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TM 24-210

WAR DEPARTMENT TECHNICAL MANUAL

U.S. Dept of army

OPERATING PRACTICES FOR

ARMY ADMINISTRATIVE TELEPHONE SWITCHBOARDS



WAR DEPARTMENT • *OCTOBER 1945*

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WAR DEPARTMENT
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This manual supersedes paragraphs 8 through 11, WD Circular 222, 1943; and Circular 5-10, Office of the Chief Signal Officer, 17 November 1937.

OPERATING PRACTICES FOR

ARMY ADMINISTRATIVE TELEPHONE SWITCHBOARDS

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United States Government Printing Office

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CONTENTS

		Paragraph	Page
SECTION I.	**GENERAL.**		
	Scope	1	1
	Service	2	2
	Classification of telephones	3	3
	Priority of signals	4	3
II.	**HANDLING CALLS.**		
	Answering signals	5	4
	Answering a new call from a local line	6	4
	Answering a new call from an incoming trunk	7	5
	Answering a recall signal	8	5
	Answering a one-cord disconnect signal	9	5
	Acknowledging calls	10	6
	Establishing connection to a local line	11	6
	Establishing connection to a tie line connecting with another PBX switchboard	12	7
	Establishing connection over a commercial central office trunk on a call within the local commercial telephone exchange area	13	7
	Progress reports on delayed calls	14	9
	Outgoing long distance calls	15	10
	Obtaining and recording details of outgoing long distance calls	16	11
	Transmitting outgoing long distance calls to commercial operator	17	13
	Delayed outgoing long distance calls	18	14
	Incoming long distance calls	19	14
	Incoming collect long distance calls	20	16
	Procedure when commercial telephone operator requests that a local line be held for manual ringing	21	16
	Transferring trunk connections	22	18
	Flashing to recall commercial operator	23	18
	Taking down connections	24	19
	Directory service	25	19
	Calls for nonworking local lines	26	19
III.	**OPERATING TECHNIQUES.**		
	Technique of handling cords	27	20
	Rotation of cords	28	20
	Key sleeves	29	21
	Passing of cords	30	21
	One operator relieving another	31	22
	Adjustment of telephone sets	32	22

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SECTION I

GENERAL

1. Scope

a. This manual describes operating practices for the proper and efficient operation of Army administrative telephone switchboards. The practices to be followed in the operation of switchboards used for tactical purposes are discussed in detail in FM 24–75.

b. In a number of instances throughout the manual, it is provided that the operator shall proceed according to local instructions, which will be specified to meet local conditions. The practices that are provided in this manual shall be strictly observed in order to simplify operation of Army administrative telephone switchboards and promote efficient service.

c. Where operating service for an Army administrative telephone switchboard is provided by a commercial telephone company, the existing contract provides that, with a few exceptions, operation shall be done under the practices established from time to time by the telephone company. While this manual, in general, conforms to common practices, the telephone company's right to develop its own operating practices will be recognized. The practices prescribed in this manual should be recommended, but are not required, where telephone company employees are operating an Army switchboard.

d. An Army telephone switchboard operator is the representative of the United States Army, within the scope of his duties and functions, when answering calls on trunks connected to a commercial telephone central office.

e. The Chief Signal Officer, under the supervision of the Commanding General, Army Service Forces, is responsible for the preparation for publication of this manual and subsequent revisions thereof. Any recommendations regarding modifications or changes should be submitted through channels to Army Communications Service, Office of the Chief Signal Officer, for consideration.

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2. Service

a. General. The principal objective of any Army telephone switchboard operator should be, at all times, that of consistently furnishing satisfactory service with the least possible delay, confusion, or annoyance to telephone users or other operators. To attain this objective, an Army operator should be thoroughly familiar with the approved operating practices and should perform the required switchboard operating work, so far as practicable, in accordance with such practices. While on duty at the switchboard, Army operators should not engage in personal conversations nor should they attempt to give lengthy explanations to requests for special information made by telephone users. All requests of telephone users which require lengthy explanations or special information, especially those of a controversial nature, should be referred to the chief operator or the appropriate communications officer. Ordinarily, routine answers, prepared locally, should be given by Army operators to queries of a recurring nature.

b. Requisites. The principal requisites of efficient service are courtesy, accuracy, and speed.

(1) *Courtesy.* A courteous tone of voice is more essential in a telephone conversation than in personal conversation, since impressions usually are formed more from the tone and manner of speaking than from what is actually said. These qualities are as much a part of good service as accuracy and speed. A pleasant inflection of voice, concentrated attention, and unfailing courtesy and tact will do much toward creating an agreeable impression and will assure greater interest and reliance by telephone users. It is essential that Army telephone switchboard operators speak distinctly and naturally in an even and well-modulated tone.

(2) *Accuracy.* Mistakes in operation are, as a rule, due to misunderstanding or carelessness on the part of either the operator or the user. Service irregularities usually increase the amount of labor required on the part of the operator, antagonize the user, and cause dissatisfaction. An operator can ordinarily minimize service irregularities by exercising care, particularly in putting up connections and ringing; by listening attentively to orders given by users and other operators; and by enunciating distinctly.

(3) *Speed.* While the speed of connection on a call is influenced by the answer of the called station, the completion of such a connection can be expedited considerably by the skill and ease of action by the operator in the performance of the required related movements with the least possible loss of time and expenditure of energy. This adeptness can be acquired by an operator only through constant practice and by individual effort toward elimination of unnecessary motions.

