

TONE TeleDialer® 32T

IDENTIFICATION, INSTALLATION, AND MAINTENANCE

(Part Number Effectivity: 201566-1 through 201566-14.
These Units Have a Yellow Label on the Underside.)



FIGURE 1

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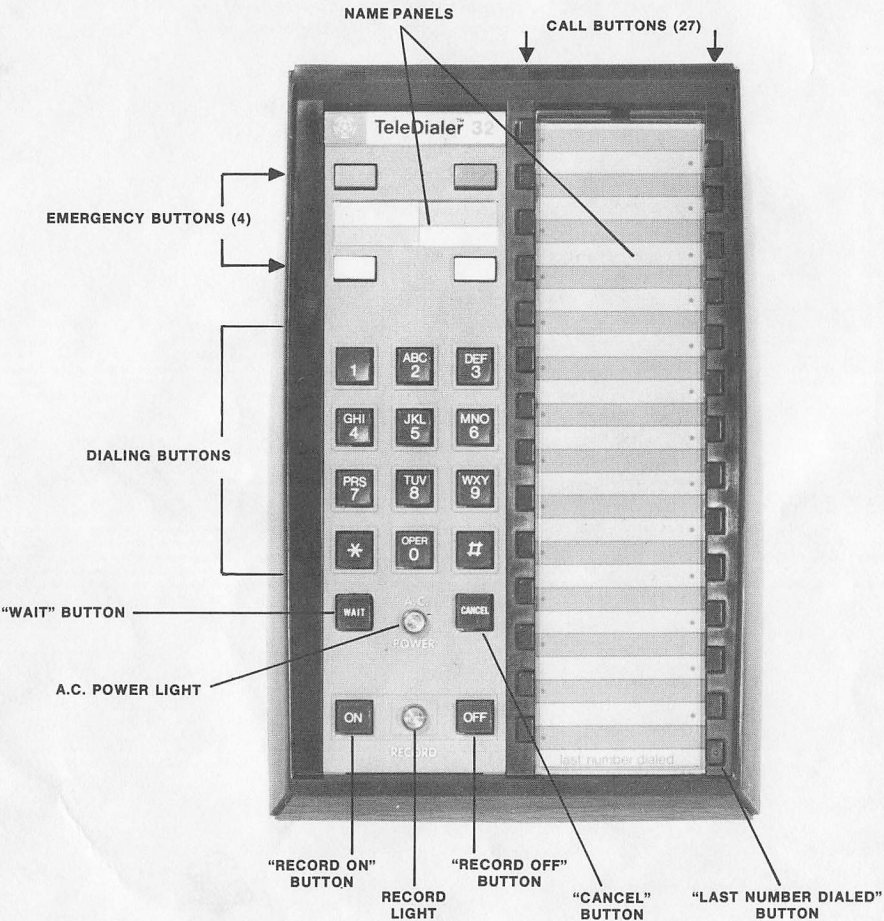


FIGURE 2 - IDENTIFICATION OF CONTROLS

1.0 GENERAL

This Standard Practice provides a Description, Specifications, Installation instructions, an Operational Description, Maintenance information, and Repair and Warranty information for American Telecommunications Corporation's Tone TeleDialer 32T.

The Tone TeleDialer 32T is an automatic number-calling instrument with Touch-Tone* output which operates independently of the telephone set. It can be used with any new or previously-installed Touch-Tone telephone.

Repeat dialing capability of the Tone TeleDialer permits dialing from more than one memory location in a sequential manner. Principle application is computer interfacing. This multi-number dialing feature is described in paragraph 5.02. If not required, multi-number dialing can be defeated by strapping the terminal marked (+) on the back of the TeleDialer to the (x) terminal.

2.0 DESCRIPTION

2.01 IDENTIFICATION

This Standard Practice applies only to TeleDialer 32T units with part numbers listed in Table 1; all have a Yellow Label on the underside.

2.02 FEATURES

- Multi-number dialing capability for end-to-end signaling.
- Automatic dialing of up to 32 stored telephone numbers.
- Integrated circuitry using MOS/LSI technology.
- Error-free automatic single-button dialing.
- Separately-located emergency call buttons.
- Battery pack emergency power source.
- PBX compatibility where "wait for second dial tone" is required.
- Low voltage input from U.L. approved transformer.

