CUSTOMER SERVICES
TRANSACTION TELEPHONE SERVICE
SERVICE DESCRIPTION

CONTENTS PAGE

1. GENERAL

1.01 This section describes dial-in Transaction telephone service using only the switched telephone network. The arrangement described in this section must be used to serve Transaction telephones when Transaction Network Service (TNS) is not available. For information on TNS, see Dial Facilities Management Practices, Division H, Section 17.

1.02 When this section is reissued, this paragraph will contain the reason for reissue.

1.03 Transaction telephone service allows transmission of short data messages between a telephone set and a general-purpose computer in a customer service center (CSC).

1.04 Transaction service is used for electronically handled fund transactions (such as credit authorization, check verification, and account transfer), for reservation systems, for inventory control quotation systems, or for any other applications utilizing the ***short-message inquiry/response format.***

1.05 The title of each figure in this section includes a number(s) in parentheses which identifies the paragraph(s) in which the figure is referenced.

2. SERVICE ARRANGEMENT

2.01 The following is a description of dial-in Transaction telephone service arrangement without TNS.

2.02 The customer instrument used in Transaction telephone service is the Transaction telephone set. There are three models of Transaction sets: the Transaction I, the Transaction II (Fig. 1), and the Transaction III. The Transaction I and Transaction II are dial-in sets; the Transaction III is a polled set used only with TNS and is discussed in Dial Facilities Management Practices Division H, Section 17, Transaction Network.

2.03 The Transaction II set has three additional features that the Transaction I set does not have. The Transaction II set has light-emitting diodes (LEDs) for displaying data transmitted and received, has circuitry which permits use of the set without lifting the handset to listen for dial-tone, and has a data receiver for receiving low speed frequency shift keying (FSK) responses. FSK is a method of data transmission which uses a modulated audible frequency to represent bits.

2.04 The Transaction telephone (either Transaction I or Transaction II) is a telephone designed to provide efficient operation in short-message, inquiry/response applications. It provides a means of reading information from plastic cards with an encoded magnetic stripe. The Transaction telephone also provides a buffer for storing this information before transmission. Instruction lamps are provided to guide the telephone user through the transaction. In addition, means are provided for manually entering data via a manual entry pad and for transmitting data, in TOUCH-TONE form, to the CSC. Optionally, a remote entry pad may be added for the entry of additional information such as a personal identification number (PIN).

2.05 The card reader (Fig. 1) is located on top of the set at the rear. The manual entry pad is on the face of the Transaction telephone. This pad is used to enter data manually during a transaction. The key-labeling differs from the labeling on a TOUCH-TONE telephone in that the (*) key is labeled with a (.) and the (#) key is labeled with a (/). The card reader, the manual entry pad, and an optional remote entry pad are the means of entering data into the Transaction telephone set.

2.06 Features include automatic dialing in dial pulse or TOUCH-TONE dialing. The set is compatible with private branch exchange (PBX) or key telephone installations in the automatic dialing mode; that is, it is capable of 2-part dialing. It can also operate in a split mode, with the first part of a 2-part number dialed in dial pulse and the second part dialed in TOUCH-TONE signals, or vice-versa. The set provides response lamps which are activated by a special signal from the CSC to indicate approval of transactions or the presence of a voice response. A FOLLOW SPECIAL INSTRUCTIONS lamp is also included which tells the user to refer to instructions provided by the CSC. This lamp, in conjunction with an optional automatic-referral feature of the system, facilitates the handling of transactions in a limited fashion when the CSC computer is out of service.

2.07 On the face of the Transaction telephone are a set of lamps, three additional keys, plus an ON and OFF key on the Transaction II set to use to go off- and on-hook. The lamps are functionally separated into three categories. The first category consists of the instruction lamps. These lamps light in sequence to guide the user through a transaction. The second group of lamps are the green/yellow response lamps. These lamps light in response to answer tone signals from the CSC. In the financial industry, for example, the green lamp might mean "credit approved" while the yellow lamp would mean "please listen for voice response." Finally, the special instructions lamp is provided on the faceplate for operation during computer down-periods.

2.08 The three additional keys mounted above the manual entry pad are ATTN, END, and ERASE. The ATTN (attention) key is used to transmit the TOUCH-TONE sequence ** to the CSC. Under certain conditions and equipment arrangements, this transmission causes a referral. Operation of the ERASE key erases from the buffer the entire field being entered. If the field has already been transmitted, operation of the ERASE key transmits a certain TOUCH-TONE sequence to the CSC. The END key signals the Transaction telephone that a block of data has been entered, and depending upon the particular entry, causes one of a variety of actions within the telephone.

2.09 The set also provides basic telephone service. Manual dialing is done by using a TRIMLINE® handset provided with the telephone, or optionally, by using the manual entry pad. For dial-pulse service, key depressions on the manual entry pad are converted to dial pulses during dialing but TOUCH-TONE signaling is used after a call is completed to the CSC. In addition, appropriately encoded cards can be used to automatically dial telephone numbers.

2.10 A transaction using this system begins when a user lifts the handset on the Transaction telephone and inserts two magnetic-strip cards in the card reader. One card contains information for addressing the desired CSC; the second card is typically a customer's card. While the Transaction

telephone automatically calls the CSC and transmits the buffered data, the user keys in additional data such as the amount of the transaction. The CSC responds to this inquiry through voice transmission or by using tone signals to cause response lamps on the Transaction telephone to light.

2.11 A 407-type data set (Fig. 2) is the interface between the Transaction telephone and the computer at the CSC. There are several types of data sets in the 407 series, each of which offers different options. The Transaction telephone is connected through the switched network to a 407-type data set. The data set receives signals from the telephone and converts them into a format usable by the CSC computer; it also receives data from the CSC computer and converts them into signals to the telephone. Only one telephone can be connected to a 407-type data set at one time. A 407-type data station (Fig. 3) consists of multiple 407-type data sets.

2.12 All messages from the Transaction I and the Transaction II sets are coded in TOUCH-TONE signaling. Although the manual entry pad on the Transaction telephone contains only 12 characters, 16 characters are available. The additional characters are identified by the letters a, b, c, and d. The arrangement of TOUCH-TONE characters and assigned frequencies is shown in Fig. 4.

2.13 The TOUCH-TONE signals form a 2-out-of-8 code which means that each character is represented by a combination of two frequencies out of a total of eight frequencies.

2.14 Lamps on the Transaction I set are activated using keyed answer tone (KAT). KAT uses a 2025-Hz tone. The tone is generated for a 1.5-second interval and a 3.0-second interval, with each length of interval representing a different signal.

2.15 Messages are returned to Transaction II sets using FSK. FSK is used in the Transaction II set to light the LED display and response lamps. FSK is not used in the Transaction I set; however, the Transaction II set can activate lamps using KAT and can function in the same manner as a Transaction I set. The FSK transmission rate between a Transaction II set and a 407-type data set is 150 bits per second (bps).

2.16 In addition to a computer and 407-type data station, the CSC may also be equipped with attendant lines, an audio response unit (ARU), and an automatic call distributor (ACD).

2.17 Attendant lines are necessary when the CSC provides attendants to access the computer in special cases and to respond verbally to the calling Transaction set user.

2.18 An ARU is necessary when automatic voice answer-back (AVA) service is required. AVA service provides voice responses to Transaction set inquiries consisting of words, phrases, and tones produced by an ARU.

