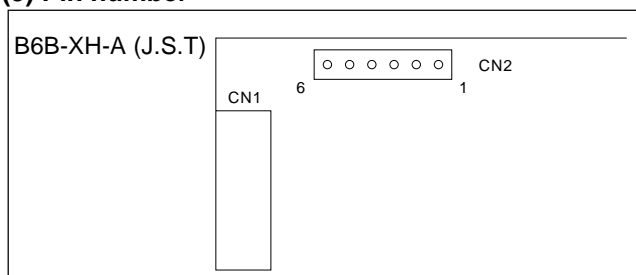
Part number : B6B-XH-A (J.S.T)  
Mating connector part number : XHP-6 (J.S.T) or equivalent

### (2) Pin assignment

| No. | Signal | I/O | Contents          | No. | Signal | I/O | Contents            |
|-----|--------|-----|-------------------|-----|--------|-----|---------------------|
| 1   | FG     | —   | Frame GND         | 2   | RD     | I   | Receive data        |
| 3   | TD     | O   | Transmission Data | 4   | DTR    | O   | Data terminal ready |
| 5   | GND    | —   | Signal GND        | 6   | DSR    | I   | Data set ready      |

Notes: "I" or "O" means a signal direction from the interface board side.

### (3) Pin number



## ■ CONNECTOR PIN ASSIGNMENT

### 1. Connector for power supply (CN10)

Part number : B6P-VH (J.S.T)  
 Mating connector part number : VHR-6N (J.S.T) or equivalent

| No. | Signal          | I/O | Contents                      | No. | Signal          | I/O | Contents                     |
|-----|-----------------|-----|-------------------------------|-----|-----------------|-----|------------------------------|
| 1   | Vcc             | —   | Power supply for logic (+5 V) | 2   | GND             | —   | GND (5 V, 24 V common)       |
| 3   | GND             | —   | GND (5 V, 24 V common)        | 4   | GND             | —   | GND (5 V, 24 V common)       |
| 5   | V <sub>DD</sub> | —   | Power for head/motor (+24 V)  | 6   | V <sub>DD</sub> | —   | Power for head/motor (+24 V) |

### 2. Connector for thermal head drive (CN8)

Part number : B16B-PH-K-S (J.S.T)  
 Mating connector part number : PHR-16 (J.S.T) or equivalent

| No. | Signal                   | I/O | Contents                | No. | Signal                   | I/O | Contents                     |
|-----|--------------------------|-----|-------------------------|-----|--------------------------|-----|------------------------------|
| 1   | VDH                      | O   | Power for head (+24 V)  | 2   | VDH                      | O   | Power for head (+24 V)       |
| 3   | GND (VDH)                | —   | Head GND                | 4   | GND (VDH)                | —   | Head GND                     |
| 5   | $\overline{\text{STB1}}$ | O   | Print enable signal 1   | 6   | $\overline{\text{STB2}}$ | O   | Print enable signal 2        |
| 7   | $\overline{\text{STB3}}$ | O   | Print enable signal 3   | 8   | TMP                      | I   | Temperature detection signal |
| 9   | $\overline{\text{STB4}}$ | O   | Print enable signal 4   | 10  | $\overline{\text{LAT}}$  | O   | Print data latch signal      |
| 11  | $\overline{\text{STB5}}$ | O   | Print enable signal 5   | 12  | 5 VH                     | O   | Power for logic (+5 V)       |
| 13  | HCLK                     | O   | Data transmission clock | 14  | HD                       | O   | Print data output signal     |
| 15  | GND (VDH)                | —   | Head GND                | 16  | VDH                      | O   | Power for head (+24 V)       |

Notes:

- Symbol “—” means a negative logic signal.
- “I” or “O” means a signal direction from the interface board side.

