

ADVANCE PRINTING

AUTOMATIC PROGRESSION TRUNK TEST FRAMES

EQUIPMENT DESIGN REQUIREMENTS

NO. 5 CROSSBAR SYSTEM

1. GENERAL

SCOPE

1.01 This specification, together with the supplementary information listed herein, covers the equipment design requirements for the framework, equipment, and circuits to be used in the engineering, manufacture, and installation of the automatic progression trunk test frame (Fig. 1), supplementary automatic progression trunk test frame (Fig. 4), CAMA automatic progression trunk test frame (Fig. 3), transmission automatic progression trunk test frame (Fig. 2), and associated teletypewriter equipment.

1.02 This specification is reissued:

- (a) To rate list 1 of J23450BA Mfr Disc. and add lists 3, 4, and 5.

1.03 The above changes are in agreement with SD-25938-01, Issues 58D and 59A.

CAPACITY

1.04 The frames are arranged for testing outgoing, intraoffice, intermarker group, intertoll, WADS, line link pulsing, tandem, 4-wire, special 3-digit intercom and centrex-to-centrex intraoffice trunks, and for testing centrex phase II and III trunks associated with a maximum of three marker groups. The testing of coin trunks with timing features is limited to 94 trunks per marker group. With the addition of the CAMA automatic progression trunk test frame, and associated equipment, up to 1000 CAMA incoming trunks or CAMA incoming and CAMA intermarker group trunks may be tested. The Automatic Transmission Measuring System (ATMS) tests all trunks, except those in a 3-Digit Intercom System.

DESCRIPTION

1.05 The automatic progression trunk test frame is a single-bay structure, 2 feet 9-9/16 inches long, arranged for 30-1/2 inch mounting plates. The basic test frame includes connector equipment for one or two marker groups. At the top of the frame are four rows of terminal strips. Below the terminal strips is one plate of timing equipment, followed by a mounting for 206-type selectors and miscellaneous components. Relays and related apparatus occupy the next 23 mounting plate spaces. In the midportion of the frame are a jack, key, and lamp panel, a writing shelf, and pigeonholes. Between the writing shelf and the fuse panel are 15 more plates of relay equipment. The frame is served by a frame local cable containing all wiring, except any leads confined to individual mounting plates that are surface wired.

1.06 The frame and associated equipment provides facilities for the automatic testing of trunks to panel, crossbar, step-by-step, and tandem offices; and intraoffice and intermarker group customer to customer trunks, intertoll, WADS, LLP, 4-wire, and tandem trunks. The sequence of tests made on an individual trunk and the automatic progression from one trunk to another is accomplished by information stored in the form of perforations on teletypewriter tape. The latter is fed through a transmitter distributor which is used to read the tape and to transmit the information to register and steering relays which control the test and progression features. The test circuit has line link frame appearances in each marker group served and is connected to the trunks by means of regular service linkages using the marker for this purpose. When all the tests recorded on a particular tape have been made, a lamp is lighted indicating that a new tape should be substituted or the same tape rerun with different key settings. Repeat tests and particular circuit tests may be made manually without the aid of tape by using a 10-button keyset and other keys, as required.

1.07 The CAMA automatic progression trunk test frame is a single-bay structure, 2 feet 2-1/16 inches long, arranged for 23-inch mounting plates. At the top of the frame is one row of terminal strips for terminating and entering switchboard cables and for setting up certain cross-connections. Below the terminal strip are from one to five trunk switch units followed by a mounting for 206-type selectors. Relays and related apparatus occupy the next lower 13 mounting plate spaces. A frame local cable contains all wiring except leads confined to individual units, which are surface wired or contained in unit local cables.

1.08 The CAMA automatic progression trunk test frame provides facilities for the automatic testing of CAMA incoming trunks or CAMA incoming and CAMA intermarker group trunks. The teletypewriter equipment used by the automatic progression trunk test frame is also used by the CAMA automatic progression trunk test frame, and the same method of testing described for the automatic progression trunk test frame is used.

1.09 The supplementary automatic progression trunk test frame is a single-bay structure, 2 feet 2-1/16 inches long, arranged for 23-inch mounting plates. A fuse panel is mounted at the bottom of the frame. This frame should be provided to mount the various supplementary and auxiliary units of equipment associated with the basic automatic progression trunk test frame. A typical arrangement of equipment mounted on the supplementary automatic progression trunk test frame is shown in Fig. 4.

1.10 The teletypewriter equipment is a standard 28ASR teletypewriter, cabinet mounted, measuring 39 inches in height, 43 inches in width, and 23 inches in depth. Tape winder and tape unwinder equipment are mounted on the cabinet and provided as standard equipment with the teletypewriter. By means of a 10-button keyset, located on the test frame, perforations on a 2-out-of-5 basis are entered on teletypewriter tape for subsequent use in controlling the automatic operation of the test frame. The reperforator is also used to duplicate existing tapes that have become worn or damaged. These are run through the transmitter distributor which, with the COPY key operated, actuates the reperforator to reproduce the perforations on new type.

1.11 The following units of equipment are associated with the automatic progression trunk test

frame. These units are arranged to mount on 23-inch miscellaneous relay racks or may be mounted on the supplementary automatic progression trunk test frame. When adding any of the units to existing automatic progression trunk test frames, the supplementary timing unit must replace timers TM4 to TM10, which are removed from the basic frame in order to acquire additional terminal strip space.