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3. Classification of Telephones

a. All telephones provided at an Army installation and connected to an Army switchboard served by trunk lines to a commercial telephone company central office are classified by the post commander as prescribed in TM 24–205.

b. The classification of a particular telephone determines whether it is restricted to official calls only, whether it is restricted to intrapost calls, etc.

4. Priority of Signals

All signals should be answered promptly in the order of their appearance; however, precedence must be given to certain exempted calls. When signals of different types appear at the same time, it is necessary for an operator to decide which signal should be answered first. Signals from lines reserved for fire and emergency purposes should be given first priority, and the proper procedure to be followed should be covered by local regulations. The following priority sequence will apply in answering when signals of different types appear simultaneously:

a. Recall Signal. A recall signal indicates that assistance is required. Since it can be answered only by the operator handling the connection, such a signal should be answered prior to other types of signals.

b. Incoming Trunk Signal. An incoming trunk signal should be answered promptly in order to reduce the holding time on each trunk call and increase the efficiency of the trunk or trunk group.

c. Local Line Signal. Line signals appearing on the operator's position, or on an adjacent position, should be answered next. Special markings may be specified locally to indicate precedence of some line signals over others.

d. One-Cord Disconnect Signal. The one-cord disconnect signal indicates that one party may require additional service. The operator must challenge on the pair of cords associated with this signal before disconnecting.

e. Disconnect Signals on Both Cords. A disconnect signal on both cords indicates that both parties have finished and the connection should be taken down. This may be done as an "overlap" operation. Trunk disconnect signals should be given priority over local line disconnect signals.

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SECTION II
HANDLING CALLS

5. Answering Signals

The practice outlined below should be followed in answering signals:

a. Use the back cord of an idle pair of cords to answer a new call, both on local line signals and incoming trunk signals. If, however, the switchboard cord circuits require it, use the back cord of an idle pair of cords to answer a local line signal and the front cord of an idle pair of cords to answer an incoming trunk signal.

b. The talking key associated with the answering cord should be operated before plugging in on a new call.

c. Have only one key operated to the talking position at a time. Having more than one key in this position may cause a cut-off or a double connection.

d. Avoid plugging in on a new call before being ready to answer and handle the call. On an incoming trunk call, plugging in stops the ringing signal to which the calling party has been listening and starts the charging of the call; if not answered promptly he may hang up.

6. Answering a New Call From a Local Line

With the associated talking key operated, insert the plug of the proper cord into a jack of the calling line and say, with a slightly rising inflection, "Order, please?", or "Your call, please?", whichever phrase is determined locally should be used. If the signal is from a local line to which only one user ordinarily has access, and the name of that user is known to the operator, the expression, for example, "Yes, Colonel Smith?" may be used.

a. If a response is received, acknowledge the call as prescribed in paragraph 10.

b. If no response is heard, repeat the answering phrase once or twice.

(1) If no response is then received, and the supervisory signal associated with the answering cord does not appear, remove the plug of the cord from the answering jack. If the line signal appears, immediately reinsert the plug and answer again as in the case of a new call.

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(2) If still no response is received and there are no other signals waiting to be answered, listen in on the line for approximately 10 seconds. If there are other signals awaiting attention, answer and dispose of the next signal in order of appearance and then return to the call on which no response was received.

(3) If no response is received within a reasonable interval, perhaps 1 minute, report the line to the chief operator who in turn will report it to the wire chief for attention.

7. Answering a New Call From an Incoming Trunk

With the associated talking key operated, insert the plug of the proper cord into a jack of the calling trunk, and announce the name or the telephone number of the installation, as locally specified, for example, "Camp Blank," "Blank Service Command," or "Blanktown 1000."

a. If a response is received, acknowledge the call as prescribed in paragraph 10.

b. If no response is received to the answering phrase, repeat it slowly once or twice. If no response is then received, remove the plug of the answering cord from the trunk jack. Immediately reinsert it, and answer again. If no response is then received, or if a dial tone is heard in the case of a trunk call from a dial switching commercial central office, remove the plug of the answering cord from the trunk jack and assume that the signal was an error.

8. Answering a Recall Signal

Operate the proper talking key and say, "Yes, please?" If the name of the person signaling is known to the operator, an expression such as "Yes, Colonel Smith" may be used. The use of the phrase "Operator" is not desirable as this phrase is used by commercial telephone operators under similar circumstances. Its use by Army operators, therefore, might be confusing to local line users.

a. If an inquiry is received concerning the progress of the call, report as provided in paragraph 14.

b. If an order is received requiring any other action, proceed in accordance with whichever procedure, as prescribed herein, is applicable.

9. Answering a One-Cord Disconnect Signal

If the supervisory signal associated with one cord of an established connection appears, operate the proper talking key and say, "Are you waiting?", before disconnecting the cord on which the supervisory signal appeared.

a. In the case of a connection between two local lines, proceed as prescribed in paragraph 6 if an order is received or if no response is heard.

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b. In the case of a call involving a commercial central office trunk, if an order is received which cannot be completed locally, say, for example, "This is the Camp Blank operator, sir. Please give the call to your operator." If no response is then heard, take down the connection.