2.19 An ACD, such as a 2B or 3A ACD, offers the CSC many advantages. Among these are line concentration which allows the use of fewer 407-type data sets and fewer attendants for a given number of input trunks and queuing of incoming calls until a port becomes available. The queuing feature can be used to handle traffic peaks with a minimum number of data ports. In applications requiring short call-holding times (such as credit authorization) calls will reside in queue for a very short time if the system is properly engineered to handle the traffic. The ACD also allows the option of dropping the data set from a referred call once the attendant has been selected. This option allows the data set to handle a new call while the referred call is handled by the attendant and thereby reduces the number of data sets and ports required to handle the traffic. In addition, the ACD system allows the use of recorded announcements to announce delays; however, Transaction II sets should not be routed to announcements when used in data response applications.

3. OPERATION

3.01 The following is a description of the operation of the Transaction set and equipment associated with a CSC. The description of the Transaction set refers to both the Transaction I set and the Transaction II set.

3.02 The Transaction telephone receives its input data through either a magnetic-stripe card reader or a manual entry pad. The card reader is designed for the American National Standards Institute (ANSI) Track II, also known as the American Banking Association Track II. The reader is hand-powered and contains no moving parts.

3.03 The Transaction telephone automatically dials a telephone number based on input from the card reader or manual entry pad. It stores all additional card or manual-entry-pad entries until a special answer tone signal is received from a remote CSC or another data set location; this tone automatically triggers transmission.

3.04 An optional, remote entry pad can be provided to customers for entering PINs. The PIN is used in verifying the use of the card by the CSC and is not used by the Transaction set itself. The PIN pad is activated by the Transaction set only during a particular part of the transaction.

3.05 The input source of the set is two magnetic-stripe cards. One card is encoded according to the ANSI Track II specification and may be a bank card or credit card. The other card is a dialing card, encoded in a manner similar to the ANSI standard card but containing information pertinent to controlling the Transaction telephone.

3.06 The dialing card is used first and the telephone number of the CSC is encoded on it. In addition, the dialing card contains identification information, access codes, or transaction codes associated with the user to be transmitted to the CSC when the connection has been established. The dialing card also contains special characters that control features of the Transaction telephone.

3.07 Typically, dialing cards are associated with and retained with the Transaction telephone in slots provided for them. There may be any number of dialing cards: one for reaching each of a number of CSCs or one containing each of several access or transaction codes.

3.08 The second card or customer card is typically not associated with a particular Transaction telephone and contains information pertaining to the particular transaction being performed. With a bank or credit card, the second card is carried by the customer and encoded on it is an account number, an expiration date, and possible additional discretionary data. Alternatively, the card could be an inventory control card with a part number and inventory control information on it.

3.09 Magnetic-stripe cards are inserted by placing the edge of the card containing the stripe into the right-hand end of the long slot of the card reader with the stripe facing the user as the user faces the keyboard. The edge of the card should rest against the bottom of the slot to align the encoded portion of the stripe with the reading equipment. The card is then moved steadily from right to left through the slot.

3.10 The card reader is designed to be insensitive to the velocity at which the card is moved through the reading slot and to accommodate reasonable changes in velocity as the card moves. However, jerky motion of the card (or extremely fast or slow motion) is not recommended. The card reader accepts velocities between 2-1/2 and 50 inches per second.

3.11 If a card is misread, the Transaction set can detect the error through coding checks on the magnetic stripe of the card. The error condition is noted by flashing an instruction lamp on the faceplate. When an error is detected, the set does not transmit the suspected data but instead expects the data to be reentered. The card may be inserted again or the information may be manually keyed in.

3.12 Information can be entered manually using the manual entry pad instead of either card operation previously described. More typically, data are entered manually after the two cards have been entered to provide specific information that is not reasonably stored on cards. In the banking and credit industry, the information provided manually could include the dollar amount of the transaction.

3.13 The Transaction telephone has storage space for a maximum of 61 additional characters in its buffer after the cards (or equivalent manual data) have been entered. If a field separator (/) is used, a maximum of 15 characters can be entered before the first field separator and a maximum of 45 characters can be entered after the field separator. This restriction in format permits special treatment of the first entry as a dollar amount in financial transactions when the computer is out of service.

3.14 In a typical transaction, the user lifts the handset and the first instruction lamp lights. The user then inserts the dialing card into the card reader and the second lamp lights. The user listens for dial tone. Upon receipt of dial tone, the second card (the customer card) is inserted into the card reader and the third instruction

lamp lights. Additional data may then be entered on the manual entry pad. Meanwhile, the set automatically dials the CSC and buffers all input data. The user may depress the ERASE key to delete erroneous manual input and the END key is depressed when data input is complete.

3.15 Upon completion of the call from the Transaction telephone set to the 407-type data station at the CSC, the 407-type data set returns answer tone and the Transaction set begins transmitting data encoded in TOUCH-TONE characters at a rate of 8.8 characters per second. If the user has not completed manual data entry, the Transaction telephone sends all data that have been entered and then sends each additional individual character as it is entered by the user. When the END key is finally depressed, the set sends the end-of-text (ETX) sequence (that is, ##), a longitudinal redundancy check (LRC), and a character count.

3.16 An LRC is a code which is used to verify that data have been properly transmitted from the terminal to the CSC. The LRC is a binary sum without carry of the characters preceding it in the transmission. A character count is the least significant digit of the number of characters in the message. For example, if the number of characters in the message is 29, the character count would be 9; if it is 30, the character count would be 0.

3.17 After data entry, final depression of the END key, and transmission of data, the manual entry pad and card reader are active. However, rather than entering additional data, the usual application requires waiting for a response to the initial inquiry in the form of voice or KAT in Transaction I sets, and FSK in Transaction II sets.

3.18 Voice responses could include an approval or acknowledgment of the transaction, a rejection or denial of the transaction, a request for additional information, or a request for reentry of information. Reentries or additional information can be entered from the keyboard, from the magnetic- stripe reader, or from both. However, if the dialing card is reinserted at this time, all data on the card are transmitted with the exception of the start, end, and check characters.

3.19 The Transaction I and Transaction II sets have two response lamps located to the right of the manual entry pad; one lamp is green and the other yellow. These lamps are intended to reduce the need for the user to listen for a response from the CSC. The green lamp may be used when an inquiry is approved and no further action is necessary. The yellow lamp may be used to indicate that the response is more complicated and that the user should listen for a detailed audio response.

3.20 KAT responses can be used to light either the green or the yellow response lamp on the Transaction I telephone; FSK is ordinarily used to light the lamps in the Transaction II telephone. When either lamp is lighted by the use of KAT responses the Transaction telephone (both Transaction I and Transaction II) acknowledges receipt of the answer tone by sending either a TOUCH-TONE "a" (for the green lamp) or a TOUCH-TONE "b" (for the yellow lamp) to verify that the correct response is received. If the incorrect response is indicated, the CSC may retransmit the correct signal. If the action is taken within 7 seconds and the user has not disconnected, the new signal causes the appropriate response at the Transaction telephone. The correct lamp lights and the acknowledgment is sent. With yellow lamp responses the Transaction telephone automatically sends a signal (##) indicating that it is ready for the audio response after the "b" which indicates that yellow lamp reception has been sent. In this instance, the sequence ## indicates that the terminal is ready for voice.

3.21 With its telephone functions, the Transaction telephone offers a unique opportunity for referral of complicated inquiries, or inquiries that the computer is otherwise unable to answer, to an attendant. Referral is a feature provided in the 407B data set used in conjunction with a 2B ACD. A simplified means of referring a call to an attendant at the initiative of the user is built into the Transaction telephone.

