

UPKEEP WORK UNITS
CENTRAL OFFICE EQUIPMENT — LOCAL MANUAL
FORM E-4401

1. GENERAL

1.01 This section covers a description of the method of counting and reporting equipment items for Local Manual Central Offices using Form E-4401 for the purpose of developing the number of work units for this class of equipment. The detailed inventory applies to No. 1 type manual offices except as indicated. Total work units for No. 8, 9, 10, or 12 (local and toll) and magneto type offices are counted under switchboard positions.

1.02 This section is reissued to renumber it into the Plant Series and to cover a revised Form E-4401 (5-64) which refers to the new Plant Series number. The revised form will not be available until present stock of Form E-4401 (2-63) is exhausted. Marginal arrows have been omitted in this process.

1.03 Section 015-100-010 covers general instructions applicable to all upkeep work unit forms. Section 015-000-000 contains a list of the sections describing the individual forms.

2. DESCRIPTION OF FORM E-4401

2.01 *Plant Item:* This column provides designations of the plant items for this class of equipment.

2.02 *Column A: Number of Plant Items:* Enter the number of each kind of plant item maintained in standard working condition. Equipment "maintained in standard working condition" is considered as equipment in regular operation or equipment maintained in a condition satisfactory for immediate operation.

2.03 "A" positions should be counted when they are equipped with answering or multiple answering jacks which are connected to working subscriber lines, provided the positions are maintained in a condition satisfactory for immediate operation.

2.04 "B" positions should be counted when they are equipped with working trunk circuits, provided the positions are maintained in a condition satisfactory for immediate operation.

2.05 Trouble positions and end positions having plugging-up cords or miscellaneous circuits which are connected should be counted if they are maintained in a condition satisfactory for immediate operation.

2.06 Answering, multiple answering, multiple and outgoing trunk multiple jacks should be counted if they are maintained in standard working condition, regardless of whether the positions in which they are located are counted.

2.07 All operators' telephone sets maintained in a condition satisfactory for immediate operation should be counted.

2.08 When the plant item is designated as "per 100", enter the total number of items and point off two decimal places. For instance, enter 4158 message registers as 41.58.

2.09 *Column B: W.U. per Plant Item:* This column provides for each kind of plant item a factor which, when applied to the number of plant items in Column A, gives the number of work units.

2.10 *Column C: Work Units per Qtr.:* Enter for each kind of plant item the result obtained by multiplying the number of plant items in Column A by the factor in Column B. Extend the entries to the nearest whole number.

Subscriber Line Circuit Equipment

2.11 *Line 1: Line Circuits:* Covers subscriber line circuits, excluding associated answering jacks (see Line 2), multiple jacks (see Line 3), long line supervisory circuits (see Line 4), and message registers (see Line 5).

Count one plant item for each 100 line circuits.

2.12 Line 2: Jacks: Ans. and Mult. Ans.: Covers answering and multiple answering jacks.

Count one plant item for each 100 jacks.

2.13 Line 3: Jacks: Multiple: Covers subscriber multiple jacks in No. 1 and No. 10 type offices. It covers all multiple jacks located in "B" positions and all multiple jacks above those numbered 0 to 1599 located on "A" and No. 10 toll positions. Omit units for jacks numbered 0 to 1599 located in "A" and No. 10 toll positions.

Count one plant item for each 100 jacks.

2.14 Line 4: Long Line Supervisory Circuit: Covers auxiliary equipment on subscriber line circuits, PBX trunk circuits, and outgoing interoffice trunk circuits for the purpose of improving signaling and supervision.

Count one plant item for each circuit.

2.15 Line 5: Message Registers: Covers subscriber line message registers, not including traffic registers.

Count one plant item for each 100 message registers.

Outgoing Trunk Equipment

2.16 Line 8: O.G.T. Multiple: Jacks: Covers outgoing trunk multiple jacks.

Count one plant item for each 100 jacks.

2.17 Line 9: O.G.T. Multiple: Add. For: Idle Trk. Ind.: Covers equipment and wiring for providing idle trunk indicating in connection with outgoing trunk circuits.

Count one plant item for each 100 outgoing trunk multiple jacks so equipped in addition to the entry on Line 8 for the jacks. Idle trunk indicating equipment should not be counted on Line 9 if it is included in the count of idle trunk and position indicating equipment on Line 10.