- (a) Auxiliary automatic progression trunk test connector unit permits testing of third marker group. Occupies space of eight 2-inch mounting plates (J23450B).
- (b) Auxiliary intertoll trunk test unit permits testing of intertoll trunks with or without customer access. Occupies the space of four 2-inch mounting plates (J23450D).
- (c) Supplementary timing unit replaces timers TM4 to TM10 to provide space for additional terminal strips on the basic frame. Occupies the space of four 2-inch mounting plates (J23450E).
- (d) Tone detector control unit provides access and control of the tone detector per SD-94800-01. Occupies the space of one 2-inch mounting plate (J23450F).
- (e) WADS control unit provides facilities for testing of WADS trunks and occupies the space of three 2-inch mounting plates (J23450G).
- (f) Printout control unit adapts the test frame for 28-type teletypewriter equipment and provides features for printing out troubles or busys. Occupies the space of six 2-inch mounting plates (J23450H).
- (g) Automatic start timer unit provides for automatically starting the test frame at any time. Occupies the space of three 2-inch mounting plates (J23450J).
- (h) Line link pulsing trunk test unit provides for the testing of line link pulsing trunks. Occupies the space of seven 2-inch mounting plates (J23450N, A&M Only).
- (i) Centrex trunk test unit provides for the testing of centrex phase II and III trunks. Occupies the space of three 2-inch mounting plates (J23450Q).

- (j) Trunk number unit provides program selection of terminating test line number and traffic assigned trunk number printout. Occupies the space of five 2-inch mounting plates (J23450R).
- (k) Tandem trunk test unit provides facilities for testing tandem trunks. Occupies space of two 2-inch mounting plates (J23450U).
- (l) Tape to page copy unit provides start and stop copy marks. Occupies space of one 2-inch mounting plate (J23450W).
- (m) Busy retest tape simplification unit provides facilities for busy retest tape simplification for operational test and program selection of marker group. Occupies the space of three 2-inch mounting plates (J23450Y).
- (n) Centrex don't answer transfer test unit provides for testing of centrex don't answer transfer trunks. Occupies the space of one 2-inch mounting plate (J23450AA).
- (o) Four-wire trunk test unit provides for testing of 4-wire trunks. Occupies space of four 2-inch mounting plates (J23450AC).
- (p) Program select and detection test unit provides program selection of digit translation marks. Occupies space of six 2-inch mounting plates (J23450AD).
- (q) Trunk glare detection test unit provides testing of multilevel preemption intertoll trunks when arranged for glare detection. Occupies space of one 2-inch mounting plate (J23450AF).
- (r) ROTL control unit provides for trunk testing in another office through the remote office test frame. Occupies the space of eleven 2-inch mounting plates (J23450AH).
- (s) Home office test line test unit provides for testing test lines (terminated on the line link frame) in the same (home) office. Occupies the space of seven 2-inch mounting plates (J23450AM).
- (t) Line link pulsing trunk test unit provides for the testing of line link pulsing trunks. Occupies the space of four 2-inch mounting plates (J23450AN).
- (u) Home office test line test unit converts the J23450N line link pulsing trunk test unit for testing home office test lines. Occupies the space of two 2-inch mounting plates (J23450AP, A&M Only).
- (v) Supplementary 4-wire trunk test unit is required for testing home office test lines in a 4-wire office. It occupies the space of one 2-inch mounting plate (J23450AR).
- (w) APTT supplementary relay unit A is an "always-provided" unit for marker connector relays. It has a 3-marker group capability. It occupies the space of one 2-inch mounting plate (J23450AS).
- (x) The APTT auxiliary remote office control unit is required to provide remote office testing in an office which is equipped with an APTT. It has a 3-marker group capability, occupying the space of one 2-inch mounting plate (J23450AT).
- (y) The class information unit is available to provide marker traffic sampling in offices prior to SD-25938-01, Issue 36D. It is a one-plate relay rack mounted unit (J23450AU, A&M Only).
- (z) The AMA trunk check unit is a one-plate, 3-circuit-per-plate unit required in an office which is equipped with more than 20 AMA recorders.
- (aa) The auxiliary trunk number unit J23450AY is a one-plate unit required to provide up to 4000 trunk numbers in a CAMA office which tests intermarker group trunks.
- (ab) The supplementary Unit B, J23450BA is a single-plate unit always provided in an APTT equipped office per SD-25938-01, Issue 42D and later.
- (ac) The traffic service position unit, J23450BB is a 6-plate unit always required in an APTT equipped office arranged for the Traffic Service Position System feature.
- (ad) Reserved.
- (ae) The automatic restart and retest tape control unit provides the following features: Printout for busy trunk or trunks in trouble,

automatic restart following printout, variable terminating test line number, random trunk selection, improved manual control on particular circuit selection and automatic identification on input of trunks poled opposite to normal. This unit occupies space of 13 2-inch mounting plates (J23450BD) and is rated A&M Only, applicable only to APTT frames manufactured per SD-25938-01 pre Issue 30D.

(af) The manual transmission test unit J23450BE is a 6-plate unit which provides the APTT the ability to establish manual transmission test calls to loop-around or one-way test lines.

(ag) Reserved.

(ah) The trunk trouble printout unit J23450BG is a 2-plate unit which provides for printout of trunks in trouble. This unit is applicable only to frames of post SD-25938-01, Issue 30 vintage.

(ai) The random trunk selection unit J23450BH is a 5-plate unit which provides for random trunk selection and switch control of priming information for frames of post SD-25938-01, Issue 30D.

(aj) The supplementary unit C, J23450BJ, is a 2-plate unit always provided in an APTT equipped office.

1.12 The transmission automatic progression trunk test frame, J23450P, is a single-bay structure 2 feet 2-1/2 inches long, arranged for 23-inch mounting plates. At the top of the frame is one row of terminal strips for terminating and entering switchboard cables and for certain cross-connections. Below the terminal strips are relay units of selected apparatus occupying 14 mounting plate spaces. Immediately below this apparatus is located the ATMS equipment consisting of the ATMS loss and noise deviation register unit (J94051C) occupying the space of three 2-inch mounting plates and the ATMS Director (J94051A) occupying the space of twenty 2-inch mounting plates. A frame fuse panel is provided at the bottom of the frame.

