

4. How the TRANZ 330 Works

Host Transactions

This section will give you an overview of the TRANZ 330 capabilities and how its different functions work. More detailed operational information can be found in your application manual.

The TRANZ 330 operates as a basic transaction computer with pre-programmed prompts for banking applications. It is intended to communicate with a host computer, which is typically located at a financial institution or a company's data processing center. Host computers can store and process large amounts of data, including a customer's account history. By communicating with the host computer, usually over telephone lines, the TRANZ 330 puts this vast data base at the terminal operator's fingertips. The host computer notifies the terminal operator whether or not a transaction can be authorized.

The TRANZ 330 terminal can be programmed to perform up to nine different transactions with remote host computers. The specific transactions available are determined by the application program downloaded to the terminal.

A typical host transaction involves dialing the host computer, providing the host computer with information about the terminal and the customer, and receiving authorization to complete the transaction.

One transaction key is reserved for each type of transaction used by each host computer. For example, if you use three different transactions for each of three different host computers, you will need all nine transaction keys.

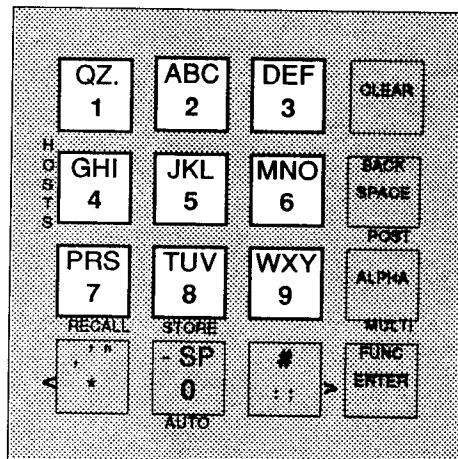


Figure 4-1 TRANZ 330 Host Keys

Local Functions

Unlike host computer transactions, local functions are performed only at the terminal and do not require communications with a host computer. In fact, most local functions can be performed, even when the phone line is disconnected or busy.

The TRANZ 330 can perform several different local functions. Some of these functions are standard for all terminals. Up to seven custom local functions (also called local transactions) can be programmed for your application and performed from the keypad. However, the actual number of local functions available to the user depends on how many were programmed into the application.

The local functions available vary with each application. However, some typical local functions may include the following. Refer to your application reference manual for information on the local functions available to you.

- calculating batch totals;
- storing user identification information;
- listing different transactions previously stored in the terminal;
- date and time calculation; and
- printing transaction data or other information.

Applications

The way a TRANZ 330 terminal operates and the procedures it follows is determined by its application (also called application program). An application is a series of instructions electronically stored (programmed) in the terminal's memory. These instructions direct the terminal to perform specific operations and to respond properly to different events as they occur.

Each TRANZ 330 terminal is supplied with the same standard application. However, to meet the specialized needs of a company, many terminals are programmed with a custom application.

Standard Application

Although each TRANZ 330 is initially programmed with a standard application, this application is only accessible on terminals that do not have a custom application already loaded into them. The standard application allows the user to access many of the services offered by several host computers. This is often sufficient for handling the needs of many companies. However, because the standard application may not meet all of the specialized needs of some companies, many TRANZ 330 terminals are programmed with a custom application.

Custom Applications

Custom applications help make the terminal work within a company's existing operations rather than forcing a company to change transaction procedures to work with a terminal.

These applications can specify how host computer transactions will be performed and how extensive security and fraud control measures will be. If other devices, such as a printer, are used with the terminal, a custom application can precisely determine the procedures and formats for entering and printing information with these devices.

Programming a Custom Application

Custom applications are created by programmers using the VeriFone Terminal Control Language (TCL). TCL programming is typically performed on an IBM PC or compatible computer. When the application is completed, it can be sent from the computer to the terminal using a process called downloading. The downloading process transfers the application to the terminal and stores it electronically in the terminal's memory. See Section 3 for downloading information.

Programming with the Keypad

The TRANZ 330 keypad can be used to quickly modify part of an application program or to update some of the data stored in the terminal's memory (such as a host computer telephone number). However, creating an entire application is always done on personal computers. These computers have more memory and more keys which make them better equipped for typing and editing application codes.

RAM and ROM Memory

Application code, parameter data and system firmware (codes permanently programmed into the terminal at the factory) all reside in the terminal's electronic memory. There are two different types of electronic memory in each TRANZ 330 terminal - Random Access Memory and Read Only Memory. Random Access Memory, or RAM, is used to store information that can be easily acquired and modified. Because this memory is readily changed, it is useful for storing custom applications, temporary data entered from the keypad or card reader, phone numbers, the date and time, and other information that may be subject to change from time to time.

Because RAM is also temporary, the built-in battery provides backup power to preserve data in RAM in the event of a power failure.