2.03 POWER REQUIREMENT

A.C. power requirement for the TeleDialer 32T is a source of alternating current from 105 to 130 volts. Failure to maintain A.C. power over an extended period of time can cause loss of memory contents; therefore, the A.C. power source should not be controlled by a switch.

*Touch-Tone is a registered trademark of AT&T.

2.03 ORDER PART NUMBERS

PART NO.	MODEL NO.	COLOR	ON-HOOK RECOGNITION TIME (ms)
201566-1	TD 32T-01	White	600
201566-2	TD 32T-02	Black	
201566-3	TD 32T-03	White	1000 (PT&T)
201566-4	TD 32T-04	Black	
201566-5	TD 32T-05	White	200 (GTE-CALIF.)
201566-6	TD 32T-06	Black	
201566-7	TD 32T-07	White	600
201566-8	TD 32T-08	Black	
201566-9	TD 32T-09	White	600
201566-10	TD 32T-10	Black	
201566-11	TD 32T-11	White	600 (SNET)
201566-12	TD 32T-12	Black	
201566-13	TD 32T-13	White	600 (GTE-NOT CALIF.)
201566-14	TD 32T-14	Black	

TABLE 1

2.05 REPLACEABLE PARTS

Replaceable parts for maintenance purposes (available separately) are illustrated in Figure 7 (Page 8) and should be ordered by the part number specified in Table A (Page 4).

2.06 SPECIFICATIONS

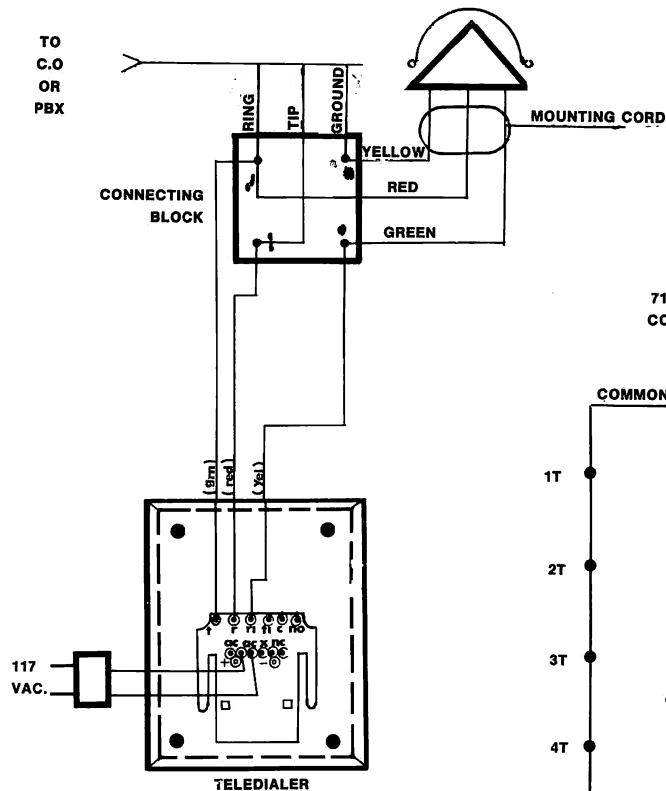
Dimensions:	(L x W x H) 8 1/2" by 5 5/8" by 3" (2.16 x 14.3 x 6 cm)
Weight:	3 lbs. (1.36 Kg)
Storage Address Capacity:	(Including Last Number Dialed) 32
Signaling:	D.T.M.F. \pm 1.2% Freq. Tolerance
Tone Burst Time:	67.5 \pm 3.5 milliseconds
Interdigital Time:	67.5 \pm 3.5 milliseconds
Storage Life (Battery Power):	40 Hours, Including At Least 100 7-Digit-Average Calls
Tone Output Level:	-2 \pm 2 dBm
On-Hook Recognition Time:	See Table 1
Operating Temperature:	0 to 50° C
Storage Temperature:	-40 to 70° C
Operating Humidity:	90% Relative Humidity, Maximum
Storage Humidity:	95% Relative Humidity, Maximum
Power Requirements:	105 to 130 VAC, 57-63 Hz, At Less Than 2 Watts
Twist:	4 dB Maximum

3.0 INSTALLATION

The telephone set should be installed prior to the Tone TeleDialer 32T. All standard instrument installation procedures must be completed before installing the dialer.