1.13 The transmission automatic progression trunk test frame provides facilities to function with the ATMS when making automatic transmission tests on tandem, intertoll, intraoffice, line link pulsing, and outgoing type trunks. No facilities are provided for making transmission tests on CAMA incoming and CAMA intermarker group trunks.

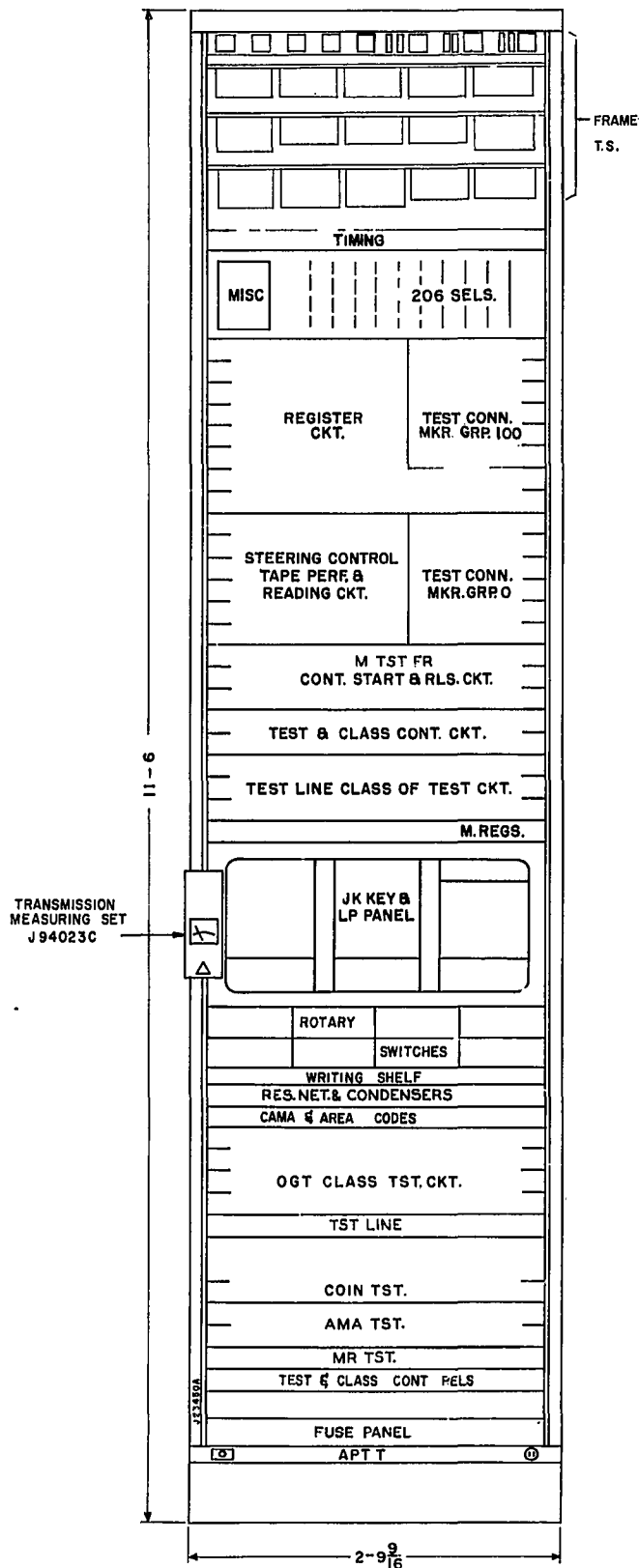


Fig. 1—Automatic Progression Trunk Test Frame—J23450A

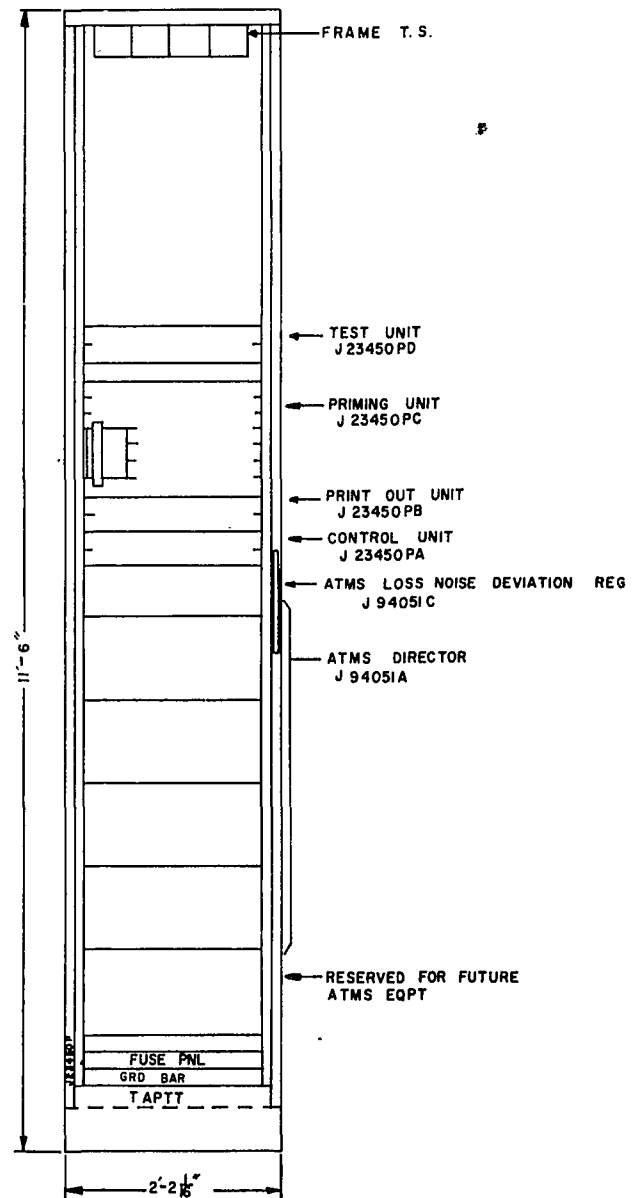


Fig. 2—Transmission Automatic Progression Trunk Test Frame—J23450P

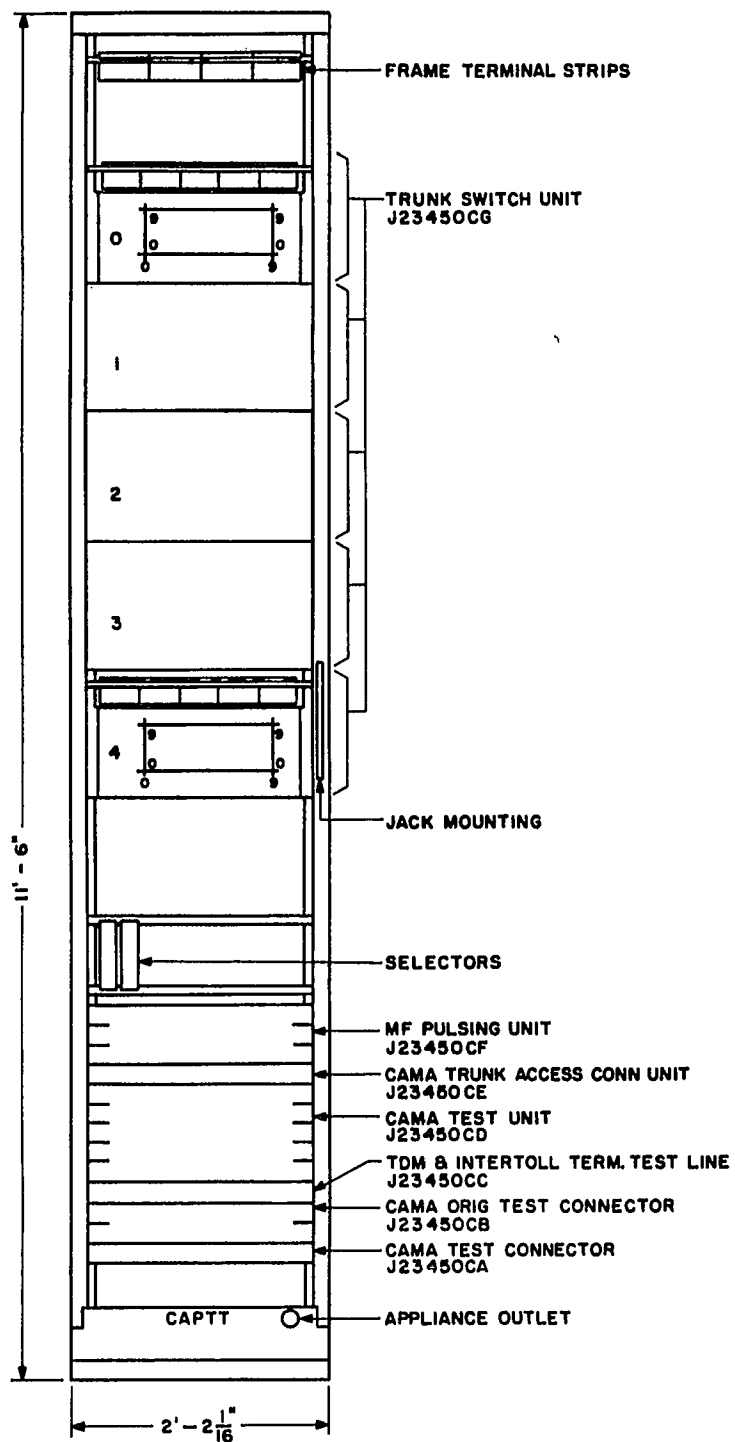


Fig. 3—CAMA Automatic Progression Trunk Test Frame—J23450C

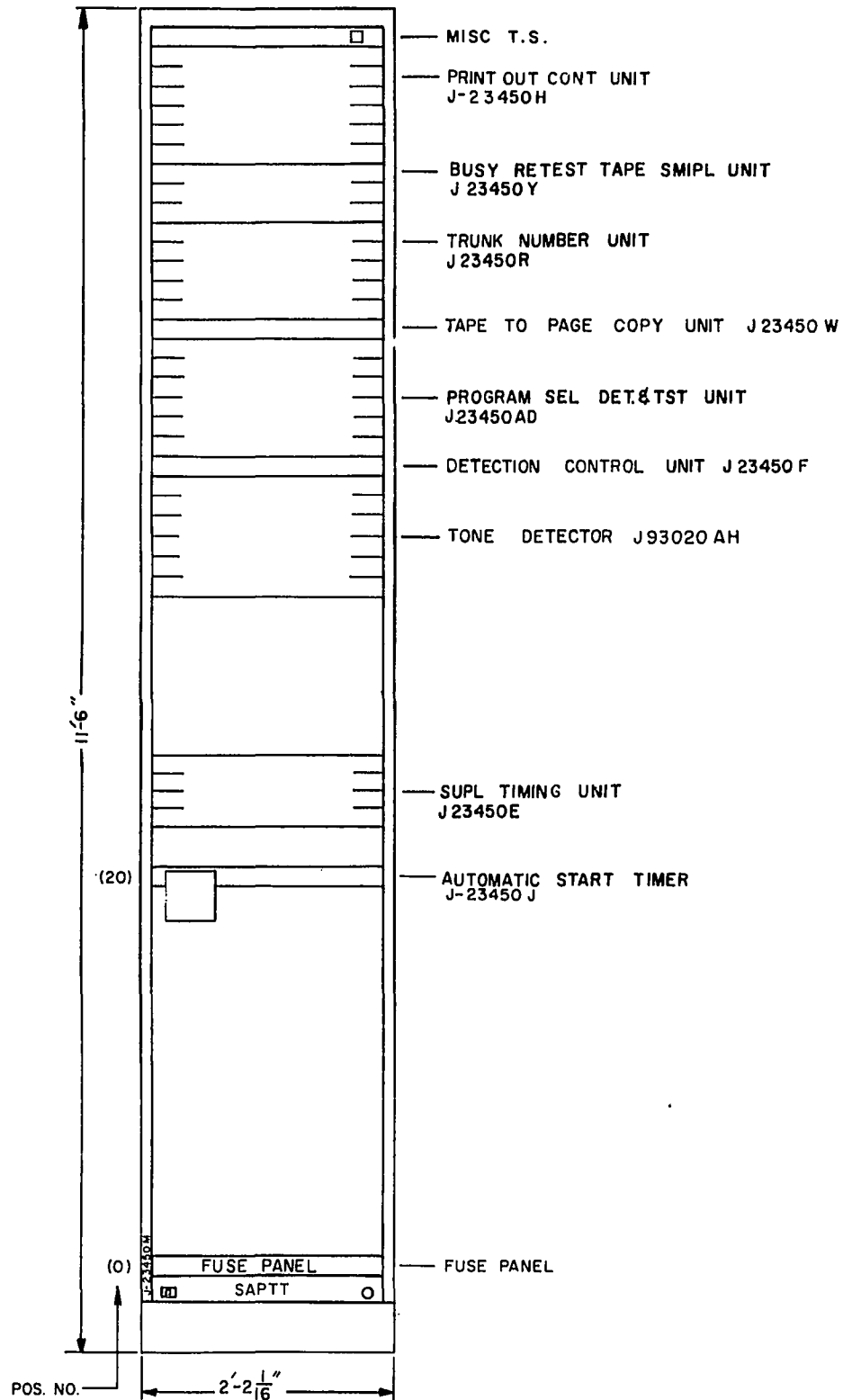


Fig. 4—Supplementary Automatic Progression Trunk Test Frame—J23450M

SUBDIVISIONS OF EQUIPMENT AND DETAILED INDEX

WE J drawings should be ordered by referring to the prefix and base number and requesting the current dash (—) number.

EQUIPMENT CODE	RATING OF UNIT	TITLE	CIRCUIT DRAWING	CKT PER UNIT	MTG PLT PER UNIT