Read Only Memory, or ROM, is factory installed with each TRANZ 330 terminal. This information is permanent and cannot be changed by the user or application programmer. Because it cannot be changed, ROM is ideal for safely storing the operating system firmware which controls the different components of the terminal and allows the downloading and use of custom applications. The standard application found in all TRANZ 330 terminals is also stored in ROM.

Memory Locations

RAM memory is divided into segments called memory locations. Some memory locations are dedicated to specific functions. For example, memory location 001 is reserved for the terminal's serial number and location 004 is reserved for the current date. Other memory locations are general purpose locations which can be used for a variety of functions.

Because RAM memory locations are temporary, the information they contain can be changed at any time. However, for security reasons, these locations can be password protected to prevent unauthorized tampering.

Caution: Do not alter the information in TRANZ 330 memory locations unless you fully understand what you are changing. Your terminal will not be able to function properly unless the locations contain valid data.

Terminal Parameters

A terminal parameter is information that relates to the terminal itself. The following Table 4-1 lists the different parameters that may be used by your application. However, the actual parameters used depends on the application programmed in your terminal. Each parameter is explained in more detail in Section 6.

Table 4-1 Terminal Parameters

| Memory Location | Parameter |
|-----------------|--|
| 000 | Remote Download Computer Phone Number |
| 001 | Terminal Serial Number |
| 004 | Program Date |
| 005 | Message Sequence Number |
| 006 | Scroll Length |
| 007 | Multiple Transaction Timeout |
| 009 | Terminal Key Beep |
| 010 | Dial Type |
| 011 | Dial Speed Flag |
| 012 | Parallel Phone Available Flag |
| 013 | Number of Attempts |
| 014 | Telephone Line Test |
| 017 | RECALL, Set Clock and Unit-to-Unit Restriction |
| 019 | Application ID |
| 038 | Auto Answer Control String |
| 030 | Idle Prompt |
| 950 | Printer Type |
| 951 | Printer 200 Paper Advance |
| 960 | Dial-Up Line Upload/Download Speed |
| 970 | PIN Pad/Bar Code Wand Port Function |
| 975 | Line Recovery Time |
| 981 | Idle Loop Control String |
| 985 | Host # for Card Transactions |
| 986 | Host # for Bar Code Transactions |

Transaction Parameters

Each transaction requires a set of parameters before the transaction can be performed on a TRANZ 330 terminal. For example, the host computer phone number must be stored in the correct memory location before the terminal can dial the host computer.

Once the necessary parameters are stored, the terminal will automatically execute the transaction when the associated transaction key is pressed.

Because the TRANZ 330 can accommodate up to nine different transactions, memory locations are reserved for nine different sets of parameters.

Table 4-2 on the next page lists the different parameters that may be required for a transaction with a host computer. However, the actual parameters used depends on the requirements of a particular transaction.

Table 4-2 Transaction Parameters

| Memory Location | Parameter (X = transaction keys 1-9) |
|-----------------|--------------------------------------|
| X00 | Primary Phone Number |
| X01 | Secondary Phone Number |
| X02 | Call Center Phone Number |
| X03 | Referral Card Phone Number |
| X04 | Merchant (Terminal) ID |
| X05 | Transaction Format Flag |
| X06 | Fraud Control Flag |
| X07 | Transaction Control String |
| X08 | Transaction Type Prompt |
| X09 | Floor Limit |
| X10 | Response Analysis Control String |
| X11 | Auxiliary Control String |
| X12 | Multiple-Transaction Group Code |
| 020-029 | Login Strings 0 through 9 |

Note: Each of the nine transaction keys has its own set of parameters. For example, the merchant ID memory location for transaction key "2" is 204. For key "3," the merchant ID memory location is 304.

Multiple Transactions

TRANZ 330 can perform multiple transactions on a single dial up. Multiple transactions are performed back-to-back; when one transaction is finished, the operator starts the next one until all transactions are completed. This feature, when supported by the host computer, speeds up transactions by reducing the number of times the terminal dials up the host computer.

Networks

TRANZ 330 permits communications with several separate networks. Networks help callers reach a remote computer that cannot be easily accessed by direct telephone connection. The network receives a call from the terminal and routes the call to the desired host computer.

For example, if transaction key [3] is programmed to access a host via a network, pressing [3] would cause the terminal to dial the network's telephone number. The network would in turn route the call to the host computer.

To the user, the network is invisible. The only noticeable difference may be a slightly slower transaction speed. Eleven networks currently supported by the TRANZ 330 are:

- Tymnet
- Compuserve
- Telenet
- Geisco
- Nabanco/Western Union
- Busycomm
- Datapac (Canada)--no parity
- Autonet
- Connet
- Datapac--even parity
- Western Union