TABLE A
TELEDIALER REPLACEABLE AND RELATED PARTS

ITEM NO. FIG. 7	A.T.C. PART NO.	DESCRIPTION	NO. PER UNIT
1	110109	Window, Plastic (Small)	1
2	110108	Window, Plastic (Large)	1
3	110118	Name Card (Small)	1
4	110117	Name Card (Large)	2
5	110121	Panel	1
6	110116	Housing Assembly (White), or 110116-1 (Black)	1
7	110115	Base Assembly (White), or 110115-1 (Black)	1
8	110218	Mounting Cord (White), or 110218-1 (Black)	1
9	110138	Battery Pack	1
10	719012-01	Transformer w/cord (White), or 719012-02 (Black)	1
11	110120	Insulator, Terminal (White), or 110120-1 (Black)	1
12	110110	Cover, Battery (White), or 110110-1 (Black)	1
13	202532B	Bracket, Wall Mounting (Black), or 202532W (White)	1
14	202521	Frame, Key Button (White), or 202521B (Black)	1
15	110106	Frame, Switch Button (White), or 110106-1 (Black)	1
	202545	User Instructions	1
	202544	Standard Practice 202544 8½" x 11"	
	202544-1	Standard Practice 202544-1 5½" x 8½"	1
	7173	Spade Connector	1
	777007-01	Hand Driver, Insert (Accessory)	
	777007-02	Insert, Holt Head (Accessory)	
	2212	Foot, Base	4
	110221	Foam Packing Insert	1
	110221-1	Foam Packing Insert	1
	110222	Carton, Shipping	1
	110208	Screw, Base, No. 6, H-30, Holt Head	4
	110131-3	Label, TeleDialer 32T	1



*NOTE: Jumper disables multi-number dialing feature. The terminal marked (+) is connected to terminal marked (x).

