

TRANSFER UNIT (TFU)

3.1 GENERAL

The transfer unit (figure 3.1) makes it possible to connect two SUMR's to one modem.

Data can be transferred simultaneously in both directions, i.e. full duplex transmission.

On output from the CHRT, data is sent to both SUMR's at the same time, but only the one whose identity coincides with the terminal address in the character transferred will handle the data.

A terminal selector in the TFU enables one selector unit at a time to transfer data to the CHRT, and the selector unit which first made a request to send data will be enabled, whilst the other one is inhibited from transferring data until the first one is finished.

Before data can be transferred via the TFU the modem must be switched on by signals given by the TFU.

When in working state, the modem replies with three signals which are indicated on three lamps on the TFU front panel (figure 3.1).

The signals to/from the modem are standardized to meet the CCITT-V24 norms and are as follows:-

- * Lamp 104 : Received Data.
- * Lamp 107 : Data set ready.
- * Lamp 109 : Carrier detected.

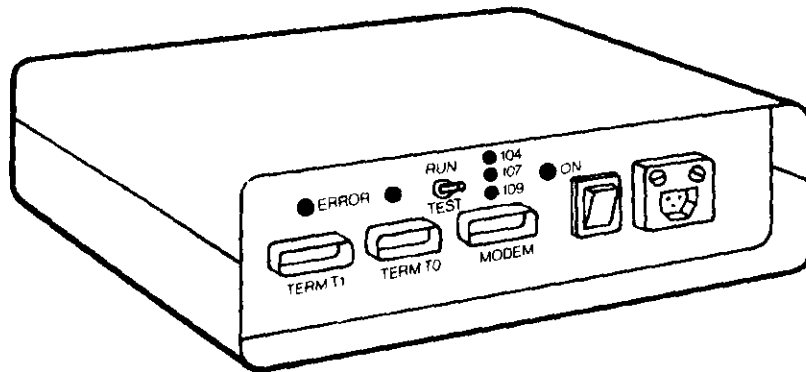


Figure 3.1. Transfer Unit (TFU).

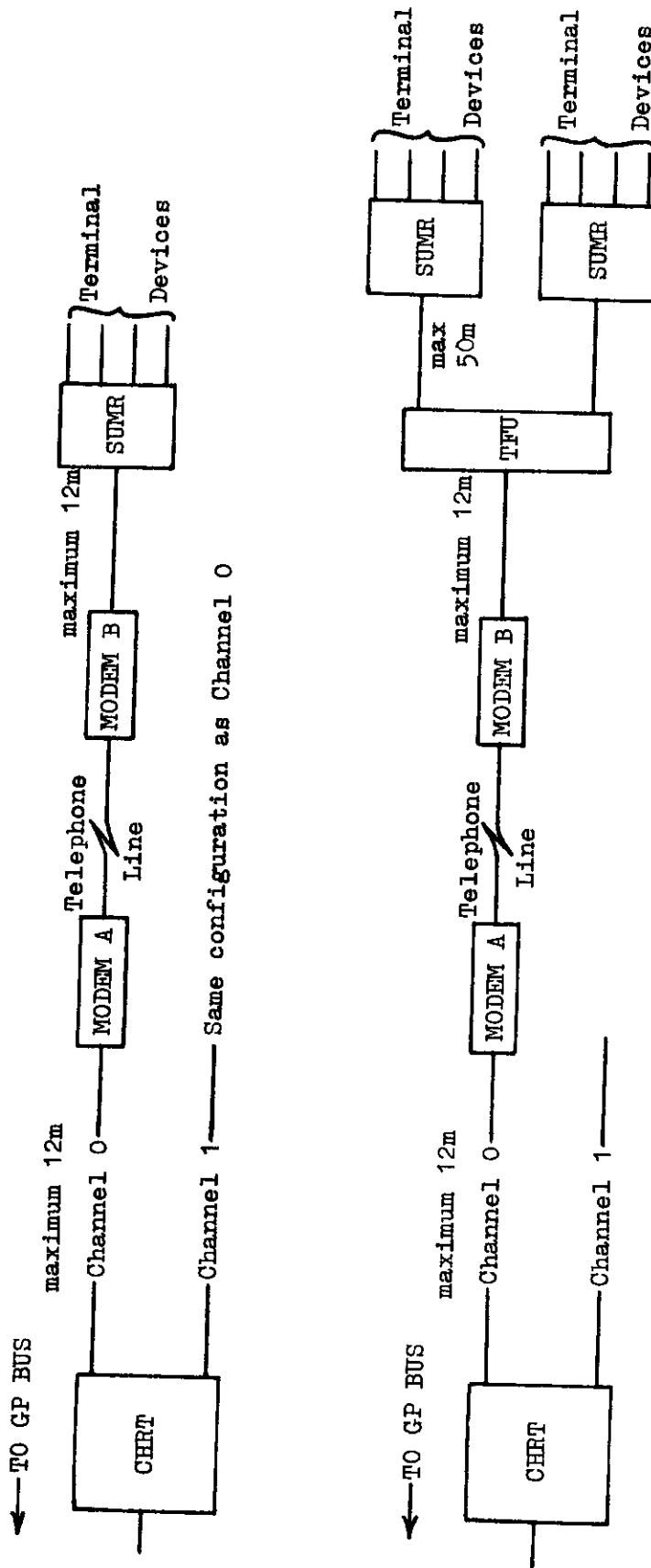


Figure 3.2. System configuration using CHRT, TFU, and SUMR.

3.2 OUTPUT DATA FROM CHRT

For data output, the TFU distributes data to both terminals simultaneously and it is up to the two SUMR's to ascertain for which the data is intended. This is done in the SUMR by comparing its identity with the terminal address in the transferred character.

If the SUMR detects parity failure in the received character, a signal is sent to the TFU which lights one of the error lamps, T0 or T1.

3.3 INPUT DATA TO CHRT

When one of the two SUMR's connected to a TFU wants to send data to the CHRT, the respective selector unit makes a 'Transmit Request' to the TFU. The TFU contains a terminal selector which replies 'Transmit Enable' if the other SUMR is not occupying the TFU. When input transfer from a SUMR starts, a 'Transmit Status' signal is sent to the terminal selector which inhibits the other SUMR from interrupting the transfer.

This means that for input, data can only be transferred from one SUMR at a time.

3.4 TEST

For testing the communication line and modem, the TFU has a switch marked RUN-TEST. With the switch in the TEST position, data from the CPU will return in the same form as it was sent, so that the CPU can compare input and output to see if the line is OK.

- * RUN - Circuit 104.
Received data is distributed to the SUMR.
- Circuit 103.
Transmitted data is transferred from SUMR to modem.
- * TEST - Circuits 103 and 109 are disconnected from the logic inside the TFU. Circuit 103 is linked instead to 104.
By this means, data received from the modem is returned to the modem and so transmitted back to the CPU.

Any normal data can be used as test data, but bit E must be set to 0. Bit E is the terminal address bit.