3.22 To request an attendant, the user depresses the ATTN key on the Transaction telephone. Data transmission is interrupted and the special signal ** is sent immediately. If the CSC is equipped with a 407B data set optioned for "terminal initiated referral-always", a referral is automatically executed by the 407B data set. If the CSC is not equipped with a 407B with such

an option, appropriate action should be programmed into the host computer to handle the ** situation.

3.23 Sometimes it is useful to return to the data application of Transaction telephone after talking to an attendant. Therefore, after using the ATTN key, the user can key in additional data using the manual entry pad or the card reader.

3.24 When the computer is inoperable (down) it may be advantageous to answer calls and notify the caller that problems exist. An additional advantage arises in applications in which most calls are handled in a limited manner without CSC contact while only exceptional calls are handled by attendants at the CSC. For example, in credit authorization, transactions below a floor limit might be handled by the merchant's use of a "hot-card" list periodically distributed to all system users by the credit card organizations. (A floor limit is a dollar amount for which purchases equal to or below the amount may be approved by the merchant but purchases above the amount must be approved by the CSC. The floor limit is encoded on the credit card stripe.) Transactions involving a dollar amount above a certain amount would be referred to an attendant with access to up-to-the-minute information available only at the CSC.

3.25 To provide these features, the Transaction telephone has a special computer-down operation mode that is operable with a 407B data set. If the computer-down mode is in effect, the 407B responds to ringing with a 3.5-second answer tone rather than the normal 1.5-second answer tone. The Transaction telephone detects the long answer tone and goes into its computer-down mode. In this mode the Transaction telephone takes one of two actions, depending upon floor-limit characters entered from the dialing card and depending upon the manually entered dollar amount.

3.26 If the dollar amount is less than the floor limit programmed into the card by the CSC, the Transaction telephone lights the fourth instruction lamp, labeled FOLLOW SPECIAL INSTRUCTIONS. If the dollar amount is greater than the floor limit, the telephone lights the yellow response lamp and sends the ** signal to automatically request an attendant for special processing. The specified floor limit may be any 3-digit number to a maximum of $999 or it may be omitted, in which case the FOLLOW SPECIAL INSTRUCTIONS lamp lights whenever the computer-down mode is detected.

3.27 For floor-limit and dollar-amount comparison, the Transaction telephone uses the numbers entered while the third instruction lamp lights preceding either a decimal point (.) or a field separator (/). Characters entered after the decimal point or field separator are not used in the comparison.

3.28 The Transaction telephone can operate in either a TOUCH-TONE or rotary dial-pulse mode so that any customer with telephone service can be served with the Transaction telephone. The primary dialing mode is established by the telephone installer, in accordance with a service order, and does not effect the operation of the telephone once it has contacted the CSC; data are always sent as TOUCH-TONE data.

3.29 Optional characters on the dialing card can be used to control special dialing features. These include:

- 2-part dialing to serve customers who must dial part of a telephone number, wait for dial tone, and then dial the remainder of the number.
- 2-part dialing with a change in dialing mode (split-mode dialing) to allow for part rotary dialing and part TOUCH-TONE dialing.
- Predialing to cause the telephone number to be dialed after insertion of the dialing card rather than the customer card (particularly useful on TOUCH-TONE lines for long distance calls).
- Automatic one-number dialing without insertion of the dialing card. In this case, the Transaction telephone automatically dials the number on the last dialing card entered.

3.30 The 2-part dialing option is used with PBX or tie-line installations where a second dial tone wait is required. With centrex-CO service in an electronic switching system (ESS), second dial tone is instantaneous and no wait is required. One-part dialing can be used.

3.31 Unless the option is disabled by a dialing card character, the Transaction telephone stores the information on the dialing card. Insertion of the customer card automatically causes the stored information to be used and dials the last number

entered with a dialing card. All information on the stored dialing card is retained and the set transmits data just as if the dialing card had been inserted. The old dialing and user information remains in memory until different information is entered either by using a dialing card or the manual entry pad. However, in the Transaction I set, when the manual entry pad is used for dialing, the dialed number is not stored for future use; in the Transaction II set, manual entry pad dialing information is stored. In the Transaction I set, when 2-part dialing is required and this option is used, the predialed portion of the number must be entered on the TRIMLINE handset before the customer card is entered. All dialing information may be on the card for a Transaction II set. In both Transaction I and Transaction II sets, the stored information is lost if commercial power is interrupted.

3.32 The dialing card also controls the response when the computer-unavailable signal is detected. A floor-limit amount can be entered as any 3-digit dollar value. If the keyed-in dollar amount is less than the floor limit, the fourth lamp lights. If the keyed-in dollar amount is greater than the floor limit, the attendant-required signal is always sent and the yellow lamp lights. If no floor-limit amount is on the card, receipt of the computer-down signal always causes the fourth instruction lamp to light.

3.33 The dialing card includes a character which enables or disables the green/yellow lamps. If the green/yellow lamps are disabled, only voice response can be sent to the Transaction telephone.

3.34 A character may be placed on the dialing card to prevent checking of the customer card LRC character.

3.35 The Transaction telephone is equipped with a TRIMLINE handset which can be used for manual dialing or the manual entry pad may be used for manual dialing. The manual entry pad may be disabled from dialing by the installer according to the service order. The dialing feature of the TRIMLINE handset is not disabled by this option.

3.36 When the manual entry pad is used to dial numbers, it is used in the same manner as a TOUCH-TONE pad. The Transaction telephone automatically performs pushbutton-to-rotary-dial-pulse conversion, if required.

3.37 When using the manual entry pad to manually address a data center, the END key is depressed after dialing the telephone number. The user identification information is then keyed in and the END key is depressed again to signify the end of the user information before entering the cutomer data or card. When the manual entry pad is used to call a telephone number that is not the number of a CSC, the END key should not be depressed at the end of the number. User information may be punctuated with the (.) or (/) keys. The Transaction telephone transmits this information after the answer tone from the CSC is detected and after entry of customer data begins.

3.38 The transaction telephone can also be used as a TOUCH-TONE telephone to call CSCs which are programmed to communicate with TOUCH-TONE telephones only. In such cases, the manual entry pad is used in exactly the same manner as the pad on the TOUCH-TONE telephone and the END key is not depressed.

3.39 Control characters normally on the dialing card cannot be keyed in manually. Thus, when manual dialing is used the floor-limit feature is set in such a manner that the fourth instruction lamp always lights when the computer is unavailable.

3.40 Data may be entered manually to replace use of the customer card whenever the second instruction lamp is either lighted or flashing. This lamp lights after entry of the dialing card or after manual data entry and flashes only after a misread of the customer card.

3.41 A maximum of 47 characters can be manually entered in this mode including any of the digits, the (.) key, and the (/) key. The Transaction telephone denotes manually entered data in this field by sending a TOUCH-TONE character between the user identification field and the second field different from the one it would send if card entry were used. The ERASE key, used when the second lamp is lighted, applies to all of the characters entered while the lamp is lighted and cannot affect entries made while the first lamp was lighted.

3.42 The END key is depressed at the end of data to be manually entered in this field; depressing this key causes the third instruction

lamp to light. Data entry is completed from this point in the same manner as it would be completed if cards had been inserted.

4. EXAMPLE OF A DIAL-IN TRANSACTION

4.01 A description of a typical transaction from start to finish is given in 4.02 through 4.14. The example describes credit checking using a Transaction I set (or a Transaction II set functioning as a Transaction I set) and a 407B data station at the CSC. The transaction uses a dialing card and a credit card.