FIGURE 3
TELEDIALER CONNECTING BLOCK CONNECTIONS

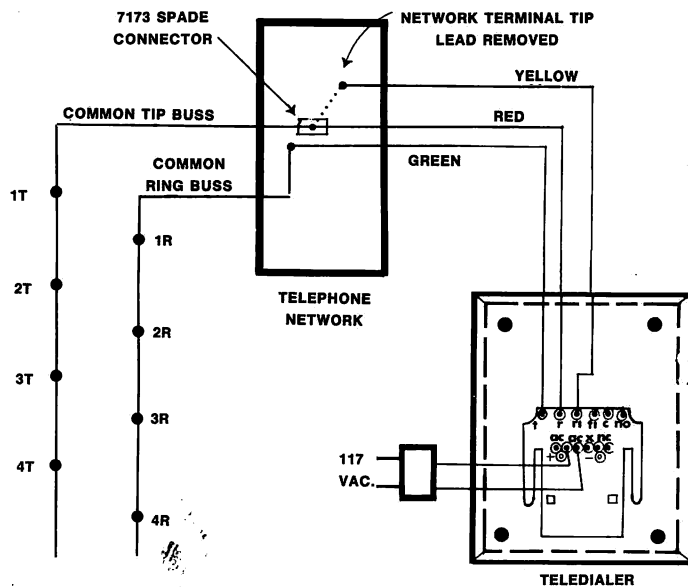


FIGURE 4
TELEDIALER-KEY-TELEPHONE CONNECTIONS

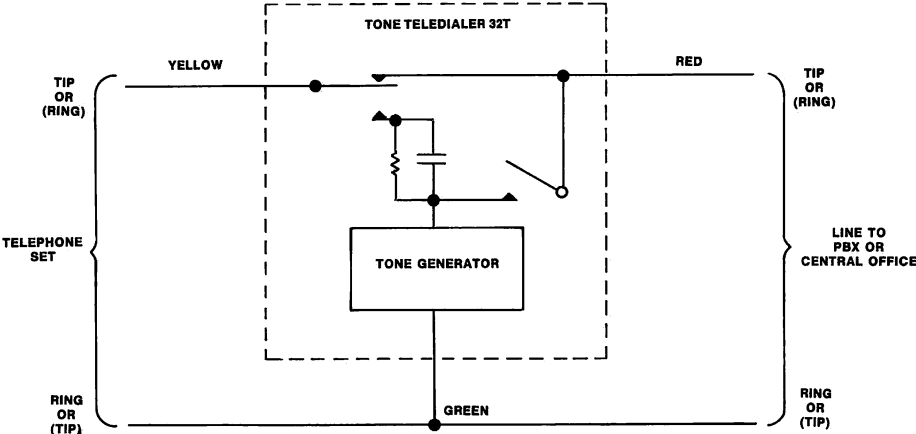


FIGURE 5
SIMPLIFIED WIRING DIAGRAM

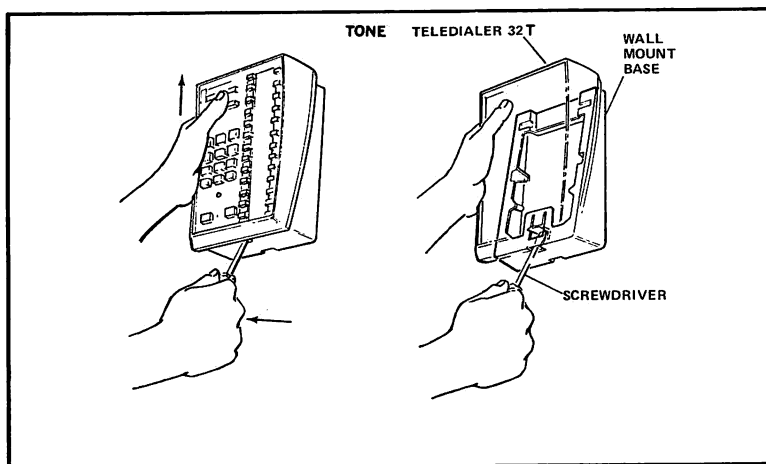


FIGURE 6
REMOVAL OF TELEDIALER FROM WALL-MOUNT

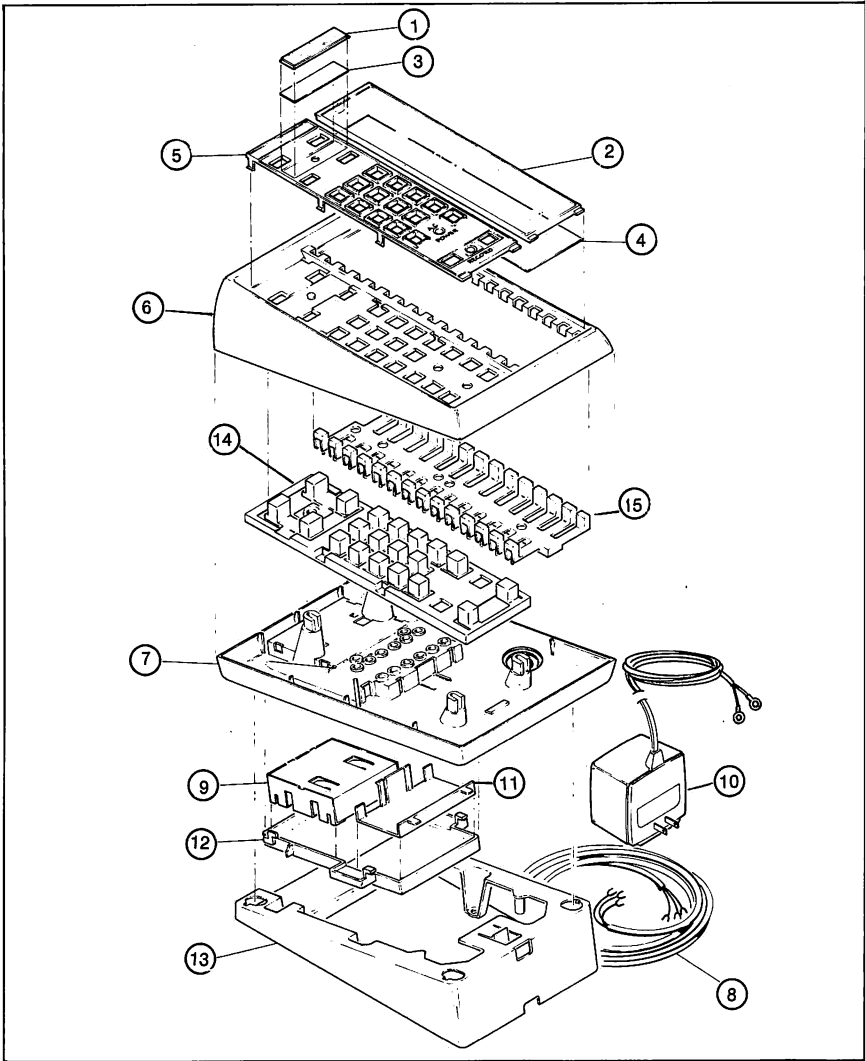


FIGURE 7
TELEDIALER 32 REPLACEABLE PARTS ASSEMBLY

Normally, the TeleDialer 32T line cord is connected at the station connecting block, as shown in Figure 3. With multi-line sets, however, connection should be made at the appropriate terminals within the telephone instead of at the connecting block (Figure 4).