10. Acknowledging Calls

a. Listen attentively to the details of a call and, if they are clearly understood, acknowledge them by saying, "Thank you, sir," "Yes, sir," or "All right, sir."

b. If it is desired to verify the details of a call as you understand them, acknowledge by some phrase such as "Extension 100?", "Colonel A. B. Smith?", or "Signal Office?" This practice of repeating the order in a questioning tone should be confined to particular cases where verification seems desirable. It should not be used generally.

c. If the call is not understood, say, for example, "What number (or 'name'), please?" or "What department (or 'office'), please?" When the call is clearly understood, acknowledge it as provided in *a* above and establish connection.

d. On a call on which information or a report can be furnished immediately, do so without pausing to acknowledge the call.

e. If a call that you are not authorized to complete is received for, or from, a restricted station, say for example, "I am sorry, that (or 'this') telephone is restricted to intrapost calls." If the calling party insists upon being connected, refer him to the chief operator or the appropriate communications officer, as locally prescribed.

f. If the calling party asks that a message be taken for delivery to a local line user, say "I am sorry, we are not permitted to take messages."

11. Establishing Connection to a Local Line

While receiving and acknowledging the call, pick up the associated calling cord of the pair used in answering and test the local line, as prescribed in paragraph 27*b*, to determine whether or not it is busy. Then proceed as follows:

a. If the called line is not busy, insert the plug of the calling cord into the jack of that line and operate the ringing key associated with that cord steadily for 2 seconds. Repeat ringing for 2 seconds at intervals of 10 seconds until the called station answers. Cease ringing immediately if the calling cord supervisory signal light indicates that the called station has answered, or if the answering cord supervisory signal appears, indicating that the party at the calling station has hung up his receiver and has abandoned the call. In the latter case, take down the connection immediately.

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b. If the called line is busy, say, for example, "Extension 100 is busy, sir," or "The Signal Office line is busy, sir."

(1) If the call was received over an incoming commercial central office trunk, add, "Will you wait, sir?" or "Do you wish to wait, sir?" If the person calling states that he will wait, make a memorandum of the number of the cord pair and the local line number. Then proceed as provided in paragraph 14.

(2) If the call is an intrapost call and the calling party wishes to wait, say, "Will you call again a little later, please?"

12. Establishing Connection to a Tie Line Connecting With Another PBX Switchboard

a. Connection with a particular tie line may be made for any local line, or may be restricted to certain lines or certain classes of telephones, or may be otherwise controlled, as locally specified.

b. In general, the method of establishing connection to a tie line will be the same as that prescribed in paragraph 11*a*.

13. Establishing Connection Over a Commercial Central Office Trunk on a Call Within the Local Commercial Telephone Exchange Area

Calls may be made over commercial central office trunks only from telephones of certain classes, as classified by the post commander. (See TM 24–205.) Trunks may be divided into two groups: one for incoming calls, one for outgoing. In some cases, trunks provided primarily for incoming calls can also be used for outgoing calls, if necessary. Lamp busy signals ordinarily are provided with commercial central office trunks at line multiple type switchboards. On an authorized call, select an idle trunk in the group of outgoing trunks and insert the plug of the calling cord into the jack of that trunk. If no trunk is available in the outgoing group and there is a group of incoming commercial trunks that can also be used for outgoing calls, select an idle trunk as near as possible to the high-numbered end of the incoming group.

a. Manual Central Office Trunk. Either transmit the order to the commercial central office operator, permitting the calling party to listen to the transmittal of the order, or allow the calling party to give the order for the desired telephone connection directly to the commercial central office operator, as locally prescribed.

(1) If the operator transmits the order to the commercial central office operator and the completion of the call is delayed for any reason, progress reports should be given as prescribed in paragraph 14.

(2) If the calling party is allowed to give the order directly to the commercial central office operator, say, "Will you give the call to the

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telephone company operator, please? I will connect you, sir," and proceed to do so.

b. Dial Central Office Trunk. All Army switchboards which are connected by means of trunks to dial commercial central offices are wired and equipped so that Army operators may complete outgoing calls over such trunks by dialing the telephone number of the called station. The cord circuits of some Army telephone switchboards are provided with "through dial" keys which, when operated, permit the calling party to dial the desired telephone number. Also, in some instances, the calling party can obtain a connection with a dial central office trunk, without the help of an operator, by dialing a code number. Authorized connections with a dial commercial telephone central office will, therefore, be completed according to the wiring features of the Army switchboard, or local instructions.

(1) If the Army switchboard is wired and equipped for "through dial" service and a call for a telephone number within the local commercial telephone exchange dialing area is received from a dial-equipped local line station which is authorized to dial commercial trunk connections, say, for example, "Will you dial the number, please? I will give you a trunk, sir." Then operate the through dialing key to the proper position, insert the plug of the calling cord into the jack of an idle trunk, and restore the talking key to its normal position. Be sure to leave the through dialing key in the dialing position until the connection is taken down. When the through dialing key is operated, signal supervision is usually provided on the answering cord only, and the switching equipment in the dial commercial central office is under the direct control of the local line station connected to the trunk.

(2) If the Army switchboard is not wired and equipped for "through dial" service, or where wiring and equipment for such service are provided but the Army operator is required to dial the desired telephone number on a particular call in accordance with local instructions or for other reasons, insert the plug of the calling cord into the jack of an idle dial central office trunk. As soon as the dial tone is heard, dial the called line number. Be sure not to move the key from the talking position until the dial returns to normal after the last digit (or party line letter, if there is one) has been dialed. When dialing, always move the dial until the finger strikes the finger stop, then release it and let it return to its normal position. Avoid forcing or retarding its return. If the busy signal is received and the calling party does not hang up, say, for example "Blanktown 2000 is busy."