2.18 Line 10: O.G.T. Multiple: Add. For: Idle Trunk and Pos. Indicating: Covers equipment and wiring for providing idle trunk and position indicating in connection with outgoing trunk circuits.

Count one plant item for each 100 outgoing trunk multiple jacks so equipped in addition to the entry on Line 8 for the jacks.

2.19 Line 11: Outgoing Dial Trunk: Covers outgoing trunk circuits arranged to transmit dial pulses to dial system offices from dials located at manual switchboard positions.

Count one plant item for each trunk circuit.

2.20 Line 12: Trk. Group. Sel. and Out. Trk.: Covers trunk grouping selector and outgoing trunk circuits to local manual offices, tandem offices, crossbar toll, or step-by-step "B" switchboards.

Count one plant item for each trunk circuit.

Incoming Trunk Circuits

2.21 Line 15: "B" Switchboard: Manual or Machine Ringing: Covers all manual and machine ringing "B" switchboard incoming trunk circuits (including tandem completing trunks) not listed separately on Lines 16 through 22.

Count one plant item for each trunk circuit.

2.22 Line 16: "B" Switchboard: Toll Switching: Covers toll switching trunk circuits or toll completing trunk circuits incoming to "B" switchboards.

Count one plant item for each trunk circuit.

2.23 Line 17: "B" Switchboard: Panel Call Indicator: Covers "B" switchboard incoming trunk circuits arranged for panel call indicator operation, including such trunks operated on a temporary straightforward basis, and also call indicator trunks on automatic display "B" positions. Does not cover control circuits (see Lines 41 and 42).

Count one plant item for each trunk circuit.

2.24 Line 18: "B" Switchboard: Step-by-Step Call Indicator: Covers "B" switchboard incoming trunk circuits arranged for step-by-step call indicator operation, including such trunks operated on a call circuit basis. Does not cover recorder circuits (see Line 43).

Count one plant item for each trunk circuit.

2.25 Line 19: "B" Switchboard: Tandem: Covers "B" switchboard incoming trunk circuits used in connection with tandem operation on through calls.

Count one plant item for each trunk circuit.

2.26 Line 20: "B" Switchboard: Addl.: 4-Party Sel. Ringing: Covers additional equipment required to provide 4-party selective ringing on "B" switchboard incoming trunk circuits.

Count one plant item for each trunk circuit so equipped, in addition to the entry on Line 15, 16, 17, or 18 for the trunk circuit.

2.27 Line 21: "B" Switchboard: Addl.: Straightforward: Covers additional equipment required to provide straightforward operation on "B" switchboard incoming trunk circuits.

Count one plant item for each trunk circuit so equipped, in addition to the entry on Line 15, 16, or 19 for the trunk circuit.

2.28 Line 22: "B" Switchboard: Addl.: Call Announcement: Covers additional equipment required to provide call announcement operation on "B" switchboard incoming trunk circuits.

Count one plant item for each trunk circuit so equipped, in addition to the entry on Line 15 for the trunk circuit.

2.29 Line 23: Ringdown: Covers the inward end of ringdown trunks whether coming from other offices or from other switchboard positions or desks in the same office.

Count one plant item for each trunk circuit.

2.30 Line 24: No. 3 or No. 4 Information: Covers incoming trunk circuits to No. 3 or No. 4 information desks.

Count one plant item for each trunk circuit.

Cord Circuits — "A" Switchboard

2.31 Line 27: Manual Ringing: Hoefler Combination: Covers a type of cord circuit which provides special coin detector and measured service. Covers the cord circuits complete,

including coin collect, 4-party ringing, and the other features common to this type of circuit.

Count one plant item for each cord circuit. Do not record special features on Lines 30 through 33.

2.32 Line 28: Manual Ringing: Rural: Covers rural cord circuits on "A" switchboard positions.

Count one plant item for each cord circuit.

2.33 Line 29: Manual Ringing: Other: Covers all manual ringing "A" switchboard cord circuits except Hoefler combination and rural circuits (see Lines 27 and 28).

Count one plant item for each cord circuit.

2.34 Line 30: Manual Ringing: Addl.: 4-Party Sel. Ring.: Covers additional equipment required in cases where "A" cord circuits are equipped with 4-party selective ringing keys on each cord circuit. Does not cover cases where 4-party selective service is given by use of a master key at each position.

