signetics

TWIN Technical Note Software

Number : SW009
Date : 1980-08-18
Subject : Data communication between TWIN and PMDS

A data communication program package is available to enable you to connect your TWIN to a Philips Microcomputer Development System. (PMDS) Data can be transferred via the RS232C serial interface on the GPIO card and the serial communications interface in the PMDS.

Hardware

a. TWIN

The GPIO card on the TWIN should have the following address setting (see fig. 1)

A4,A6,A7	ON
A3,A5	OFF
MASTER/SLAVE	MASTER
HIGH BAUD/TTY	HIGH BAUD

The GPIO board should be positioned on the master side and have the baud rate jumper (J30) set to 1200 baud.

A standard I-O cable (9390 267 9000) connects the GPIO board plug P3 to the rear of the TWIN. A special cable to connect the TWIN to PMDS as per Fig. 2 should be used.

b. PMDS

The PMDS must be foreseen with a serial communication interface and jumped for 1200 baud, 1 stop bit, even parity, and 7 bits + parity.

Software

a. TWIN SDOS Ver 4.0 +

two procedure files are available:

RR232 read data from PMDS
WR232 write data to PMDS

the format is:

{WR232} device/filename (D = display line N°)
{RR232}

The procedure file name will select the data transfer direction and device/filename will indicate where information is to be stored/ retrieved.
If required a "D" may be given as the second parameter to display on the standard TWIN CRT the line number being transmitted or received.

Errors:

Any I-O error will have the following message format

✱✱ 1d SRB ERROR CODE XX ✱✱

where : 1d the identifier and can be:

R232 GPIO serial interface
INPUT input file or device
OUTPUT output file or device

where xx is the error code given.

The only other errors are:

✱✱ INCORRECT SECOND PARAMETER ✱✱

The second parameter was not "D"

** INPUT FILE NOT FOUND **

the input file does not exist on the disc specified

** INPUT FILE NOT SPECIFIED **
** OUTPUT FILE NOT SPECIFIED **

there was no device/filename specified

** TIME OUT OCCURRED PROGRAM TERMINATED **

An I-O action was started but has not been completed within 30 seconds. This can mean that there is no connection (request to send) between TWIN and PMDS

b. PMDS Monitor REL 2.0 + TWIN COMMUNICATION PACKAGE

OPERATION

Only operate using SDOS 4.0 and up
Always start the system to receive first
Only transfer 7 bit ASCII data
Never intermix an ASCII and hexfile since hex files will be translated by PMDS to form load files and source will not be translated.
If data synchronization is lost the TWIN should be reset to initialize the UART.
Since there is only a parity check important files should be read back or retransmitted and compared.

12NC-s TWIN

DATA COMMUNICATION PACKAGE	:	9390 290 0701
STANDARD I-O CABLE	:	9390 267 90000
GPIO PCB	:	9390 261 40000
SDOS 4.0	:	9390 285 60000

12NC-s PMDS

SERIAL COMMUNICATION INTERFACE	:	9462 044 74001
TWIN COMMUNICATION PACKAGE	:	9462 083 97001

FOR GPIO UPTO VER
90012011B

	OFF	ON
A5	X	
A3	X	
A7		X
A4		X
A6		X
MST/SLV	X	
HIGH/110	X	
HIGH/110	X	

FOR GPIO FROM VER
900120011C

	OFF	ON
A3	X	
A4		X
A5	X	
A6		X
A7		X
N.V.	X	
MST/SLV	X	
HIGH/110	X	

SWITCH SETTINGS

FIG. 1

INTERCONNECTION CABLE

FIG. 2