Note. **Dialing is usually performed with the talking key of the pair of cords used to establish the connection operated to the talking position. Some switchboards are so wired that when the talking key is operated to the talking position in connection with the work of dialing, the trunk used to establish the connec-**

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tion is automatically cut off from the operator's talking circuit and the calling party's line by movement of the operator's position dial "off-normal." In such cases, it is necessary upon completion of dialing to restore the talking key to its normal position momentarily and then to operate it again in order to talk with the called party or to supervise the connection for a ringing signal.

(3) If the calling party can obtain a connection with a dial central office trunk by dialing a code, when he asks the operator to connect him, say for example, "Will you hang up for a moment, please, and then dial 9?"

14. Progress Reports on Delayed Calls

When the completion of a call is delayed for any reason, it is important that reports be given at frequent intervals, ordinarily every 30 or 40 seconds from the time the order was acknowledged, to indicate the progress of the call to the calling party. In such cases, the following procedure will be observed:

a. If the connection is delayed by a slow answer of a local line station, say, for example, "I am ringing extension 100 (or 'the Signal Office')." In every case, remain cut in on the connection long enough to allow the person calling to acknowledge the progress report or to change his order.

(1) If a response is received and the local line station is still slow in answering, ring as prescribed in paragraph 11*a* for approximately 2 minutes. If the called station still does not answer, say, for example, "Extension 100 (or 'the Signal Office') does not answer."

(*a*) If the calling party hangs up without any comment or indicates that he does not wish any further efforts made to complete the call, take down the connection.

(*b*) If the calling party requests that further efforts be made to complete the call or indicates doubt as to the accuracy of the report, say, "I will try again, sir," and proceed as on a new call, except after giving each progress report, say, "Shall I continue ringing?"

(*c*) If the calling party is still dissatisfied, refer the call to the chief operator or the appropriate communications officer.

(2) If no response is received and it appears that the calling party may have hung up, say, "Are you waiting?" If no response is received, disconnect.

b. On a call received over an incoming commercial central office trunk, if the connection is delayed by a busy condition and the calling party is waiting, watch the line closely.

(1) In giving a report of continued busy, say, for example, "Extension 100 (or 'the Signal Office') is still busy."

(2) When the called line becomes available, hold the line and say to the calling party, for example, "You may have Extension 254 (or 'Major Norman's line') now, sir." When the person calling acknowl-

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edges the report, complete the connection and cancel the memorandum of the call referred to in paragraph 11*b* (1).

(3) If the line is still busy at the end of 2 minutes, say, "Will you call again a little later, please?"

Note. See paragraph 19 for instructions on an incoming long distance call delayed because of a busy line.

c. On a call handled by an Army operator for a telephone reached over a commercial telephone company trunk, if the connection is delayed by a slow answer, say, for example, "I am trying to get Blanktown 2000" or "Blanktown 2000 does not answer", whichever statement is applicable. Reports of a called line being out of order, discontinued, changed to another number, or nonworking may be received from the commercial telephone company operator. These should be transmitted promptly to the calling party for further instructions.

15. Outgoing Long Distance Calls

a. CLASSES. There are two classes of long distance calls: station-to-station and person-to-person.

(1) A station-to-station call is one on which the calling party does not specify that he wishes to reach a particular person or private branch exchange station at the called point. A station-to-station call is chargeable from the time anyone at the called number answers.

(2) A person-to-person call is one on which the calling party specifies that he wishes to reach a particular person or private branch exchange station. These calls are chargeable from the time the desired person or private branch exchange station answers.

b. RATES. The rates for person-to-person calls are higher than rates for station-to-station calls. On calls to a particular point, the rate may differ depending on the time of day or whether a call is made on a week day or Sunday. The time at the calling station when connection is established determines the rate applicable to a call.

c. ADMINISTRATIVE PROCEDURES. The following administrative procedures apply:

(1) Outgoing long distance calls can be accepted only from certain telephones, as classified by the post commander. (See TM 24–205.)

(2) On a call from a telephone that is authorized only for the transaction of official business, if the calling party does not indicate when placing a call that it is official, say, "Is this an official call?" If it is an official call, proceed to establish connection. If not, say, "I am sorry, unofficial calls cannot be accepted from this telephone."

(3) In accordance with the standard administrative procedure for control of toll and long distance usage specified in TM 24–205, approval for making any official toll call will have to be obtained by the party calling before he places his call. On an official call, if the calling party

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does not indicate when giving his order to the operator that the call is approved, the operator should ask, "Is this call authorized?"

(4) At a manual multiple type switchboard, outgoing long distance calls should be handled by all operators who have access to the calling signals of local lines.

(5) At a dial multiple switchboard, outgoing long distance calls should be handled by all operators who have access to the multiple trunks over which outgoing calls requiring the assistance of an operator are received.