ED-27654-()	AT&TCo Std	28B TTY and Components for APTT Frame	—	—	—
J23450A	AT&TCo Std	Auto. Prog Trk Tst Fr	SD-25938-01	1	—
J23450B	AT&TCo Std	Aux Auto. Prog Trk Tst Conn Unit	SD-25938-01	1	8
J23450C	AT&TCo Std	CAMA Auto. Prog Trk Tst Fr	SD-25938-01	1	—
J23450D	AT&TCo Std	Aux Intertoll Trk Tst Unit	SD-25938-01	1	4
J23450E	AT&TCo Std	Supplementary Timing Unit	SD-25938-01	1	4
J23450F	AT&TCo Std	Detector Control Unit	SD-25938-01	1	1
J23450G	AT&TCo Std	WADS Control Unit	SD-25938-01	1	3
J23450H	AT&TCo Std	Printout Control Unit	SD-25938-01	1	6
J23450J	AT&TCo Std	Automatic Start Timer Unit	SD-25938-01	1	3
J23450M	AT&TCo Std	Supplementary Automatic Progression Trunk Test Frame	—	—	—
J23450N	A&M Only	Line Link Pulsing Trunk Test Unit	SD-25938-01	1	7
J23450P	AT&TCo Std	Trans Auto. Prog Trk Tst Fr	SD-25938-01	1	—
J23450Q	AT&TCo Std	Centrex Trunk Test Unit	SD-25938-01	1	3

EQUIPMENT CODE	RATING OF UNIT	TITLE	CIRCUIT DRAWING	CKT PER UNIT	MTG PLT PER UNIT
J23450R	AT&TCo Std	Trunk Number Unit (Traffic)	SD-25938-01	1	5