4.02 To begin the transaction, the merchant lifts the handset of the Transaction telephone, waits for dial tone, and inserts both the dialing card and the customer card. The telephone automatically dials the telephone number of the CSC and buffers the merchant and customer data.

4.03 At the CSC, the ACD queues the call, if necessary, and directs it to the first available computer port. The 407B data set associated with that port answers the call and sends the 1.5-second answer tone.

4.04 While the call is being dialed, set up, and answered, the merchant can manually enter the transaction amount and depress the END key. Alternately, the merchant can press the (/) key after the transaction amount and enter additional data (such as inventory numbers or a PIN) before depressing the END key. When the answer tone ends, the Transaction telephone begins to output the buffered data. If all of the data in the buffer are output before the merchant completes manual entry, the keyed data are transmitted as they are keyed.

4.05 The data are received and decoded by the 407B data set and presented to the ARU port. The CSC computer processes the incoming data and decides whether or not to approve credit. The CSC then causes the ARU to give the appropriate response to the Transaction telephone. If credit is approved, 1.5 seconds of answer tone are transmitted. If credit is not approved, 3 seconds of answer tone are transmitted. If the green/yellow lamps are not active, a voice response is transmitted.

4.06 The Transaction telephone responds to the answer tone by acknowledging receipt of the signal. The telephone sends TOUCH-TONE "a" for receipt of the 1.5-second answer tone and lights the green lamp. A TOUCH-TONE "b" indicates receipt of the yellow lamp signal. The Transaction telephone lights the yellow lamp and sends ##.

4.07 The ARU responds to the receipt of b## by transmitting the selected voice message to the telephone. Since it is assumed in this case that no referral is necessary, the merchant goes on-hook; the computer signals the 407B data set to disconnect the call. The 407B data set disconnects the call, is reset, and is ready to receive another call.

4.08 Figures 5 and 6 are flow charts of the transaction described in 4.02 through 4.07. Fig. 5 shows a transaction in which the green lamp is lighted; Fig. 6 shows a transaction in which the yellow lamp is lighted and an ARU response is returned.

4.09 Some transactions may require a referral to a CSC attendant. If the CSC determines that a call should be handled by an attendant, the 407B data set transmits a 3-second KAT to the Transaction set. The Transaction set returns the b## acknowledgement. Upon receipt of the b## acknowledgement, the CSC generates an ARU response requesting the merchant to wait. The call is then switched to an available attendant. The ATTN key need not be depressed.

4.10 A CSC-initiated referral is shown in Fig. 7.

4.11 If at any time during the transaction the merchant wishes to speak to an attendant at the CSC, the merchant depresses the ATTN key on the Transaction set. When this key is depressed, the TOUCH-TONE characters ** are transmitted to the CSC. The 407B data set recognizes this code and executes a referral.

4.12 A merchant-initiated referral is illustrated in Fig. 8.

4.13 When a merchant initiates a transaction in the normal manner during a computer-down and the 407B data set recognizes that the transaction has been initiated, the 407B data set answers the incoming call and sends a 3.5-second answer tone. The Transaction telephone automatically compares the transaction amount entered by the merchant with a floor limit coded on the merchant card. If

the transaction amount is less than the floor limit, the FOLLOW SPECIAL INSTRUCTIONS lamp on the face of the telephone lights. This tells the merchant to refer to instructions from the CSC. If the amount is greater than the floor limit, the telephone sends ** and the 407B data set executes a referral.

4.14 A computer-down situation is illustrated in Fig. 9.

5. REFERENCE

5.01 For more information on Transaction Telephone Service, see the following:

PUB41804	Bell System Data Communications Technical Reference, Switched Network Transaction Telephone System

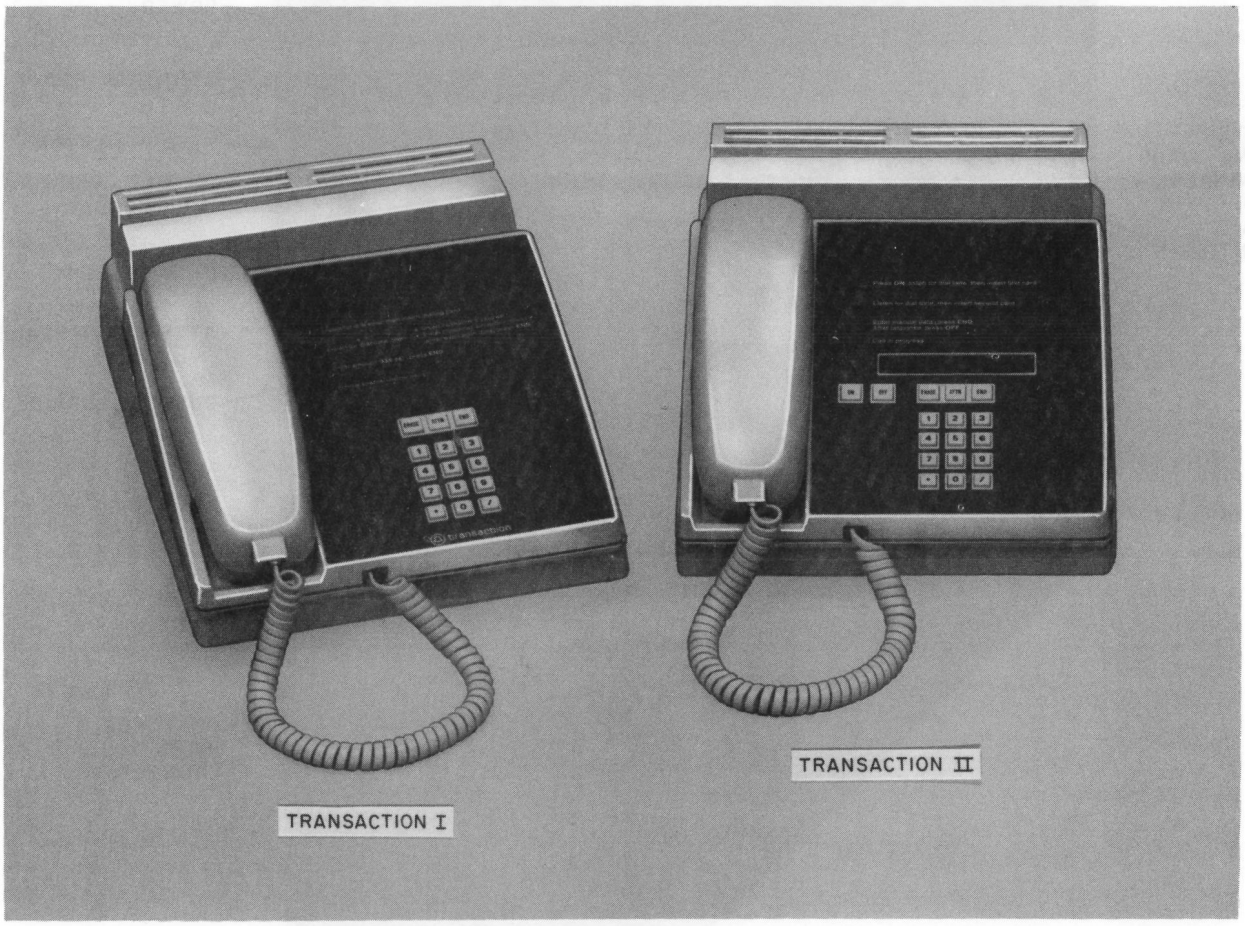


Fig. 1—Transaction I and Transaction II Sets (2.02, 2.05)