Count one plant item for each cord circuit so equipped, in addition to the entry on Line 29 for the cord circuit.

2.35 Line 31: Manual Ringing: Addl.: Coin Control: Covers additional equipment required in connection with "A" switchboard cord circuits for coin control operation.

Count one plant item for each cord circuit so equipped, in addition to the entry on Line 29 for the cord circuit.

2.36 Line 32: Manual Ringing: Addl.: Full or Semi-Univ.: Covers additional equipment required in connection with "A" switchboard cord circuits arranged for use with either toll, magneto, or common battery lines on one or both cords of a pair.

Count one plant item for each cord circuit so equipped, in addition to the entry on Line 29 for the cord circuit.

2.37 Line 33: Manual Ringing: Addl.: Flashing Recall: Covers additional equipment required to provide the flashing recall feature

on "A" switchboard cord circuits.

Count one plant item for each cord circuit so equipped, in addition to the entry on Line 29 for the cord circuit.

2.38 Line 34: Mach. Ring. (No. 11 or 1-C Subd.): Covers cord circuits on No. 11 or No. 1-C "A" switchboard positions arranged for machine ringing and other special features.

Count one plant item for each cord circuit. Do not record special features on Lines 30 through 33. "A" cord circuits on No. 11 or No. 1-C switchboards arranged for manual ringing should be entered on Line 29, and entries should be made on Lines 30 through 33 for special features on these circuits.

Key Indicator Equipment

2.39 Line 37: Key Indicator: Trunk: Covers outgoing trunk circuits arranged for key indicator operation, excluding jacks (see Line 8).

Count one plant item for each trunk.

2.40 Line 38: Key Indicator: Link: Covers key indicator link circuits, which consist of trunk finders, position finders, and sender selectors.

Count one plant item for each link.

2.41 Line 39: Key Indicator: Sender: Covers key indicator sender circuits.

Count one plant item for each sender.

Call Indicator Equipment

2.42 Line 41: Panel: Key Display Control Ckt.: Covers key display panel call indicator control circuits, including emergency control circuits.

Count one plant item for each control circuit.

2.43 Line 42: Panel: Auto. Display Eqpt.: Covers trunk finder, splitting key, position control, and recorder circuits associated with automatic display panel call indicator positions. Does not cover the trunk circuits (see Line 17).

Count one plant item for each automatic display panel call indicator position.

2.44 Line 43: Step-by-Step Recorder Circuit:

Covers recorder circuits associated with step-by-step call indicator positions. Does not cover the trunk circuits (see Line 18).

Count one plant item for each circuit.

Positions

2.45 Line 46: "A" or "B": Covers the position equipment of "A" and "B" switchboard positions, such as operators' telephone circuits, busy-back circuits, auxiliary circuits, etc, not covered in other items.

Count one plant item for each position.

Note: Where "B" positions with incoming trunk circuits from either dial or manual offices have been installed in a No. 9, 10, or 12 type office, the number of plant items in service should be entered on the lines provided for this type of equipment, such as:

Lines 15 through 22 — Incoming Trunks.

Lines 41 through 43 — Call Indicator Equipment.

Line 46 — "B" Switchboard Positions.

Line 60 — Operators' Telephone Sets used on "B" Positions.

Exclude "B" positions from count of positions on Line 48.

2.46 Line 47: Service Obs., Inf., or Time Ann.:

Covers the position equipment of Nos. 7, 9, 11, and central service observing desks; Nos. 3 and 4 information desks; and time announcement desks. Does not cover trunk circuits associated with service observing and Nos. 3 and 4 information desks (see Lines 24, 64, and 65), information desk position equipment of other than Nos. 3 and 4 type desks (see Line 50), or amplifiers associated with time announcement desks (see Line 63).

Count one plant item for each position.

2.47 Line 48: No. 8, 9, 10 or 12: Covers Nos. 8,

9, 10, and 12 common battery switchboard positions, both local and toll. Includes all local central office equipment in the offices in which these positions are located, including power equipment. Does not include 130-volt batteries and associated charging equipment, portable emergency engine generator sets, and other

power equipment not required for the operation of these type offices which should be inventoried on Form E-4410. Central office circuit equipment is excluded and should be inventoried on Forms E-4407A and B.