J23450S	A&M Only	Centrex Trunk Don't Answer Transfer Test Unit	SD-25938-01	1	2
J23450T	AT&TCo Std	TTY Copy Unit	SD-25938-01	1	1
J23450U	AT&TCo Std	Tandem Trunk Test Unit	SD-25938-01	1	2
J23450W	AT&TCo Std	Tape to Page Copy Unit	SD-25938-01	1	1
J23450Y	AT&TCo Std	Busy Retest Tape Simplification Unit	SD-25938-01	1	3
J23450AA	AT&TCo Std	Centrex Trunk Don't Answer Transfer Test Unit	SD-25938-01	1	1
J23450AC	AT&TCo Std	4-Wire Trunk Test Unit	SD-25938-01	1	4
J23450AD	AT&TCo Std	Program Selection and Detection Test Unit	SD-25938-01	1	6
J23450AE	A&M Only	Supplementary LLP Trunk Test Unit	SD-25938-10	1	2
J23450AF	AT&TCo Std	Trunk Glare Detection Test Unit	SD-25938-01	1	1
J23450AH	AT&TCo Std	ROTL Control Unit	SD-25938-01	1	11
J23450AJ	A&M Only	Aux LLP Trk Tst Unit	SD-25938-01	1	1
J23450AM	AT&TCo Std	Home Office Test Line Test Unit	SD-25938-01	1	6
J23450AN	AT&TCo Std	Line Link Pulsing Trunk Test Unit	SD-25938-01	1	4
J23450AP	A&M Only	Home Office Test Line Test Unit	SD-25938-01	1	1
J23450AR	AT&TCo Std	Supplementary 4-Wire Trunk Test Unit	SD-25938-01	2	1