16. Obtaining and Recording Details of Outgoing Long Distance Calls

On all outgoing long distance calls, it is esential that the Army operator obtain and record the number of the calling station, the name of the person calling, and the name of the called place, including the State. It is also necessary to determine whether the call is official or unofficial, and if it is to be handled on a collect basis, that is, to be charged to the called station. Additional details will be obtained by the commercial telephone operator. In accordance with the procedure for control of toll and long distance usage, the operator may be required locally to obtain the name of the Army unit or organization with which the person calling is associated.

a. After obtaining the foregoing details, if locally authorized to request the calling party to limit his call to 5 minutes, or less, say, for example, "Will you please limit your call to 5 minutes, sir? I will connect you with the telephone company operator (or 'Long Distance')." If the person calling disconnects before connection is established with the commercial operator, operate the ringing key associated with the answering cord and, when he answers, say, for example, "On your call to Blankville, please hold the line, sir."

b. Use WD, AGO Form 11–139 (Toll Ticket) (fig. 1) on each outgoing long distance call. Each operator who handles long distance calls will have a supply of toll tickets that have been serially numbered in advance with a combination of a letter and a one- or two-digit number, for example, "A1" to "A99," "B1" to "B99," etc., entered in the Serial No. space at upper right corner of ticket. The remainder of the ticket is completed as follows:

(1) Enter the date in space at upper left corner of ticket, for example, "30 Aug 45."

(2) Place a check mark in the appropriate box near the top of the ticket to identify each call as OFFICIAL or UNOFFICIAL.

(3) If a call is to be charged to the called station, enter "Collect," or the abbreviation "COL" if locally authorized, in the special instructions (SPEC. INST.) space near the top of ticket, in left half of the space.

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(4) In the spaces on the ticket under FROM, enter the number of the calling station, the name of the person calling, and, when required locally, the name of the Army unit or organization with which the person calling is associated.

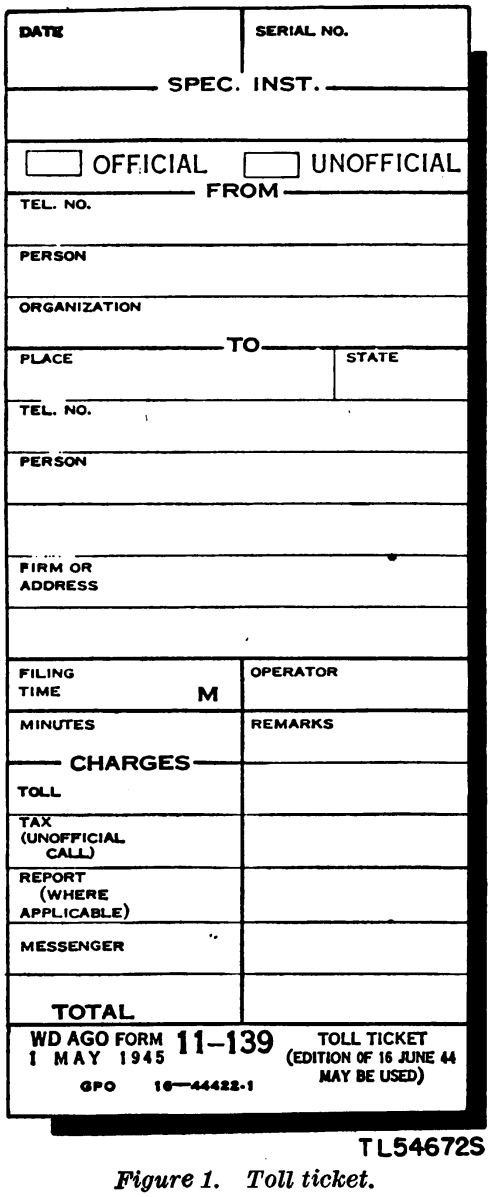


Figure 1. Toll ticket.

(5) Under TO on the ticket, enter the name of the called place, including the State. In the other spaces provided, enter any of the following when required for a special record: called telephone number, name of person called, firm or address of called party if telephone number is not known.

(6) In FILING TIME space, enter the time the call is passed to the commercial telephone operator.

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(7) In the space designated OPERATOR, enter your personal number or initials, as required locally.

(8) Use the REMARKS space for miscellaneous entries. For example, when a special record requires noting the time of connection and disconnection on any call, this information may be entered under REMARKS. If additional space is needed, use the back of the ticket.

17. Transmitting Outgoing Long Distance Calls to Commercial Operator

In some commercial telephone central offices, long distance calls are handled by the regular answering operators while in other commercial telephone central offices these calls are handled by a separate group of operators known as "Long Distance." After establishing connection with the proper commercial telephone operator (using a long distance terminal if one is available), proceed with the following steps in the order shown:

a. Give the telephone number of the trunk used, as, for example, "This is Blanktown 1019." (When a long distance terminal is used, this may not be required.)

b. Give the telephone number of the calling local line and the name of the person calling, as, for example, "Extension 100. Colonel A. B. Smith calling." In the case of short-haul station-to-station calls handled by the regular answering operators in commercial telephone central offices, arrangements may be made locally for Army operators to omit furnishing the telephone number or the name of the person calling, preferably the latter, in order to simplify the work of ticketing in connection with such calls by commercial telephone operators.

c. Give the serial number of the Army toll ticket, as, for example, "Serial C27."

d. Give the name of the place called.

e. On each unofficial call, except collect calls, request the commercial operator at the time of placing the call to quote time and charges by saying, "Time and charge." Enter "T & C" in the special instructions space on the ticket. (On an official call, time and charge will not ordinarily be requested of the commercial operator.) Place a cord clip on the calling cord.

Note. At the finish of conversation, obtain the time and charges and enter them in the MINUTES and CHARGES spaces on the ticket.

f. If the call is to be charged to the called station, say, "Collect." On each outgoing collect unofficial call, request the commercial telephone operator to quote time and charges in case the call is changed to an out paid call, by saying, "If not OK collect, quote time and charges."