Count one plant item for each position.

2.48 Line 49: Magneto: Covers all types of magneto switchboard positions, both local and toll. Includes all central office equipment in magneto offices, including power equipment except 130-volt batteries and associated charging equipment, portable emergency engine generator sets, and other power equipment not required for the operation of this type office which should be inventoried on Form E-4410. Central office circuit equipment is excluded and should be entered on Forms E-4407A and B.

Count one plant item for each position.

2.49 Line 50: Miscellaneous: Covers miscellaneous switchboard positions and desks not provided for in other items, such as trouble operator positions, information desk positions (other than Nos. 3 and 4, see Line 47), multiple marking positions, school board positions, test desks, repair clerks' desks, chief operators' desks, supervisors' turrets or stands, etc.

Count one plant item for each position.

2.50 Line 51: Addl.: Dial: Covers dials mounted on switchboard positions and desks.

Count one plant item for each dial, in addition to the entries on Lines 46, 47, and 50 for the position or desk.

2.51 Line 52: Addl.: Pos. Register: Covers electrically operated position peg count registers and associated keys.

Count one plant item for each register, in addition to the entry on Line 46 for the position.

2.52 Line 53: Addl.: "B" Pos. Ind.: Covers equipment for providing idle position indicating in connection with "B" switchboard positions.

Count one plant item for each position so equipped, in addition to the entry on Line 46 for the position.

2.53 Line 54: Addl.: Key Ind. Eqpt.: Covers additional equipment required on "A" switchboard positions equipped for key indicator operation.

Count one plant item for each position so equipped, in addition to the entry on Line 46 for the position.

Miscellaneous Equipment

2.54 Line 60: Operator's Telephone Set: Covers operators' telephone sets.

Count one plant item for each set.

2.55 Line 61: Clock: Covers 1A, wall, and master clocks. Does not cover Telechron, Western Union, or similar clocks requiring little if any maintenance effort.

Count one plant item for each clock.

2.56 Line 62: Long Line PBX Extension Ckt.: Covers all types of long line PBX extension circuits.

Count one plant item for each circuit.

2.57 Line 63: Time Ann. Equipment: Covers all time announcement equipment except the desk equipment (see Line 47).

Count one plant item for each amplifier.

2.58 Line 64: Central Service Observing Ckt.: Covers central service observing circuits used in connection with service observing line circuits to central office service observing desks.

Count one plant item for each circuit.

2.59 Line 65: Service Observing Line Circuit: Covers service observing line circuits to all type service observing desks.

Count one plant item for each circuit.

2.60 Lines 68, 69, 70, 71: Trunks: Covers routine transmission testing of interoffice trunks using outside plant and having one or both terminals in a Class 5 office.

Note: A Class 5 office is an "end office" where subscribers' lines terminate.

Count one plant item for each 1-way outgoing trunk and count one plant item for each controlled 2-way trunk and include on the line

SECTION 015-201-010

appropriate for the type of facilities. (Exclude trunks included on Form E-4417.)

2.61 Line 72: Miscellaneous Bay: Covers relay racks mounting miscellaneous circuits, such as test circuits, plugging-up circuits, alarm circuits, and other miscellaneous circuit equipment which is not specifically inventoried on this form or on other work unit forms.

Count one plant item for each full bay of miscellaneous equipment. Partially equipped bays should be estimated to the nearest quarter bay.

2.62 Line 73: Column D: Number of Frames: Covers (1) the number of bays of central office equipment associated with the plant items inventoried and (2) the number of switchboard positions inventoried.

Enter the total number of bays plus positions. Partially equipped bays should be estimated to the nearest quarter bay.

2.63 Line 73, Column E: Total Work Units: Enter the sum of the amounts on Lines 1 through 72, Column C.

2.64 Line 74: Upkeep Hours on this Equipment Charged to: Enter the subaccount to which upkeep hours for repairs of equipment on this form are charged. Use one sheet for each subaccount.

2.65 City-Office, District, Division, Company-Area, Qtr. Ending: Complete form by filling in office, district, division, company, and area. In quarter ending, show either March 31, June 30, September 30, or December 31, and the year.