EQUIPMENT CODE	RATING OF UNIT	TITLE	CIRCUIT DRAWING	CKT PER UNIT	MTG PLT PER UNIT	
J23450AS	AT&TCO Std	APTT Supplementary Relay Unit A	SD-25938-01	3	1	
J23450AT	AT&TCO Std	APTT Auxiliary ROTL Control Unit	SD-25938-01	3	1	
J23450AU	A&M Only	Class Information Unit	SD-25938-01	1	1	
J23450AW	AT&TCO Std	AMA Trunk Check Unit	SD-25938-01	3	1	
J23450AY	AT&TCO Std	Auxiliary Trunk Number Unit	SD-25938-01	1	1	
J23450BA	AT&TCO Std	Supplementary Unit B	SD-25938-01	1	1	
J23450BB	AT&TCO Std	TSP(S) Unit	SD-25938-01	1	6	
J23450BD	A&M Only	Auto. Restart and Retest Tape Cont Unit	SD-25938-01	1	13	
J23450BE	AT&TCO Std	Manual Transmission Test Unit	SD-25938-01	1	6	
J23450BG	AT&TCO Std	Trunk Trouble Printout Unit	SD-25938-01	1	2	
J23450BH	AT&TCO Std	Random Trunk Selection and Priming Unit	SD-25938-01	1	5	
J23450BJ	AT&TCO Std	Supplementary Unit C	SD-25938-01	1	2	
J23450CA	AT&TCO Std	CAMA Test Conn Unit	SD-25938-01	1	1	
J23450CB	AT&TCO Std	CAMA Orig Tst Line Unit	SD-25938-01	1	2	
J23450CC	AT&TCO Std	Tdm & Intertoll Term. Test Line Unit	SD-25938-01	1	1	
J23450CD	AT&TCO Std	CAMA Test Unit	SD-25938-01	1	5	
J23450CE	AT&TCO Std	CAMA Trk Access Conn Unit	SD-25938-01	1	1	

EQUIPMENT CODE	RATING OF UNIT	TITLE	CIRCUIT DRAWING	CKT PER UNIT	MTG PLT PER UNIT
J23450CF	AT&TCo Std	MF Pulsing Unit	SD-25938-01	1	3
J23450CG	AT&TCo Std	Trk Switch Unit	SD-25938-01	1	6-1/2
J23450CH	AT&TCo Std	Supl Trk Switch Unit	SD-25938-01	1	7-1/2
J23450PA	AT&TCo Std	ATMS Control Unit	SD-25938-01	1	2
J23450PB	AT&TCo Std	ATMS Printout Unit	SD-25938-01	1	2
J23450PC	AT&TCo Std	ATMS Priming Unit	SD-25938-01	1	7
J23450PD	AT&TCo Std	ATMS Test Unit	SD-25938-01	1	2
J23450BC	Reserved				
J23450BF	Reserved				

2. SUPPLEMENTARY INFORMATION

819-000-000—Numerical Index—No. 5 Crossbar System—Equipment Design Requirements
 800-600-000—List of General Equipment Requirements Sections
 800-610-153—Gauge and Insulation of Wire
 J20155—819-022-150—Conductor Lengths Between Frames and Units
 J29259—819-005-150—General Outline—No. 5 Crossbar System
 J93020AH—Tone Detector Unit
 J94051C—ATMS Loss and Noise Deviation Register
 J94051A—ATMS Director
 Floor Plan Data—Section 11.1

3. DRAWINGS**Keysheet**

SD-25760-01—No. 5 Crossbar System

Circuits

SD-25574-01—Miscellaneous Circuit for All Frames
 SD-25938-01—Automatic Progression Trunk Test Circuit
 SD-94800-01—Tone Detector
 SD-94820-01—Time Delay Control Circuit
 SD-99746-01—ATMS Director Circuit
 SD-99748-01—ATMS Loss and Noise Deviation Register Circuit

Wiring and Cabling

ED-26958-()—APTT Frame—Switchboard Cabling Details
 ED-27500-()—CAPTT Frame—Switchboard Cabling Plan and Details
 ED-27501-()—CAPTT Frame—Local Cable Plan
 ED-27684-()—TAPTT—Switchboard Cabling Details

4. EQUIPMENT***ED-27654(-)—AT&TCo Std—28B Teletypewriter and Components for APTT Frame***

Equipment—ED-27654(-)

Group 2—Assembly and equipment for one 28B teletypewriter set for automatic progression trunk test frame. (See Notes A, B, C, D, and 5.02.)

Group 3—Assembly, wiring, and equipment required in addition to group 2 when 28 receive-only typing reperforator set (second reperforator) is provided per SD-25938-01, Fig. 60, UH option. (See Note E.)

Notes

A. Group 2 includes the following teletypewriter equipment and associated apparatus.

One—28B Teletypewriter Set

One—5C Tape Winder

One—TP-193950 Copy Display Rod

One—1A45 Paper Winder

One—TU2 Tape Unwinder Western Apparatus Products Victor Comptometer Corp., 3900 N. Rockwell Avenue, Chicago, Illinois

Two—314A Relay

One—Cord, Power KS-14532, L13, 10 ft or equivalent (See Note D.)

One—Assembly, equipment, and wiring for one Remote Key Panel per SD-25938-01, Fig. 58

One—TTY Copy Unit J23450T

B. Wiring to the teletypewriter set is terminated on the C terminal strip located inside the teletypewriter cabinet.

C. The 115-volt ac supply for the teletypewriter equipment does not require connection to the battery-operated emergency ac power plant.

D. A 5262 Harvey Hubbell duplex wall receptacle, or equivalent, should be located approximately 30 inches above the floor and a maximum of 2 feet from the right side of the TTY cabinet.

E. This assembly is mounted in the 28ASR teletypewriter cabinet.

J23450A—AT&TCo Std—Automatic Progression Trunk Test Frame

Equipment—J23450A(-)

List 1—Framework, assembly, wiring, and common equipment for one trunk test frame wired for two marker groups and equipped for one marker group. (See Note 5.02.)