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Note. If the commercial telephone operator reports that a call placed as a collect unofficial call was completed as a paid call, obtain the time and charges and enter this information in the MINUTES and CHARGES spaces on the ticket. Draw a line through the "Collect" (or "COL") notation in the special instructions space.

g. Then say, "Go ahead, sir" to the person calling, restore the talking key to its normal position and allow the person calling to give any other necessary details of the call direct to the commercial telephone operator.

18. Delayed Outgoing Long Distance Calls

a. If all central office trunks (or toll terminals) are busy, say, "I am sorry. All trunks are busy . I will call you." When a trunk (or toll terminal) becomes available, reach the calling party and say, for example, "I am ready to try your call to Blanktown now." Then proceed as provided in paragraph 17.

b. The person calling should be advised promptly of all reports of delay made by a commercial telephone operator in the completion of a long distance call.

c. If the person calling inquires at any time regarding the progress or status of a call or wishes to cancel it, reach the proper commercial telephone operator as on the original call and give an appropriate order.

d. On a request by the person calling to try a call again, use the code "AG" meaning "try again") to indicate to the proper commercial telephone operator that the request concerns an uncompleted call, as, for example, "AG, Blankville, Blank State." Where required, give the number of the trunk used, as, for example, "This is Blanktown 1019." Ordinarily it will not be necessary to refer to the toll ticket written on the original call or to write a supplementary memorandum ticket for record purposes in connection with an "AG" request.

19. Incoming Long Distance Calls

When handling incoming long distance calls for local lines to which connection of such calls is authorized, particular care should be taken to assure their completion without delay, if possible. It is essential, therefore, that the following procedure be strictly adhered to:

a. Establish connection with the local line of the called person, office or department in the regular way.

b. If the particular person called cannot be found promptly on an incoming person-to-person call, and if the person calling still wishes to have the connection completed, the commercial telephone operator will leave instructions with the party answering at the local line station for the guidance of the particular person desired. Subse-

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quently, the particular person called may request connection with a particular operator at the distant point or with long distance, according to the instructions left by the commercial telephone operator. In such a case, it will be necessary only to reach the commercial telephone operator who handles outgoing long distance calls. When that operator answers, if connection with a particular operator at a distant point is desired, the local line user will request the connection. It will not be necessary to write a toll ticket for record purposes on such a call.

c. If the local line is busy or does not answer and the commercial telephone operator asks to be notified when that line is available, record on a memorandum the commercial telephone operator's number and the number of the local line. When the local line is available, reach the commercial telephone operator and say, for example, "This is Blanktown 1000, WH (meaning, 'We have, ready to talk'), Adjutant General's office (or 'Extension 254')."

d. If authorized by the commanding officer of an Army installation and approved by the commanding general of a service command or, in the case of a Class III installation, the appropriate Army Air Forces commander, the following practice may be used in the case of incoming long distance calls for local lines which are busy on intrapost connections, provided the design of the telephone switchboard facilities will permit:

(1) If connection on the intrapost call has been established at the position where the long distance call was received, restore the talking key associated with the cord used to answer the long distance call. Operate the talking key of the cord pair used to establish the intrapost connection, and say, for example, "I beg your pardon. There is a long distance call for Colonel Smith (or 'Extension 100'). Will you accept the call, sir?"

(*a*) If the person called agrees to accept the call, remove the plug of the proper cord from the jack of the desired local line. Substitute the plug of the calling cord of the cord pair used in answering the incoming long distance call.

(*b*) If the person called refuses to interrupt his conversation on the intrapost call, proceed as prescribed in paragraph 14.

(2) If connection on the intrapost call has been established at another position, restore the talking key associated with the cord used to answer the incoming long distance call. Insert the plug of the calling cord of an idle pair of cords into a jack of the desired local line. Operate the talking key associated with that calling cord, and proceed in a manner similar to that provided in (1) above. If the person called agrees to interrupt his conversation, the assistance of another operator or the supervisor may be required to have the intrapost connection taken down.

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20. Incoming Collect Long Distance Calls

At a military installation where acceptance of incoming collect long distance calls is authorized, proceed as follows:

a. Make a ticket record of the details of the call, showing under FROM the city and State where the call originates and the name of the calling party. Draw lines through the serial number on the ticket. Enter "In Collect," or the abbreviation "IN COL" if locally authorized, under special instructions in left half of the space.

b. Ask, "Is the call official?", if the call has not been identified as official or unofficial.

c. Reach the called party, or called local line, and say, for example, "We have an official (or unofficial) collect call from Captain Adams at Blank City. Will you accept the charges?"

(1) If the charges are accepted, obtain the name of the party who accepts the charges. Enter his name and local line number under TO on the ticket. When ready to establish connection, say "OK collect" to the calling commercial telephone operator. Enter the time and "OK collect" in the remarks space on the ticket.

(2) If no one will accept the charges, say to the commercial telephone operator, "I am sorry. We cannot accept the call on a collect basis."

d. On an unofficial incoming collect call—

(1) When reporting "OK collect" to the calling commercial telephone operator, add, "Time and charges, please?" Enter "T & C" on the ticket in the right half of the special instructions space. Place a cord clip on the cord used in answering the incoming call.

(2) When a disconnect signal is received, listen in and remain on the trunk until the time and charges are received. Enter them in the MINUTES and CHARGES spaces on the In Collect ticket. If the long distance operator at the calling point disconnects before quoting time and charges, reach the long distance operator serving your switchboard and request her to obtain the time and charges on the call.