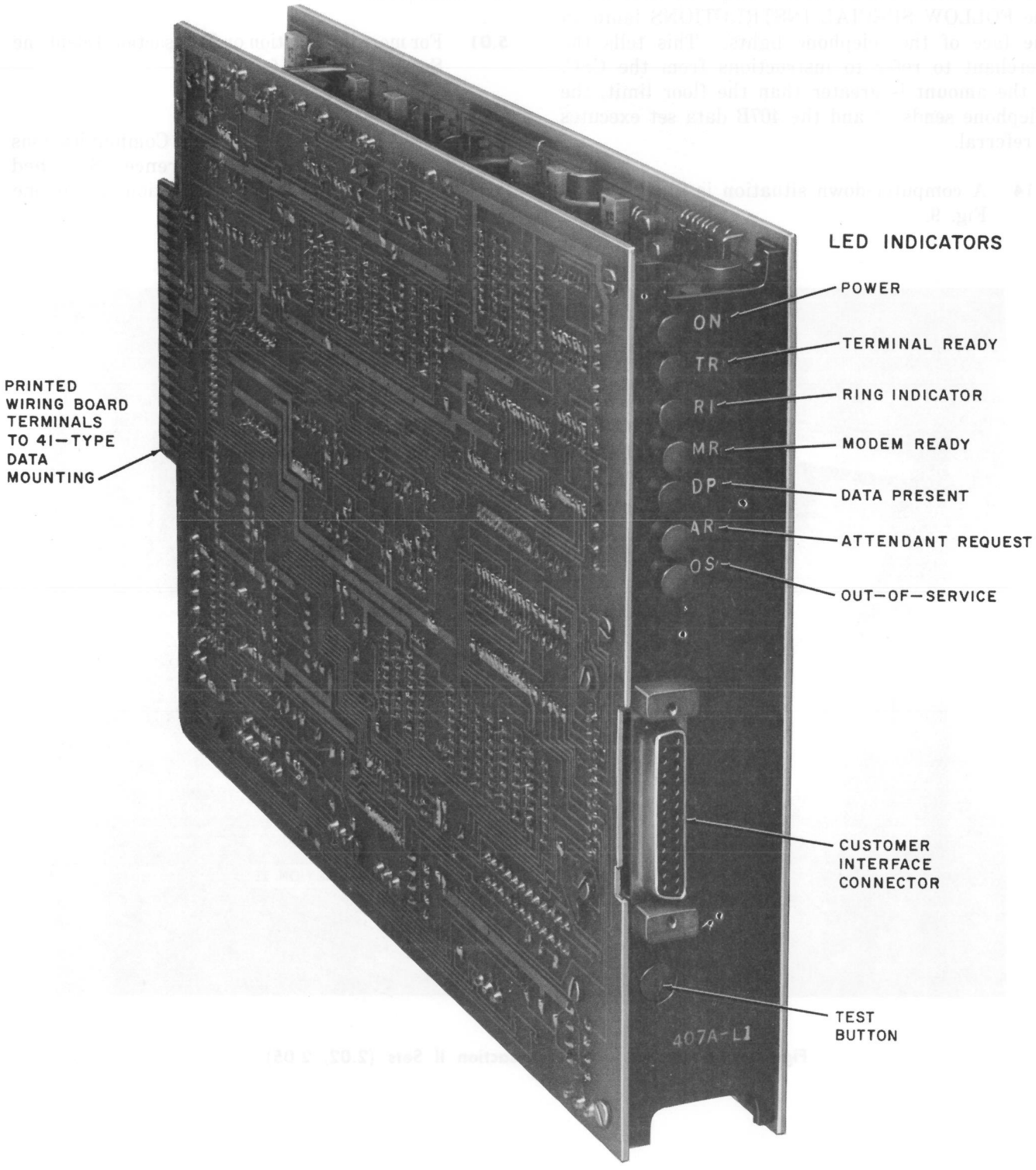


Fig. 2—407A Data Set (2.11)

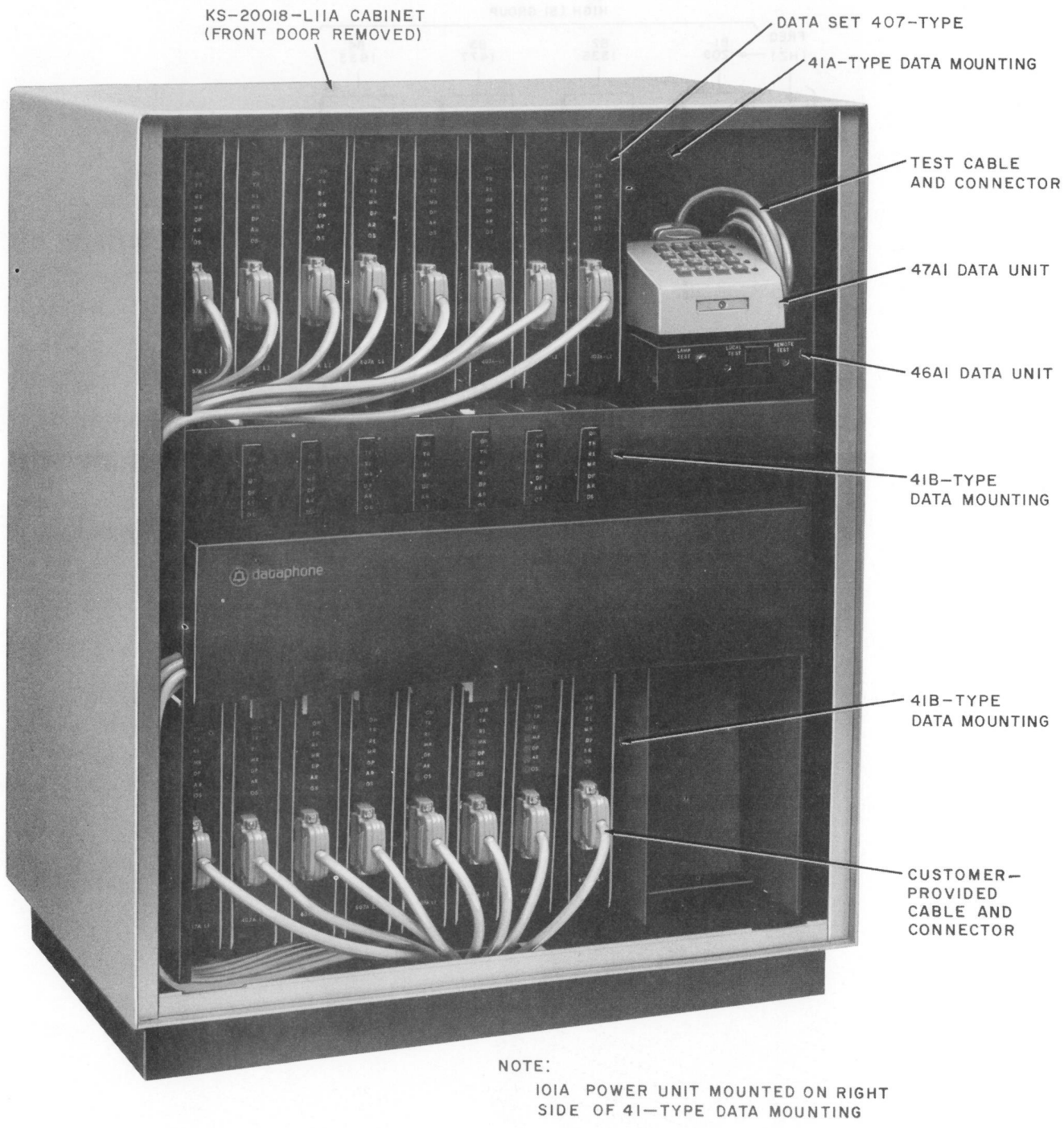


Fig. 3—407-Type Data Station (2.11)