	WIRE	EQUIP	NOTES
Framework, ED-26524-01:			
G3		1	
J, Key & Lp Panel, ED-26150-01:			
G3		1	
J Mounting, ED-26567-01:			
G3		1	
Pigeonholes & Writing Shelf, ED-26032-01:			
G1		1	
Fuse Panel, ED-25799-01:			
G2			1
Misc Ckt, SD-25574-01:			
Fig. 3, & ZK Option, 4, 10, 13, 15, 16, 17, 64, 76	1	1	
Automatic Progression Trunk Test Ckt, SD-25938-01:			
Master Tst Fr Cont, Start & Rls Ckt & Tst Ckt Cont Rels, Fig. 1	1	1	G
Steering Cont, Tape Perf & Reading Ckt, Fig. 2, Less V and YE Options	1	1	
Test and Class Cont Ckt Fig. 3 and WT, VB, VI Options, and Fig. 3 and 31 Less E and F and ZK App	1	1	

	WIRE	EQUIP	NOTES		WIRE	EQUIP	NOTES
Register Ckt, Fig. 4 and J, Less J, M, V, X, and YE Options	1	1		Remote Office Tst Line Fig. 69, Lamps Only		1	1
Test Conn Ckt, Fig. 6 Less J, M, R, UN, VE, TG, Z Options	2	1		Glare Det Tst Fig. 72, Lamps Only		1	1
Test Line Class-of-Tests Ckt, Fig. 7	1	1		28 Receiver-Only Teletypewriter Set (Remote Typing Unit) App Fig. 2, UF Option		1	
Timing Ckts, Fig. 34 and VX Option	1	1		28 Receive-Only Typing Reperforator Set			
Originating Test Line, Fig. 11	1	1		(Second Reperforator) App Fig. 2, UH Option		1	
OGT Class-of-Tests Ckt, Fig. 13, Less E, F, Z, & ZO Options	1			Combined Milliwatt Balance Termination Testline Fig. 51, TH Option (Lamp Only)	1	1	
Coin Test Ckts, Fig. 19, H & G Each, Less ZO Option		1					
MR Test Ckts, Fig. 16, D & E Each, Less ZK Option		1					
AMA Test Ckt, Fig. 14		1					
AMA Rcdr Lps, Fig. 12		20	20	<i>List 2</i> —Equipment per SD-25938-01, Fig. 6, less J, M, Z, UN, VE, TG, and options; Fig. B and Fig. 6, R option only and Fig. B, XI option required in addition to list 1 to arrange test frame to serve second marker group. (See Note C.)			
AMA Rcdr Lps, Fig. 12 RM Option		10	0	<i>List 3</i> —Apparatus per SD-25938-01, Fig. 20, XI option, and apparatus per SD-25574-01, Fig. 17, required in addition to list 1 and 2 when test frame is equipped to serve a third marker group. (See Note D.)			
Mkr Selector Ckt, Fig. 8, WP Option		12		<i>List 4</i> —A&M Only—Apparatus per SD-25938-01, Fig. 8, WO option required in addition to list 1 for each combined or completing marker. (See Note E.)			
Mkr Grp Selector Ckts, Fig. 20, A & B				<i>List 5</i> —Apparatus per SD-25938-01, Fig. 4 and 6, J apparatus required in addition to list 1 to arrange test frame serving one marker group for 2-digit office codes. (See Note AH and AI.)			
Less ZO Option		1		<i>List 6</i> —Apparatus per SD-25938-01, Fig. 6, J apparatus required in addition to list 1 and 2 to arrange test connector for second marker group for 2-digit office codes. (See Notes AH and AI.)			
Coin Timing, Fig. 21		1		<i>List 7</i> —Apparatus per SD-25938-01, Fig. 4 and 6, M apparatus required in addition to list 1 to arrange test frame serving one marker group for 3-digit office codes.			
MR Timing, Fig. 22		1		<i>List 8</i> —Apparatus per SD-25938-01, Fig. 6, M apparatus required in addition to list 1 and 2 to arrange test connector serving			
Pulse Repeater, Fig. 23		1					
Rate Treatment Steering Cont & Register							
Replay Ckt, Fig. 30		1	0				
IT Trk Tst Ckt, Fig. 32, Lamps Only		1	1				
Printout Control Unit, Fig. 36, Lamps and Keys Only, XZ Option		1	1				
WADS Control, Fig. 40, Lamps and Keys Only		1	1				
Program Selection and Detection Tst Ckt, Fig. 48, Lamps Only		1	1				
Fig. 68, Key and Lamp Only		1	1				
4W & MLP Trk Tst Ckt Fig. 63, 66 Lamps & Keys Only		1	0				
Transmission Test Ckt Fig. 46 & WR Option							
Lamps & Keys Only		1	0				

second marker group for 3-digit codes.

List 9—Apparatus per SD-25938-01, Fig. 2 and 4, V apparatus required in addition to list 1 to arrange test frame for foreign area code 11 in any marker group or when more than one terminating test line number is required. (See Note H.)

List 10—Apparatus per SD-25938-01, Fig. 4, X apparatus required in addition to list 1 to arrange test frame for two route advances..

List 11—Equipment per SD-25938-01, Fig. 19 required in addition to list 1 to arrange frame for testing coin trunks. (See Notes J and K.)

List 12—Equipment per SD-25938-01, Fig. H and 21 and Fig. 3, 13, 19, 20, 35, A, B, and ZO option required in addition to list 11 for coin timing.

List 13—Equipment per SD-25938-01, Fig. 3 and 13, E option, required in addition to list 1 for testing flat rate and/or ANI trunks.

List 15—Equipment per SD-25938-01, Fig. D and 22 and Fig. 3, 13, 16, 20, A, required in addition to list 14 for message register timing.