UPKEEP WORK UNITS
CENTRAL OFFICE EQUIPMENT - LOCAL MANUAL

PLANT ITEM		A	B	C	PLANT ITEM		A	B	C	
		NUMBER OF PLANT ITEMS	W.U. PER PLANT ITEM	WORK UNITS PER QTR (A X B)			NUMBER OF PLANT ITEMS	W.U. PER PLANT ITEM	WORK UNITS PER QTR (A X B)	
SUBSCRIBER LINE CIRCUIT EQUIPMENT					KEY INDICATOR EQUIPMENT					
1	LINE CIRCUITS (100)		4.24		37	KEY TRUNK		.92		
2	JACKS ANS. AND MULT. ANS. (100)		1.16		38	INDI-LINK		9.44		
3	MULTIPLE (100)		.08		39	SENDER		8.64		
4	LONG LINE SUPERVISORY CIRCUIT		.08		40					
5	MESSAGE REGISTERS (100)		2.56		CALL INDICATOR EQUIPMENT					
6					41	PANEL KEY DISPLAY CONTROL CKT.		6.12		
7					42	AUTO.DISPLAY EQPT.(POS.)		24.40		
OUTGOING TRUNK EQUIPMENT					43	STEP-BY-STEP RECORDER CIRCUIT		2.20		
8	OGT JACKS (100)		.64		44					
9	MUL-ADD FOR IDLE TRK. IND. (100)		.80		45					
10	TIPLE FOR IDLE TRUNK AND POS. INDICATING (100)		1.36		POSITIONS					
11	OUTGOING DIAL TRUNK		.20		46	"A" OR "B"		1.84		
12	TRK.GROUP.SEL.AND OUT.TRK.(CKT)		.68		47	SERVICE OBS., INF., OR TIME ANN.		12.20		
13					48	NO. 8, 9, 10 OR 12		24.40		
14					49	MAGNETO		15.25		
INCOMING TRUNK CIRCUITS					50	MISCELLANEOUS		6.12		
15	MANUAL OR MACHINE RINGING		.96		51	ADDL. DIAL (DIAL)		1.52		
16	TOLL SWITCHING		.96		52	(NOT ON NO. 8, 9, 10, 12 OR MAGNETO POSITIONS) POS. REGISTER (REG.)		.32		
17	PANEL CALL INDICATOR		1.36		53	"B" POS. IND. (POS.)		3.08		
18	STEP-BY-STEP CALL INDICATOR		1.52		54	KEY IND. EQPT.(POS.)		6.60		
19	TANDEM		.96		55					
20	ADDL. 4 PARTY SEL. RINGING (PER CKT.)		.08		56					
21	STRAIGHTFORWARD		.28		57					
22	CALL ANNOUNCEMENT		.20		58					
23	RINGDOWN		.08		59					
24	NO. 3 OR NO. 4 INFORMATION		.48		MISCELLANEOUS EQUIPMENT					
25					60	OPERATOR'S TELEPHONE SET		1.12		
26					61	CLOCK		.28		
CORD CIRCUITS - "A" SWITCHBOARD					62	LONG LINE PBX EXTENSION CKT.		.08		
27	HOEFER COMBINATION		1.28		63	TIME ANN. EQUIPMENT (AMP.)		6.12		
28	RURAL		.28		64	CENTRAL SERVICE OBSERVING CKT.		2.08		
29	OTHER		.96		65	SERVICE OBSERVING LINE CIRCUIT		.36		
30	ADDL. 4 PARTY SEL. RING. (PER CKT.)		.08		66					
31	(NOT ON HOEFER COMB OR RURAL) COIN CONTROL		.16		67					
32	FULL OR SEMI-UNIV.		.28		68	ALL OR PART CARRIER		.312		
33	FLASHING RECALL		.08		69	V TYPE REPEATERED		.156		
34	MACH.RING.(NO.11 OR 1-C SWBD.)		1.32		70	E TYPE REPEATERED		.104		
35					71	NON REPEATERED		.052		
36					72	MISCELLANEOUS BAY		22.00		
73	NUMBER OF FRAMES (BAYS + POSITIONS)			D	TOTAL WORK UNITS(SUM OF LINES 1 THRU 72)			E		
74	UPKEEP HOURS ON THIS EQUIPMENT CHARGED TO			CITY-OFFICE						
	ACCOUNT <input type="text"/>			DISTRICT						
				DIVISION						
				COMPANY-AREA						
				QTR. ENDING						