### 3. Connector for Sensor (CN3)

Part number : B5B-PH-K-S (J.S.T)

| No. | Signal    | I/O | Contents               | No. | Signal                  | I/O | Contents                |
|-----|-----------|-----|------------------------|-----|-------------------------|-----|-------------------------|
| 1   | +5 V      | —   | Power for logic (+5 V) | 2   | $\overline{\text{PES}}$ | I   | Paper end detect signal |
| 3   | GND (5 V) | —   | Logic GND              | 4   | +5 V                    | —   | Power for logic (+5 V)  |
| 5   | HUP       | I   | Head-up detect signal  |     |                         |     |                         |

## 7. Connector for control signal input/ output (CN1)

Part number : FCN-605Q030-G/S (Fujitsu Components)

Mating connector : FCN-607B030-G/D (Fujitsu Components) or equivalent

| No. | Signal                     | I/O | Contents           | No. | Signal                    | I/O | Contents      |
|-----|----------------------------|-----|--------------------|-----|---------------------------|-----|---------------|
| 1   | NC                         | —   | No connection      | 2   | NC                        | —   | No connection |
| 3   | NC                         | —   | No connection      | 4   | NC                        | —   | No connection |
| 5   | NC                         | —   | No connection      | 6   | NC                        | —   | No connection |
| 7   | NC                         | —   | No connection      | 8   | NC                        | —   | No connection |
| 9   | NC                         | —   | No connection      | 10  | NC                        | —   | No connection |
| 11  | NC                         | —   | No connection      | 12  | NC                        | —   | No connection |
| 13  | NC                         | —   | No connection      | 14  | NC                        | —   | No connection |
| 15  | NC                         | —   | No connection      | 16  | NC                        | —   | No connection |
| 17  | NC                         | —   | No connection      | 18  | NC                        | —   | No connection |
| 19  | NC                         | —   | No connection      | 20  | NC                        | —   | No connection |
| 21  | NC                         | —   | No connection      | 22  | NC                        | —   | No connection |
| 23  | NC                         | —   | No connection      | 24  | NC                        | —   | No connection |
| 25  | $\overline{\text{SLCTIN}}$ | I   | Select signal      | 26  | $\overline{\text{INPRM}}$ | I   | Reset signal  |
| 27  | NC                         | —   | No connection      | 28  | NC                        | —   | No connection |
| 29  | $\overline{\text{ATF}}$    | I   | Paper feed request | 30  | GND                       | —   | GND           |

\*Do not connect outside signal to NC.

## 4. Connector for paper near end detection (CN5)

Part number : B2B-PH-K-S (J.S.T)  
 Mating connector part number : PHR-2 (J.S.T) or equivalent

| No. | Signal | I/O | Contents               | No. | Signal                  | I/O | Contents                     |
|-----|--------|-----|------------------------|-----|-------------------------|-----|------------------------------|
| 1   | +5 V   | —   | Power for logic (+5 V) | 2   | $\overline{\text{NES}}$ | I   | Paper near end detect signal |

## 5. Connector for stepping motor drive (CN13)

Part number : B4B-PH-K-S (J.S.T)

| No. | Signal                          | I/O | Contents                       | No. | Signal               | I/O | Contents                       |
|-----|---------------------------------|-----|--------------------------------|-----|----------------------|-----|--------------------------------|
| 1   | $\text{MT}/\overline{\text{B}}$ | O   | Stepping motor coil excitation | 2   | $\text{MT}/\text{B}$ | O   | Stepping motor coil excitation |
| 3   | $\text{MT}/\overline{\text{A}}$ | O   | Stepping motor coil excitation | 4   | $\text{MT}/\text{A}$ | O   | Stepping motor coil excitation |

## 6. Connector for cutter drive (CN11) \*1

Part number : B4B-EH (J.S.T)

| No. | Signal | I/O | Contents                      | No. | Signal | I/O | Contents                 |
|-----|--------|-----|-------------------------------|-----|--------|-----|--------------------------|
| 1   | SW1    | I   | Cutter position detect signal | 2   | GND    | —   | Logic ground             |
| 3   | M+     | O   | Motor control signal (+)      | 4   | M-     | O   | Motor control signal (-) |

\*1: Only for FTP-622DCL011/111.