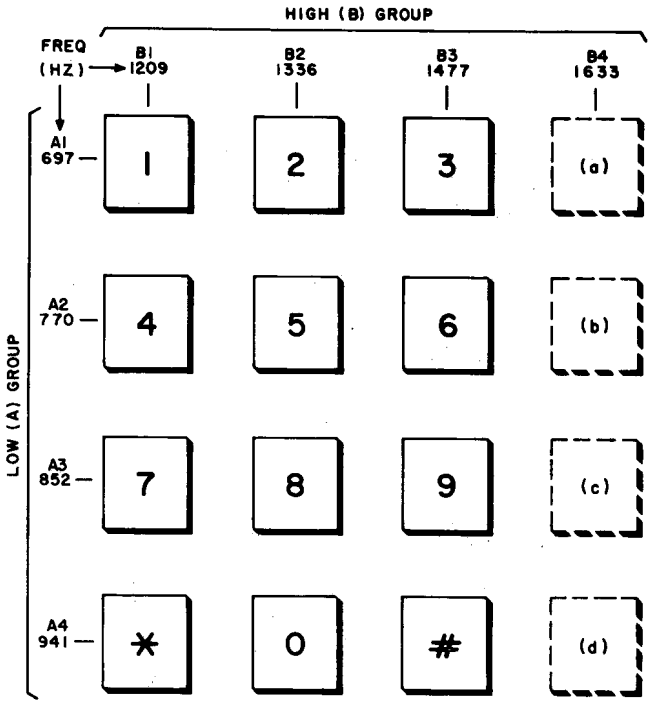


Fig. 4—TOUCH-TONE Frequency Assignments (2.12)

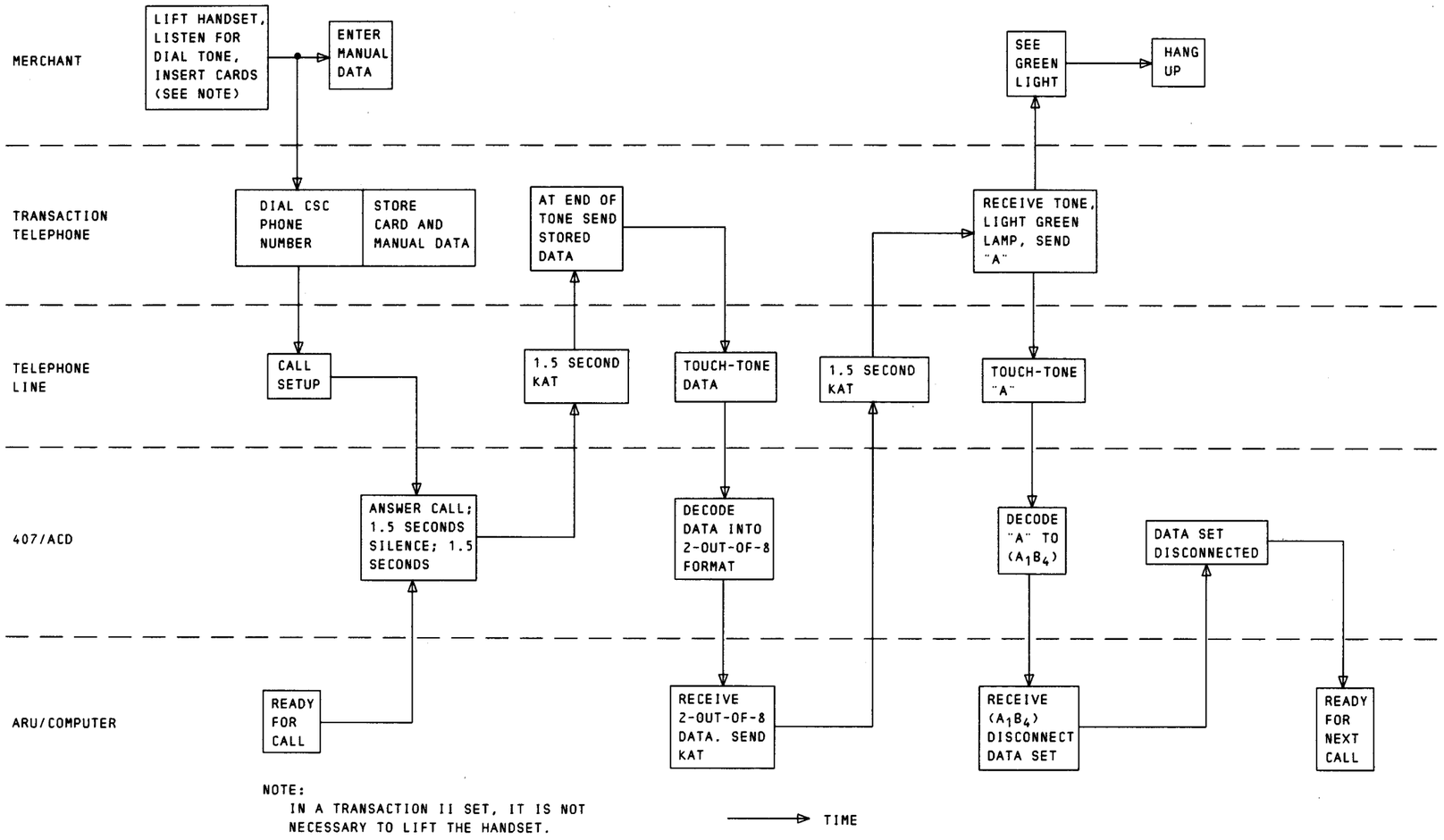
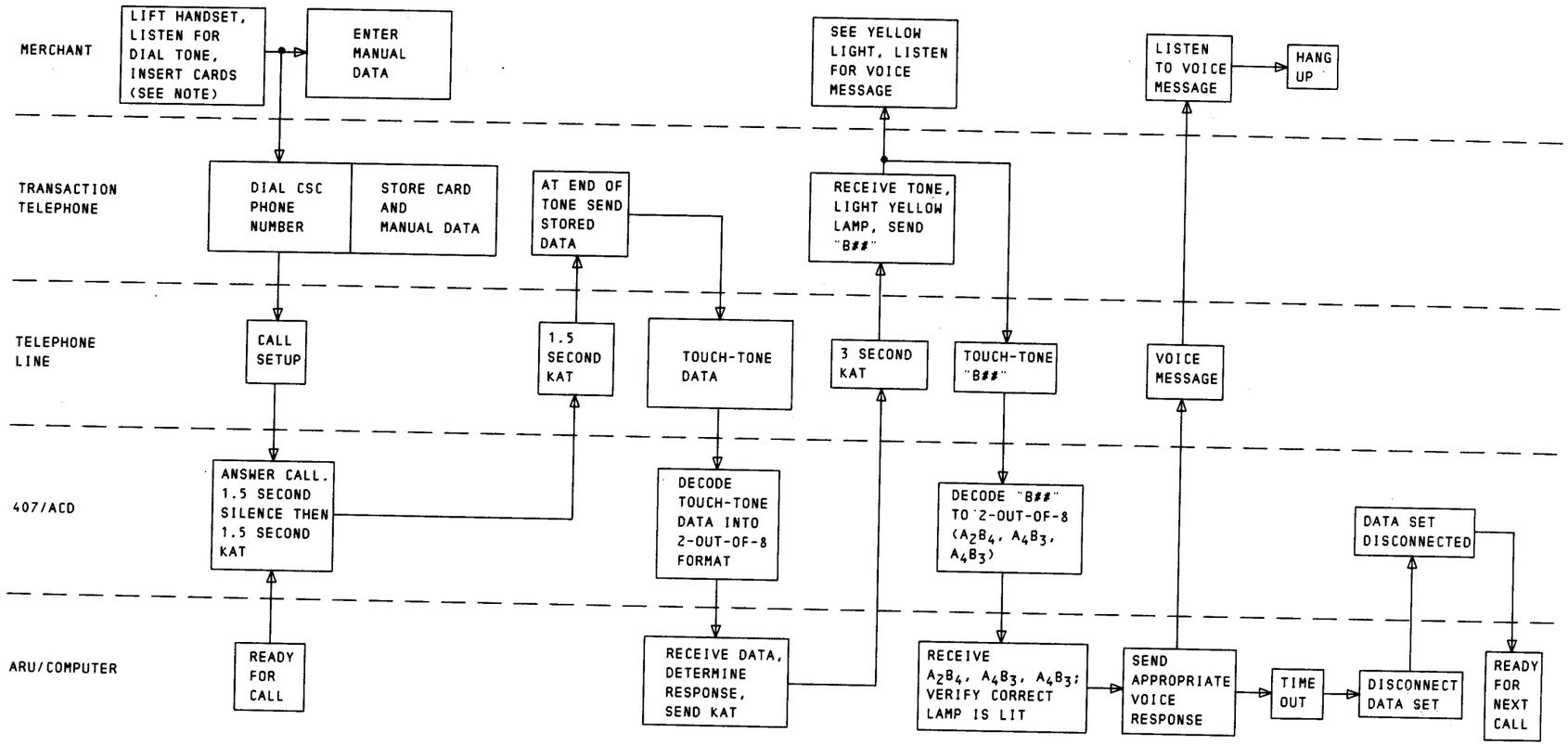