3.01 SINGLE LINE CIRCUITS

Generally, for all telephone sets, connect the Green TeleDialer lead to the telephone Ring side of the line and connect the Red and Yellow TeleDialer leads in series with the Tip side of the telephone line. The Red TeleDialer lead must be connected toward the line, and the Yellow TeleDialer lead must be connected toward the telephone. (See Figures 3 and 5.)

3.02 BATTERY PACK

When all wiring is completed, install the battery pack in such a manner that the contact strips of the pack will mate with the contact strips of the enclosure.

3.03 AUTOMATIC NUMBER IDENTIFICATION (ANI)

The Tone TeleDialer 32T is compatible with two-party lines equipped for ANI service.

3.04 MULTI-LINE CIRCUITS

With multi-line or key system telephone sets, the TeleDialer connections should be made within the telephone set. Use Figure 4 as a guide and proceed in the following manner.

(A) Caution should be observed in making connections within the telephone set, as terminal designations will vary with telephone type and manufacturer.

(B) As shown by the dashed line of Figure 4, the Tip bus (or common tip lead) that was connected to the network terminal has been removed from that terminal and connected with a 7173 spade connector to the Red lead coming from the TeleDialer (R) terminal. The Yellow TeleDialer lead (R1) is now connected to this network terminal. The Green TeleDialer lead is then connected to the Ring Bus spade terminal of the network.

NOTE: (B) and Figure 4 show the preferred method of connection to most telephone sets. (In series with the Tip of the Line.)

For applications where this installation may be inadequate, the dialer will also operate in series with the Ring side of the telephone line. If this installation is needed, make certain the Red TeleDialer lead is connected to the incoming line and the Yellow lead is connected to the telephone set.

3.05 WALL MOUNT INSTALLATION

The Tone TeleDialer 32T can be mounted on a wall using ATC P/N 202532 Wall Mounting Bracket. Two No. 8 x 1-inch round head screws (or whatever suitable, depending upon wall construction) are used with the Bracket.

(A) Place the Wall Bracket as shown in Figure 6. Mount it to the wall placing the No. 8 x 1-inch screws through the two mounting holes in the Bracket. Do not overtighten the screws.

(B) Holding the TeleDialer 32T flush against the face of the Wall Bracket, push in, then down. Body of the TeleDialer should move downward about 1/8-inch and lock into place.

3.06 REMOVAL FROM WALL MOUNT

When necessary, the TeleDialer can be removed from its wall mounting bracket by inserting a screwdriver or other suitable tool up through the hole (Figure 6) at the lower edge of the Dialer. The tool used should come to rest against a plastic tab located there. With one hand applying an upward force on the Dialer, pull the handle of the tool outward, in such a manner that the tip of the tool used will move the inner plastic tab back toward the wall 1/4-inch or less. While the plastic tab is being held, the Dialer should slide upward and free of the bracket.

4.0 INSTALLATION CHECK PROCEDURE

4.01 MANUAL DIALING CHECK

- (A) Lift the telephone handset Off-Hook and wait for dial tone.
- (B) Dial the desired number using the dialing buttons of the TeleDialer.
- (C) Verify that the number dialed was reached.

4.02 MEMORY CHECK

Check the store and automatic dial feature in the following manner:

- (A) With the handset On-Hook, press and release the RECORD ON button.
- (B) Press and release one of the 32 call buttons.
- (C) Store a number in memory by dialing it on the dialing buttons of the TeleDialer.
- (D) Press and release the RECORD OFF button.
- (E) Lift the handset Off-Hook and wait for dial dial tone.

- (F) Press and release the same call button used in step (B).
- (G) Verify that the proper number was called.

NOTE: If the TeleDialer is used behind a switchboard and a second tone is expected after the access number, always depress the WAIT button after the access number, wait for dial tone, then dial the remaining numbers.