21. Procedure When Commercial Telephone Operator Requests That a Local Line Be Held for Manual Ringing

Proceed to secure the local line as provided below for your particular switchboard. If the desired local line is found busy, say, "Extension BY." If connection is established with the desired local line, say, "Extension held."

a. At a full multiple manual or dial switchboard without automatic ringing, test the desired local line. If it is idle, proceed as follows:

(1) If the commercial telephone operator can ring through to the local line:

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(*a*) Insert the plug of the calling cord of the pair used in answering into the jack of the local line. Restore the associated talking key to its normal position without ringing the desired station. Mark the cord pair so used with a cord clip or other suitable means of identification.

(*b*) When the supervisory signal associated with the calling cord indicates that the local line station has answered, monitor the connection. If conversation is heard, cut out immediately and remove the identifying clip from the cord pair. If no conversation is heard, say, "This line is being held for a long distance call, sir." If the party at the local line station hangs up, cut out without disturbing the connection. If, however, he insists on placing a call, proceed as in the case of a new call. Then signal the commercial telephone operator, advise that you have released the local line, and disconnect from the trunk.

(*c*) If other conditions are encountered, proceed in accordance with whichever procedure prescribed herein is applicable or circumstances warrant.

(*d*) When a disconnect signal is subsequently received, take down the connection promptly.

(2) If the commercial telephone operator cannot ring through to the local line; proceed, in general, as provided in (1) above. When the supervisory signal associated with the answering cord operates, cut in and announce the name or telephone number of the installation, as locally specified, as, for example, "Camp Blank," "Blank Service Command," or "Blanktown 1000." Be guided by the instructions of the commercial telephone operator. If requested to ring the desired local line station, do so in the regular way. When the party at the station answers, restore the talking key to its normal position and remove the identifying clip from the cord pair.

(3) If the commercial telephone operator cannot ring through to the local line and can signal the Army operator only if split cord operation is used—

(*a*) Restore the talking key associated with the answering cord, insert the plug of the calling cord of an idle cord pair (preferably an adjacent cord pair) into the jack of the local line and restore the talking key associated with the calling cord. Use a cord clip or other suitable means for clipping the two cord pairs together.

(*b*) When the supervisory signal associated with the cord connected to the commercial trunk operates, cut in and announce the name or the telephone number of the installation, as locally specified, as, for example, "Camp Blank," "Blank Service Command," or "Blanktown 1000." If requested to ring the desired local station, do so in the regular way and, when the party at that station answers, say, "One moment, please." Remove the plug of the cord on which the local line was held and rung. Substitute the plug of the calling cord of the cord

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pair connected to the commercial trunk, and remove the identifying cord clip. When conversation between the commercial telephone operator and the party at the local line station starts, restore the proper talking key to its normal position.

(*c*) When a disconnect signal is subsequently received, take down the connection promptly.

b. At a jack connector (dialing completion) type switchboard with toll connectors, proceed as prescribed in *a* above, except that seizure of the desired local line will be accomplished by selection of a toll connector path and dialing from the Army switchboard.

c. At a full multiple manual or dial switchboard with automatic ringing, and at a jack connector (dialing completion) type switchboard without toll connectors—

(1) Proceed as provided in *a* above, except that when the local line station is connected and answers, say, "Long distance is ready to try your call again. I will call you, sir." Then cut out without disconnecting.

(2) If, upon answering the supervisory signal associated with the cord connected to the commercial trunk, a request is received to ring the desired local line station, do so as follows:

(*a*) At a full multiple manual or dial switchboard, remove and reinsert the plug of the calling cord in the jack of the local line.

(*b*) At a jack connector (dialing completion) type switchboard without toll connectors, operate the position release key, while listening in on the cord pair used, and redial the desired station.

(*c*) When conversation starts in either case between the commercial telephone operator and the party at the local line station, restore the proper talking key to its normal position and remove the identifying cord clip. When a disconnect signal is subsequently received, take down the connection promptly.

22. Transferring Trunk Connections

If a request is received from a local line to transfer an incoming commercial trunk call to another local line, remove the plug of the calling cord from the jack of the local line with which it is connected and proceed as in the case of a new incoming commercial trunk call. To avoid cutting off the calling party where a dial trunk is involved, be sure that the talking key of the cord pair used to establish the connection is operated to the talking position until the calling cord has been plugged into the jack of the desired line.

23. Flashing to Recall Commercial Operator

The trunk circuits of some Army administrative switchboards are equipped with flashbacks or recall keys. In such cases, these keys

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should be used to operate the cord supervisory signals on trunk connections in order to recall the commercial telephone operator. Where these keys are not provided, the commercial telephone operator may be recalled by removing and reinserting, about twice each second, the plug of the cord connected with the trunk, pausing frequently to listen for an answer by the commercial telephone operator.

24. Taking Down Connections

To make the equipment available for other calls, connections should be taken down promptly upon receipt of disconnect signals. However, be sure "time and charges" are obtained in the case of long distance calls, whenever required.

25. Directory Service

At each administrative telephone switchboard, up-to-date information should be maintained on personnel and units served by that switchboard and their telephone numbers. Each operator should have access to this information himself or be able to connect calling parties through to an operator who can give information service.

a. In handling a call for a local line that is not placed by number, try to obtain the number and complete the connection. While completing such a call, inform the calling party of the correct number, saying for example, "Major Norman's number is 254."

b. Local practices should be prescribed as needed to discourage local line users from asking the information operator for numbers they could obtain from a published directory.