Fig. 5—Normal Transaction—Green Light (4.08)



NOTE:
IN A TRANSACTION II SET, IT IS NOT NECESSARY TO LIFT THE HANDSET.

Fig. 6—Normal Transaction—Yellow Light (4.08)

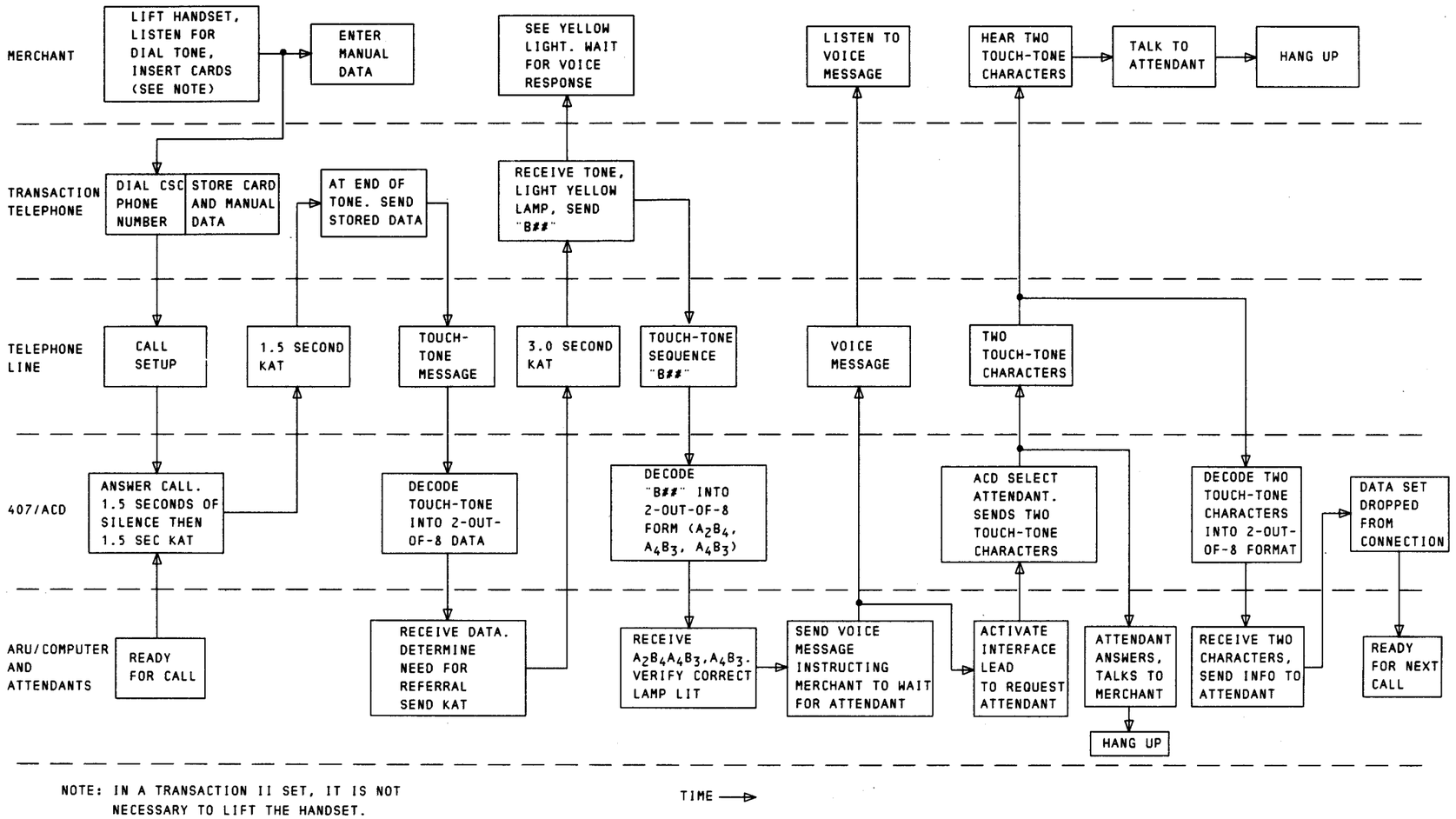


Fig. 7—CSC-Initiated Referral (4.10)