4.03 ERASE FUNCTION CHECK

Check the erase function of the TeleDialer by erasing the number stored during the check in paragraph 4.02 in the following manner:

- (A) Press and release the RECORD ON button.
- (B) Press and release the call button selected in paragraph 4.02 (B).
- (C) Press and release the WAIT button.
- (D) Press and release the RECORD OFF button.
- (E) Lift the handset Off-Hook and wait for the tone.
- (F) Press and release the call button used in step (B).
- (G) Verify that no dialing sound is heard in the receiver and that no call was placed.

NOTE: Make any remaining functional checks on the installation in accordance with standard telephone operating procedures.

CAUTION: Do not attempt any field repair of the electronics associated with the Tone TeleDialer 32T. Field repair should be limited to replacement of the battery, transformer, or the complete unit.

5.0 OPERATIONAL DESCRIPTION

5.01 CONTROLS

Controls on the face of the Tone TeleDialer 32T consist of the following:

- 32 call buttons for addressing telephone number memory locations.
 - Four of these are separately-located for emergency or special calling.
 - Another allows automatic calling of any number last manually dialed.
- 2 pushbuttons (RECORD ON and RECORD OFF) for initiating or terminating a recording operation. Pressing the RECORD OFF pushbutton also resets the TeleDialer for multi-number dialing.
- 12 dialing pushbuttons for manually dialing

and/or recording the digits 0 through 9, *, and #.

- 1 pushbutton (WAIT) used in connection with calls requiring a wait for second dial tone. The WAIT pushbutton is also used to erase numbers from memory.
- 1 pushbutton (CANCEL), used to cancel a number storing operation or to cancel a call by depressing for one second or more.

NOTE: Operation of the CANCEL pushbutton causes a reset of the TeleDialer circuitry, allowing the CANCEL pushbutton to be used to cancel a call.

5.02 MULTI-NUMBER DIALING

This feature permits dialing out from more than one address button without pressing the CANCEL button or going On-Hook; it can be used for end-to-end signaling such as:

Credit verification, computer access identification, and remote control. It can be implemented by proceeding in the following manner:

- (A) Lift the handset Off-Hook and wait for dial tone.
- (B) Depress a pre-selected automatic address pushbutton to dial out the first number.
- (C) Depress the second automatic address pushbutton, and the second number is automatically dialed out.
- (D) Depress the third automatic address pushbutton, and the third number is automatically dialed out - etc.
- (E) On steps (B), (C), and (D), dialing can be done either from the automatic address pushbuttons, as indicated, or from the twelve dialing buttons of the TeleDialer.

NOTE: Up to 16 digits can be dialed from the digit pad in between the use of the Tone TeleDialer address buttons. If more than 16 digits are needed, pressing the OFF button will reset the TeleDialer to allow 16 more digits.

If, by error, an address button is pressed at a location where nothing is stored, the TeleDialer's other address buttons will not work until after the OFF button is pressed.

EXAMPLE - CREDIT VERIFICATION

1. Address Button A of the Tone TeleDialer 32T contains the telephone number of a Consumer Credit Reference Center.

2. Address Button B contains the Merchant Identification Number (for computer access).
3. Address Button C contains the Customer Credit Card Number (to be entered by the merchant).

To check out a credit rating, a credit card number is first recorded into address button C (using the same procedure as used in recording a telephone number), the phone is picked up, and the following steps are performed:

- (A) Wait for dial tone.
- (B) Depress automatic address pushbutton A to reach the Credit Reference Center.
- (C) Wait for the called party response in the form of an Off-Hook followed by an appropriate delay, or a signal from the computer indicating its readiness to receive the Merchant Identification Number.
- (D) Depress automatic address pushbutton B and the TeleDialer dials out: the Merchant Identification Number to identify the merchant.
- (E) Wait for the computer to respond to the reception of the call and signal that the authenticity of the Merchant Identification Number has been verified.
- (F) Wait for the computer to signal that it is ready to receive the Customer Credit Card Number.
- (G) Depress automatic address pushbutton C and the TeleDialer dials out the Customer Credit Card Number.
- (H) Wait for the computer to respond and signal the authenticity of the Customer Credit Card Number.
- (D) Depress automatic address pushbutton C and the TeleDialer dials out the Credit Card Information stored at that address location.

5.03 USING THE TELEDIALER FOR MANUAL CALLING

- (A) Lift the telephone handset and wait for dial tone.
- (B) Dial the desired number using the ten dialing buttons of the TeleDialer.

NOTE: See 5.07 for use of the WAIT button in manually dialing numbers prior to use of the LAST NUMBER DIALED button.