26. Calls for Nonworking Local Lines

Such calls should be intercepted and answered by an operator having available whatever information may be given out about the number called.

a. If the person or unit formerly served by that number is now served by another number, the new number ordinarily may be given to the calling party.

b. If the only information available that can be given out regarding the number called is that it has been disconnected, say, "That number has been disconnected." If the calling party then gives the name of the person or unit he wishes to reach, give him directory service.

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SECTION III

OPERATING TECHNIQUES

27. Technique of Handling Cords

a. When inserting or removing cords, always grasp the shell of the plug, never the cord itself. This reduces wear and helps to prevent cord troubles. Develop the habit of grasping the plug between the thumb and the index finger. This helps guide the plug into the jack and permits the withdrawal of the plug without disturbing other connections.

b. When advancing a plug toward a jack, hold the plug in a diagonal position, pointed downward and toward the jack. This makes it possible to watch the tip of the plug enter the jack and there is less likelihood of plugging into the wrong jack. To determine whether or not a line is busy, touch the rim of the jack with the tip of the cord plug. If a click is heard in the headset as this contact is made, the line is busy and the calling party should be so informed. If no click is heard, turn the plug so that it enters straight into the jack and seat it firmly.

c. In tracing cords, use the hand as well as the eyes. The best method is to slacken and tighten the cord a little, making sure it is the one wanted by watching the movement of the cord. This avoids cut-offs resulting from disconnection of the wrong cord. On some Army switchboards, cords of different colors provide a visual aid in tracing cords.

28. Rotation of Cords

Ordinarily, use the cord pairs in rotation from left to right. This facilitates supervision of connections and helps reduce maintenance by giving each cord the same amount of use. After reaching the end of the row of cords, begin again at the left. A cord pair which was used on a connection that has been taken down should not be used again until it is reached in rotation. The first two cord pairs on the left of the position may be reserved for emergency calls, if locally specified. On multiposition installations, the first and last two pairs of cords on each position may be reserved for long reaches to the left and right, and for cord passing.

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29. Key Sleeves

a. Three or four key sleeves or collars may be provided at each position to help keep track of calls. These should be slipped over the keys associated with the cord circuits to be used next in rotation. Move a sleeve only when the called party on that cord pair has answered the telephone, or when the call is abandoned. Then place the sleeve over the key for the next idle cord pair which has no sleeve. The use of sleeves in this manner will help the operator to—

(1) Determine whether the called party has answered.

(2) Give supplementary rings, progress reports, and other aids in completing the call.

(3) Determine which lighted supervisory lamps mean uncompleted calls, and which supervisory lamps mean calls on which the conversation is finished.

(4) Handle several calls simultaneously, each in a different stage of progress.

b. The switchboard may be equipped with two-color sleeves. In this case, whenever it is necessary to ring a party line in a manner other than that used for direct lines, the operator will invert the sleeve bringing the other color to the top. The operator may be instructed to use these colored sleeves to indicate other unusual conditions at his switchboard in accordance with local instructions.

30. Passing of Cords

On multiposition switchboards, passing of cords should be practiced. Two cord pairs on the extreme left and two cord pairs on the extreme right of each position should be reserved for passing. The remaining cords are used as outlined in paragraph 28.

a. Passing of cords requires close cooperation and coordination between adjacent operators, but when used properly it speeds service and helps to distribute the work evenly. It is used, for example, when operator *X* is extremely busy and has line or trunk signals waiting to be answered which operator *Y*, at an adjacent position, cannot reach. In this case, operator *Y* passes operator *X* an answering cord from one of the reserved pairs near operator *X's* position to plug into the jack associated with the waiting signal. Then operator *Y* handles the call as though he himself had plugged into the jack.

b. When operator *Y* receives a disconnect signal on this cord and determines that the connection should be taken down, he slackens and then tightens the cord as a signal to operator *X* to remove the plug from the jack. When operator *X* has identified the plug, it should be checked by operator *Y* slackening and tightening the cord again. Operator *X* should then disconnect the plug.

c. When operator *Y* is too busy to answer a signal, he should signal

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for a passed cord by holding out his hand to operator *X*, near the end of the row of cords on operator *X's* position. It is not advisable for operator *Y* to pick up the cord himself, since operator *X* might not observe the action.

31. One Operator Relieving Another

The relieving operator should stand at the left of the operator to be relieved and insert the plug of his headset cord into the left duplicate operator's jack, if one is provided. The relieving operator should at once give full attention to the work in hand at the position and should obtain from the operator being relieved any necessary information so that he may assume entire charge of all calls under way at the time. The operator being relieved will remove the plug of his headset cord and get off at the right side of his chair. The relieving operator will get on the chair at the left side and make the operating at the position continuous by proceeding at once with the work in hand. As soon as it can be done without interfering with the work in hand, the plug of the operator's headset cord should be shifted to the right duplicate operator's jack.

32. Adjustment of Telephone Sets

a. The transmitter should be adjusted so that the mouthpiece is directly in front of the mouth and the lips are about ½ inch from the mouthpiece. The operator should speak softly and directly into the transmitter. The transmitter mouthpiece should not be turned to one side; it should be kept in the proper position.

b. Both the transmitter and the receiver should be adjusted so that they are held firmly in position for talking and hearing readily. It should not be necessary to hold either one with the hand.

c. The receiver should be retained at the ear continuously while an operator is at the switchboard. The receiver may be changed from one ear to the other at the end of an hour if desirable.

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