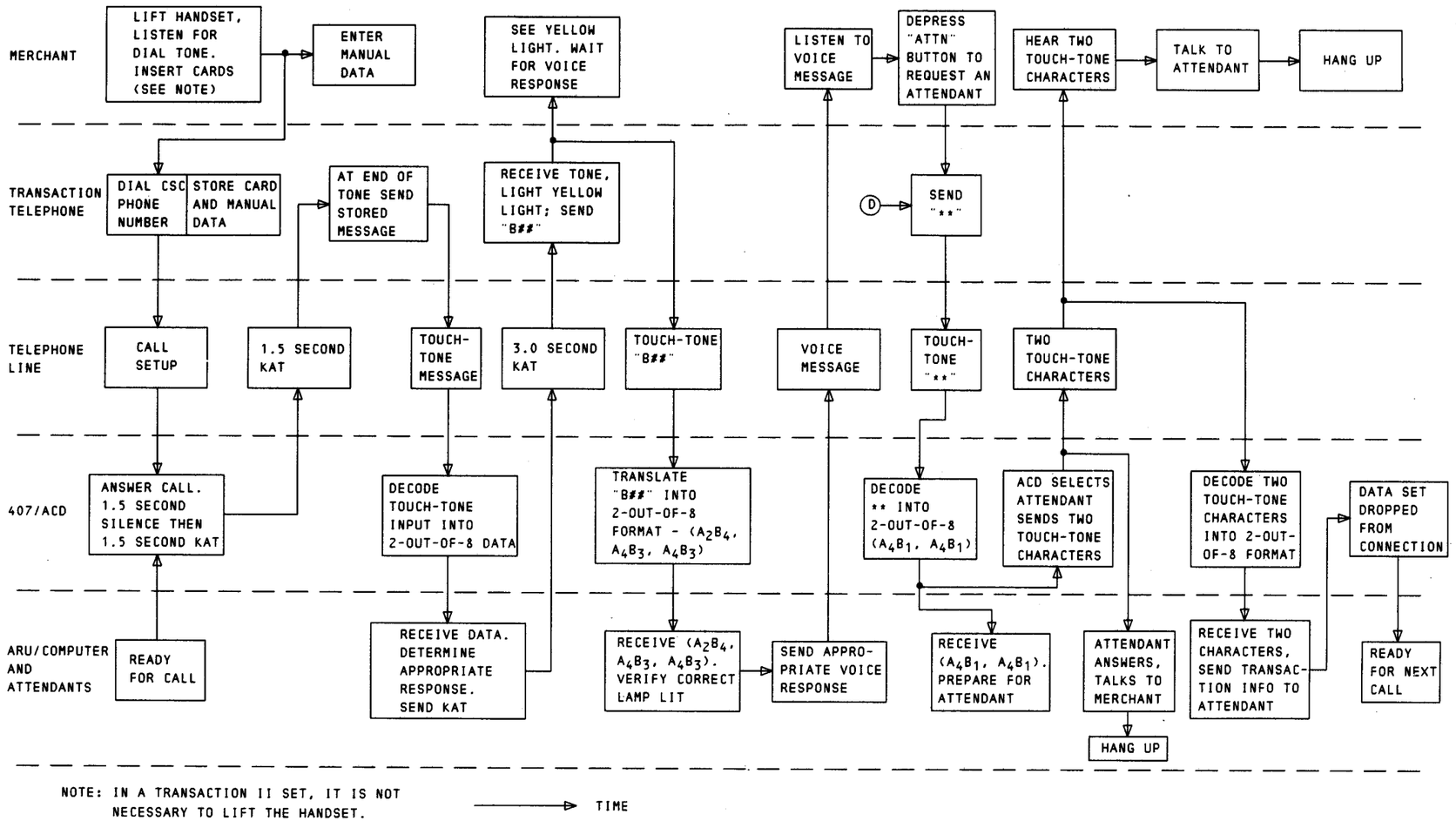
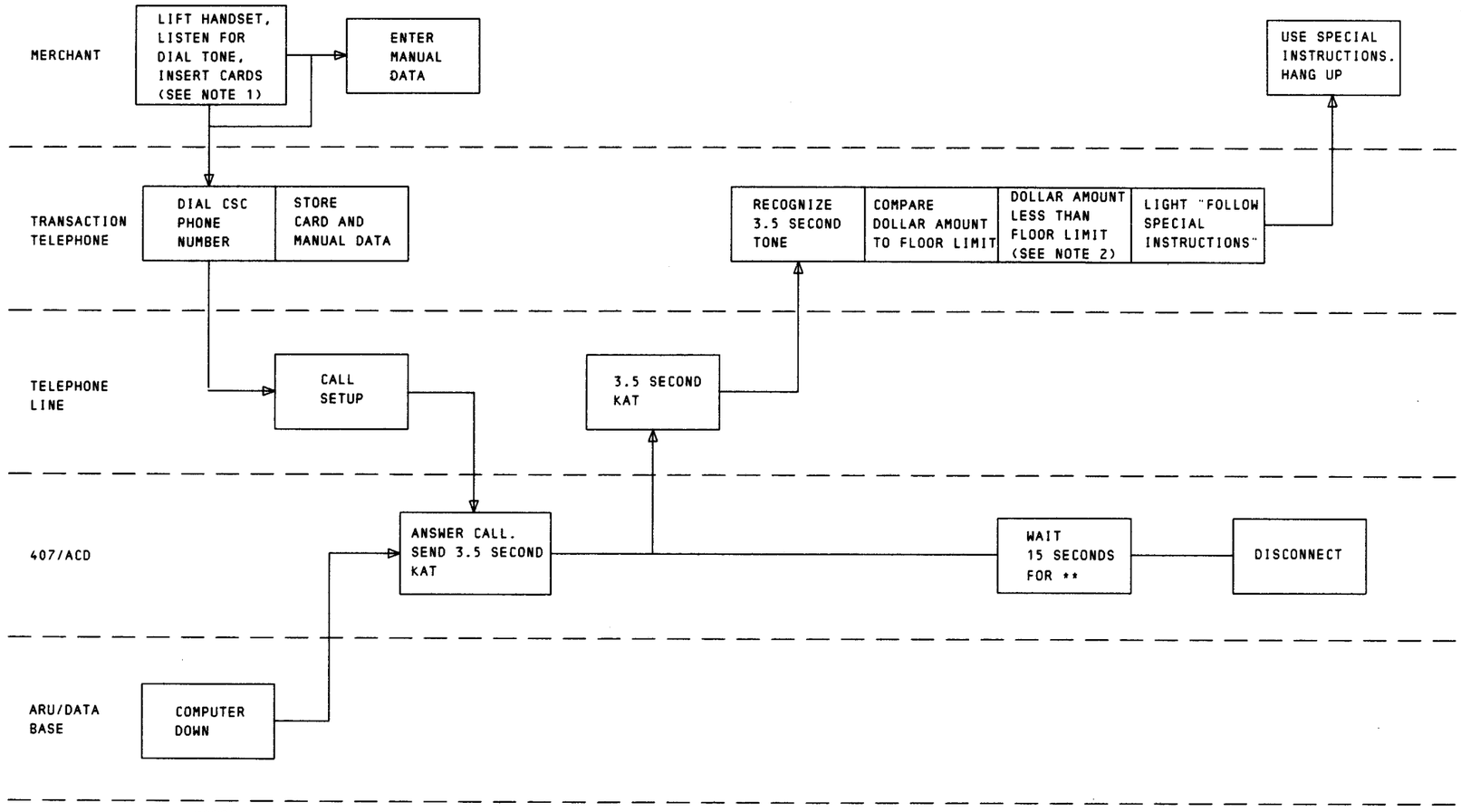


Fig. 8—Merchant-Initiated Referral (4.12)



NOTES:

1. IN A TRANSACTION II SET, IT IS NOT NECESSARY TO LIFT THE HANDSET.
2. IF DOLLAR AMOUNT IS ABOVE FLOOR LIMIT, TERMINAL SENDS "**" AND REFERRAL PROCEEDS AS IN FIGURE 9 BEGINNING AT POINT D EXCEPT THAT DATA SET AUTOMATICALLY DROPS FROM CALL ON RECEIPT OF TWO TOUCH-TONE CHARACTERS FROM ACD AND IS READIED FOR NEXT CALL.

Fig. 9—CSC Out of Service (4.14)