5.04 RECORDING A NUMBER IN THE TELEDIALER MEMORY WITH THE HANDSET ON-HOOK

- (A) Press and release the RECORD ON button. The Record On lamp will light.
- (B) Press and release the calling button from one of the 31 number locations chosen.
- (C) Dial the number using the dialing buttons of the TeleDialer.*
- (D) Press and release the RECORD OFF button.

***NOTE:** When recording a number that uses an access code digit, dial the access code digit, press and release the WAIT button, then dial the telephone number. If the telephone rings during the recording operation, the Record On lamp may turn off. Repeat (A) through (D) after answering.

5.05 RECORDING A NUMBER WITH THE HANDSET OFF-HOOK (WHILE PLACING A CALL)

- (A) Lift the telephone handset and wait for dial tone.
- (B) Follow steps (A) through (D) of paragraph 5.04.

5.06 CALLING A NUMBER AUTOMATICALLY

- (A) Lift the telephone handset and wait for dial tone.
- (B) Press and release the desired call button.

NOTE: If a number using an access code digit was recorded, and the WAIT button was used, automatic dialing will stop. Wait for a second dial tone, then depress the selected call button again.

5.07 AUTOMATICALLY CALLING THE LAST NUMBER MANUALLY DIALED

NOTE: The last number dialed manually from the TeleDialer is automatically stored or recorded in the Last Number Dialed register.

- (A) To recall a number automatically, lift the handset (if replaced) and wait for dial tone.
- (B) Press and release the LAST NUMBER DIALED button.

NOTE: While manually dialing, to properly program the LAST NUMBER DIALED location in applications where an access number is required, always press and release the WAIT button after dialing the access number.

5.08 REPLACING A NUMBER WITH ANOTHER

- (A) To record a new number, enter it as described in paragraphs 5.03 and 5.04. The new number will automatically replace the previous number in the TeleDialer memory.

5.09 DELETING OR ERASING A NUMBER FROM MEMORY

- (A) Press and release the RECORD ON button.
- (B) Press and release the calling button of the number to be erased from memory.
- (C) Press and release the WAIT button.
- (D) Press and release the RECORD OFF button.

5.10 WRITING A NUMBER ON THE NAME PANEL

- (A) Two name-writing areas are provided on the face of the TeleDialer — a four-address area and a 27-address area. Both are covered by a clear plastic shield. A name card, a second (spare) card, and a condensed instruction card can be found under the larger shield.
- (B) The larger shield can be removed by using a sharp instrument under the upper edge; a small hole at the edge of the smaller shield is provided for removal.

6.0 THEORY OF OPERATION

6.01 RECORDING NUMBERS

Depressing the RECORD ON button, then depressing one of the CALL buttons places the unit in a mode of operation in which the digits dialed are placed in a memory location specified by the CALL button. The digits dialed and placed in memory replace the previous entries. Depressing the RECORD OFF button returns the unit to normal operation, wherein dialed digits are not recorded except in the LAST NUMBER DIALED memory location.

6.02 PLACING CALLS

Depressing one of the CALL buttons during the Off-Hook condition initiates a read-from memory operation, placing the digits to be dialed into an outpulsing register. The outpulsing register retains the data first entered after the On-to Off-Hook transition, in such a manner that, if the wrong CALL button is depressed after a WAIT, the number corresponding to the first CALL button depressed will still be outpulsed.

7.0 MAINTENANCE

The Tone TeleDialer 32T should not be disassembled for field repair. If the unit fails to function properly, refer to the trouble analysis chart, Figure 8. If the procedure identified fails to correct the problem, call ATC Customer Service at (213) 579-1710.

7.01 For physical or cosmetic repair, disassemble the Tone TeleDialer 32T in the following manner:

- (A) To remove the casing from the unit, remove the four "holt head" screws from the underside of the unit. A special tool is required for this operation which can be purchased from ATC. (See Table A)
- (B) The panel or surface of the unit can be cleaned, if needed, by using a soft cloth dampened with a diluted mild detergent.

7.02 BATTERY LIFE

The TeleDialer 32T internal battery has an expected life of from two to four years. Battery replacement may be necessary when, after some time, the TeleDialer fails to operate properly.