## ■ PRINTING COMMANDS (CENTRONICS INTERFACE)

| Command  | Contents   |
|--|--|
| HT   | Moves the print position to the next tab.                                    |
| LF   | Line feed.   |
| FF   | Feeds forms (new page).  |
| ESC RS   | Sets reverse printing.   |
| ESC US   | Resets reverse printing.   |
| ESC ! +n   | Sets print mode.   |
| ESC* +m+n <sub>1</sub> +n <sub>2</sub> +d <sub>1</sub> ~d <sub>N</sub>   | Sets the bit image mode "m" for n <sub>1</sub> , n <sub>2</sub> dot numbers. |
| ESC 2  | Sets 1/6 inch line feed length.  |
| ESC 3 + n  | Sets the line feed length.   |
| ESC @  | Printer initialization.  |
| ESC A+n  | Sets the space between lines.  |
| ESC C+n  | Sets the page length by character line.                                      |
| ESC D+d <sub>1</sub> ~d <sub>N</sub> +NUL                                | Sets the tab position.   |
| ESC J+n  | Feeds paper in forward direction.  |
| ESC K+n  | Feeds paper in reverse direction.  |
| ESC c+1+n  | Sets the internal processing.  |
| ESC R+n  | Selects the international character.   |
| ESC s+n  | Sets the printing speed.   |
| ESC d+n  | Printing and n-line feeding.   |
| ESC e+n  | Reverse line feed in "n" lines after printing.                               |
| ESC t+n  | Character code table selection.  |
| ESC {+n  | Sets/resets the upside down printing.  |
| ECS EM+n   | Automatic paper feed distance setting.                                       |
| ESC X+n+m  | Setting turning time of the motor excitation.                                |
| ESC V+n  | Right Rotation 90° specification / cancellation.                             |
| ESC %+n  | Selects the font to download* <sup>3</sup> .                                 |
| ESC &+y+c <sub>1</sub> +c <sub>2</sub> +x+d <sub>1</sub> ~d <sub>n</sub> | Registers the download front* <sup>3</sup> .                                 |
| ESC ?+n  | External character registration deletion* <sup>3</sup> .                     |
| FS E+n   | Correction of impressed energy.  |
| FS ! +n  | Sets the Kanji print mode* <sup>1</sup> .                                    |
| FS &   | Sets Kanji mode* <sup>1</sup> .  |

(Continued)

# FTP-622DCL/DSL

(Continued)

| Command             | Contents   |
|---------------------|--|
| FS .                | Resets Kanji mode*1.   |
| FS C+n              | Selects Kanji code type*1.                                   |
| FS 9+n              | Sets the detection functions.                                |
| FS*+m+n1+n2+d1~dn   | Prints image data on SRAM*3.                                 |
| FS r+n              | Notifies of printing finish*4.                               |
| FS W+n              | Sets/resets 4 times enlarged character.                      |
| GS <                | Line feeds to the next mark.                                 |
| GS A+m+n            | Sets the line feed length after mark detection.              |
| GS E+n              | Sets print quality.  |
| GS V+n+m            | Executes paper cutting*2.                                    |
| GS e+n+m            | Sets the bar width.  |
| GS h+n              | Sets the barcode height.                                     |
| GS k+m+n+d1~dn      | Selects the barcode type and prints.                         |
| GS w+n              | Sets the barcode length.                                     |
| GS &+m+x+y1+y2+[d]k | Registration of image data*3.                                |
| GS '+m+n            | Prints registered image data *3.                             |
| GS a+n              | Sets and cancels status transmission (valid only for DSL)*3. |

\*1: Only for FTP-622DSL112.

\*2: Only for FTP-622DCL011 or FTP-622DSL011/012.

\*3: Only for FTP-622DSL012.

\*4: Only for FTP-622DSL011/012.

## ■ OPTIONS

### 1. Cable (With FTP-622MCL, FTP-632MCL, FTP-642MCL)

| Name  |                  | Part Number | Cable Length          |
|---|------------------|-------------|-----------------------|
| Thermal head connection cable (CN8)*          |                  | FTP-622Y001 | 270 mm (10.6 inches)  |
| Interface cable                               | Centronics (CN1) | FTP-622Y201 | 500 mm (19.71 inches) |
|   | Serial (CN2)     | FTP-622Y301 | 500 mm (19.71 inches) |
| Power cable for head, motor, and logic (CN10) |                  | FTP-622Y401 | 300 mm (11.8 inches)  |
| * short cable option                          |                  | FTP-624Y001 | 150 mm (5.9 inches)   |

### 2. Paper holder

| Name   | Part number |
|--------|-------------|
| Flange | FTP-040HF   |
| Stand  | FTP-040HS   |

|   |  |   |
|---|--|---|
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