TIM1B - TNET NETWORK CONTROLLER

THE TIM1B IS THE HEART OF THE TNET SYSTEM. The TNET (TransTerm Network) is a "Message System" where up to 250 data collection terminals send and receive messages from a single host computer. The TIM1B Network Controller simplifies the interface by performing all of the detailed network device maintenance. The TIM1B is a self contained device with a high-speed microprocessor, data storage memory, and five high-speed serial communication ports (up to 19.2K baud). One port plugs into the host computer (RS-232C via a DB25F). The other ports go out to TNET network devices (RS-422/485 compatible using RJ-45s).

THE TIM1B CAN COMMUNICATE IN REAL-TIME with the host computer. The HOST computer generates prompting message strings computer and sends them to the TIM1B. The TIM1B sends the message immediately to the addressed terminal. Data entered on the terminal polled and collected by the TIM1B. The HOST can ask for the messages on at a time or take them as fast as they come. This configuration gives the host the power to validate the data, time/date stamp transactions and respond to the TNET terminals faster and with greater flexibility.

THE TIM1B CAN STORE DATA TO BE LATER BATCH-UPLOADED to the host computer. The TIM1B generates a sequence of prompting message strings and sends them continuously to the connected terminals. Data entered on the terminal is polled and collected by the TIM1B. The TIM1B has 32K bytes of internal data storage memory (expandable to 64K bytes). Ni-Cad batteries inside the TIM1B provide backup for the memory. An optional internal clock can time and/or date stamp each entry.

TNET TERMINALS Include a variety of Computerwise products. These devices must have the RS-422 TNET interface option. TNET terminals include the TT4B, TT5, TT5A & B, TT6, TT6A & B, TT9A & B, TK1 and TSD1. Barcode readers, (wands, lasers, CCDs, card readers) magnetic card readers, extra serial ports and several other options are available on most models. Other network devices include TLD2 hubs and TIM2Bs. TLD2s are distribution/line drivers. The TIM2B is a remote RS-232 gateway into TNET. Modems, scales, printers and other types of RS-232 products can be connected to the TNET via a TIM2B. TIM2Bs are independently addressable.

POLLING OF DEVICES - TIM1B polls a list of terminal addresses. If a terminal has data, the data is transmitted to the TIM1B as a DATA BLOCK. If a terminal does not have data, the TIM1B proceeds to the next address on the polling list. Data transfer between the TIM1B and the host computer (both directions) is by DATA BLOCK. A DATA BLOCK consists of a unit address and the ASCII data to be transmitted. The address field and the data field are separated by a delimiter character and the data field is followed by a terminator.

NETWORK CONFIGURATION - Four TNET terminals can be connected directly to the TIM1B or up to 250 devices can be connected

to the TIM1B using the TLD2 hubs in a "star-node" topology. Each TLD2 has one input port and seven output ports (RS-422 via RJ-45 connectors). Output ports can be connected to TNET terminals or TLD2s. (See diagram.)

THE TIM1B CAN POWER TNET TERMINALS with some limitations. Powered terminals cannot be more than 100 feet from the TIM1B. A device with it's own power supply, can be up to 2000 feet from the TIM1B. Devices can also be powered by the TLD2 Hubs (also with limitations).

THE HOST COMPUTER INTERFACE is a standard RS-232C configured as a DCE device. The Interface can connect directly to a PCs COM1 or COM2 serial port and looks just like a modem to the host.

THE TNET INTERFACE consists of four RS-422 serial ports. The RS-422 interface allows cable lengths as great as 2000 feet between devices. These ports use RJ-45 modular connectors and connect directly to TNET terminals or TLD2s.

HOST INTERFACE SIGNAL LIST (RS-232C)

DB25	SIGNAL	DESCRIPTION
1	GND	Frame Ground, common to pin #7
2	TD	Received Data from Host
3	RD	Transmitted Data to Host
4	RTS	Request-to-Send from Host
5	CTS	Clear-to-Send to Host
6	DSR	Data Set Ready
7	GND	Logic Ground, common to pin #1
8	DCD	Data Carrier Detect
20	DTR	Data Terminal Ready from Host

TNET INTERFACE SIGNAL LIST (RS-422/RS-485)

RJ45	NAME	DESCRIPTION
1	PWR	12VDC supply to power for Terminals
2	GND	Signal Ground, common to pin #7
3	DRD+	RS-422/RS-485 Receive Data (+)
4	DRD-	RS-422/RS-485 Receive Data (-)
5	DTD+	RS-422/RS-485 Transmit Data (+)
6	DTD-	RS-422/RS-485 Transmit Data (-)
7	GND	Signal ground, common to pin #2
8	OPW	Optional 12VDC power for Terminals

HOST SOFTWARE FOR TNET - Developer software is available from Computerwise for communicating with an IBM or compatible PC. Contact Computerwise for more information.

SPECIFICATIONS

o Host Communication Port
Serial asynchronous 'DCE' orientation (modem)
EIA RS-232C interface (DB-25S connector).
format;　　1 Start Bit, 1 Stop Bit
　　　　　　7 or 8 Data Bits
　　　　　　1 Parity Bit (MARK, SPACE, EVEN, ODD)
Baud rates; 110,150,300,1200,2400,4800,9600,19.2K

o TNET Communication Port
Serial asynchronous compatible.
Both EIA RS-422 and RS-485 interfaces (RJ45 connector)
format;　1 Start Bit, 1 Stop Bit
　　　　　7 or 8 Data Bits
　　　　　1 Parity Bit (MARK, SPACE, EVEN, ODD)
Baud rates; 110,150,300,1200,2400,4800,9600,19.2K

o Construction
Light weight aluminum extrusions on left and right sides, aluminum top and bottom panels with front and back ABS end caps.

o Dimensions
Height: 1.75" (4.4 cm)
Width: 6.9" (17.5 cm)
Depth: 5.75" (14.6 cm)

o Operating Environment
Temperature - 0'to 50' C (32' to 120' F)
Humidity - 5% to 95% Non-condensing

o Weights
Basic Unit - 1.330 lbs.
Power Adapter - 1.150 lbs

o Storage Environment
Temperature - -20' to 70' C (-4' to 158' F)
Humidity - 0% to 100%

o Max Power Consumption
TIM1B;   1.8 VA
TIM1B & powered terminals 12 VA

o Standard Power adapter
Input: 95 - 125V rms single phase 2-wire 47-63 Hz
Output: 12 VDC (unregulated) 1000ma

o Optional switchable Power Adapter
Input: 198 - 256V or 95V -125V rms 2-wire 47-63 Hz
Output: 12 VAC (unregulated) 500ma

HOST

RS-232 (MODEM CABLE)

TIM1B

TO OTHER TLD2s

RS-422

TO OTHER TLD2s

TLD2

TT

TT

TLD2

RS-422

RS-422

TT TT TT TT TT TT

TT TT TT TT TT