7.03 BATTERY FAILURE

The TeleDialer 32T battery functions as an emergency power supply only. Total degradation of the battery, however, may cause it to short out the system. Before battery failure is assumed, proper power connection at the wall plug should be checked. After assuring proper connection at the wall plug (indicated by a lighted A.C. power light on the surface of the TeleDialer), one or two hours of charge time should be allowed before again checking TeleDialer operation. If the unit then fails to operate properly, remove the battery and test the unit. If it functions properly, replace the battery. If it does not, replace the unit.

7.04 BATTERY REPLACEMENT

- (A) Remove the battery cover on the back of the TeleDialer by placing a finger against the housing directly below the word "REMOVE".
- (B) Press upward against the edge of the cover while at the same time pressing down against the housing of the TeleDialer. The cover should snap free.
- (C) Remove the old battery from the battery compartment.
- (D) Snap the new battery in place, with its two metal strips facing in and against the two mating strips of the battery compartment.

8.0 REPAIR AND WARRANTY

8.01 American Telecommunications Corporation (ATC) offers a complete repair and return service and suggest the use of this facility for servicing the Tone TeleDialer 32T.

8.02 A flat rate, as specified on the current pricing schedule, will apply to all units out of warranty and considered repairable as determined by ATC.

8.03 WARRANTY POLICY

The standard ATC warranty policy applies to the Tone TeleDialer 32T. The unit is warranted against defective material and workmanship for a period of one year from the date of purchase.

Units under warranty which require service must be returned to ATC transportation prepaid. A Return Authorization should be secured prior to shipment by calling ATC Customer Service at (213) 579-1710.

TELEDIALER 32T TROUBLE ANALYSIS
FAULT ISOLATION DIAGRAM

- 1. SYMPTOM: Unit does not tone out from memory when any memory address button is depressed.
- 2. PRELIMINARY CONDITIONS: Memory programmed, telephone handset off-hook. A.C. power light on.
- 3. CORRECTIVE ACTION.

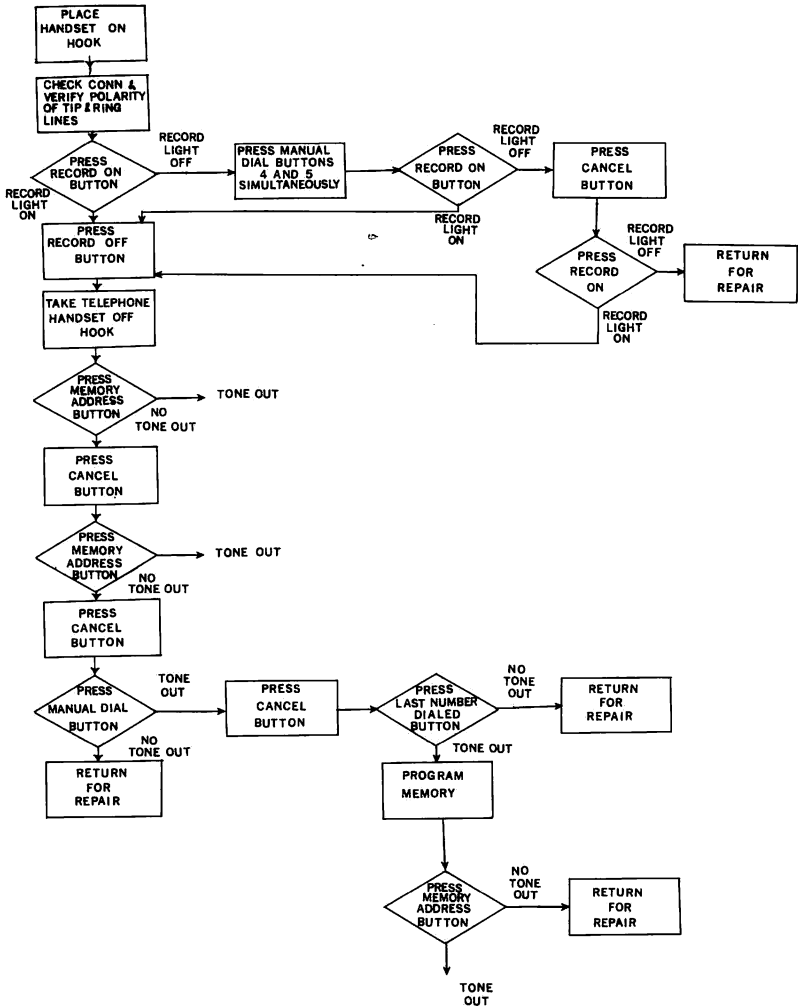


FIGURE 8

NOTES