List 16—Equipment per SD-25938-01, Fig. 14 and Fig. 3, 6, and 13, Z option and Fig. 3, 4, 14, and 34, ZQ option required in addition to list 1 to arrange the test frame serving one marker group for testing AMA and/or CAMA trunks.

List 17—Apparatus per SD-25938-01, Fig. 6, Z apparatus required in addition to list 1 and 2 to arrange test connector for second marker group for testing AMA trunks.

List 18—A&M Only—Equipment per SD-25938-01, Fig. 15 required in addition to list 1 and 16 for first recorder.

List 19—A&M Only—Equipment per SD-25938-01, Fig. 12, ZL option required in addition to list 1, 16, and 18 for each intermediate and last recorder.

List 20—Equipment per SD-25938-01, Fig. 23 required in addition to list 1 for coin and message register timing.

List 21—Equipment per SD-25938-01, Fig. 3, ZN option required in addition to list 1 when CAMA testing and/or area codes are provided. (See Note W.)

List 22—Equipment per SD-25938-01, Fig. 2 and RT option required in addition to list 1 and 21 when CAMA intermarker group trunks are tested.

List 23—Reserved.

List 25—Equipment per SD-25938-01, Fig. 30 required in addition to list 1 to arrange test frame to test marker groups arranged for rate treatment. (See Note X.)

List 27—Equipment and wiring per SD-25938-01, F option required in addition to list 1 to arrange the test frame for testing message register trunks. (See Note K.)

List 28—A&M Only—Equipment per SD-25938-01, XJ option required in addition to list 1 to arrange the test frame to test message register trunks and/or CAMA trunks.

List 29—Wiring and equipment per SD-25938-01, XM option required in addition to list 1 when the test frame serves a marker group equipped with more than 1000 trunk numbers.

List 30—Wiring and equipment per SD-25938-01, XF option required in addition to list 1 for testing ANI outgoing trunks when the office is not equipped with LAMA.

List 31—A&M Only—Wiring and equipment required in addition to list 1 when three terminating test line numbers are provided per SD-25938-01, Fig. 3, XR option.

List 32—Equipment and wiring required in addition to list 1 when frame is arranged for transmission testing (ATMS) per SD-25938-01, Fig. 46 and WR option.

List 33—AT&TCO Special—Wiring and equipment per SD-25938-01, Fig. 62 and VS option required in addition to list 1 for testing trunks in 3-Digit Intercommunications Systems. (See Note AK.)

List 34—Wiring and equipment per SD-25938-01, UN option required in addition to list 1 for each marker group arranged for transmission testing (ATMS).

List 35—Equipment and wiring per SD-25938-01, Fig. 6, VE option required in addition to list 1 and 2 when tandem trunks are to be tested.

List 36—Equipment and wiring per SD-25938-01, Fig. 6, TG option required in addition to list 1 and 2 when first or second marker group is arranged for transmission testing (ATMS).

List 37—Equipment and wiring per SD-25938-01, Fig. 61, PO selector and network only required in addition to list 1 to provide for product tape simplification.

List 38—Wiring, lamp, and key required when 4-wire trunk testing is provided per

SD-25938-01, Fig. 66.

List 40—Wiring and equipment required in addition to list 1 when 28 receive-only teletypewriter set (remote typing unit) is provided per SD-25938-01, Fig. 2, UF option.

List 41—Wiring and equipment required in addition to list 1 when 28 receive-only typing reperforator set (second reperforator) is provided per SD-25938-01, Fig. 2, UH option.

List 42—A&M Only—Equipment and wiring required in addition to list 2 per SD-25938-01, Fig. 9, H option to arrange test frame to serve a second marker group.

List 43—A&M Only—Equipment and wiring required in addition to list 3, per SD-25938-01, Fig. 9, G option to arrange test frame to serve a third marker group.

List 44—A&M Only—Equipment and wiring required in addition to list 1, per SD-25938-01, Fig. 3, XR option when more than one terminating test line number is required.

List 45—Wiring and equipment per SD-25938-01, Fig. 12, RM option only to provide ten lamps when more than 20 AMA recorders are provided in an office.

List 46—Reserved.

List 47—A&M Only—Equipment and wiring required in addition to list 1, when automatic restart and retest tape features are added per SD-25938-01, Fig. 86, 88, 89, 108, 109, and 110, (keys, lamps, switches, selectors, potentiometer, and loudspeaker only).

List 48—Equipment and wiring required in addition to list 1 for APTT improvement features per SD-25938-01, Fig. 36, PS option, Fig. 88, 89, 108, 109, and 110 (keys, lamps, jacks, and selectors).

List 49—Equipment and wiring required in addition to list 1 for manual transmission testing per SD-25938-01, Fig. 105 and 107, (keys, lamps, and jacks only).

Notes

A. All standard and optional wiring options shown on SD-25938-01, except as provided for elsewhere herein, shall be provided in frame local cable.

B. List 1 covers the basic frame with test connector equipment for marker group 0 with Q and T wiring and wiring per Fig. A; it also includes wiring for a second test connector for marker group 1.

C. List 2 includes equipment for a second test connector to arrange the frame to work with a second marker group.

D. List 2 includes apparatus on the trunk test frame to adapt it to serve a third marker group. The third test connector is furnished as a supplementary unit per J23450B.

E. A&M Only—Furnish one list 4 for each combined or completing marker in the largest marker group served by the test frame, except in offices having one marker group where list 4 is omitted for the marker assigned to the line insulation test frame.

F. Furnish Q wiring in Fig. 6 and 8 on frames equipped to serve one marker group.

G. Furnish N wiring on the TM1 selector when all the trunks tested specify a delay of 2 minutes between tests. Furnish K wiring when some of the trunks specify a delay of 4 minutes.

H. Furnish W wiring when frame is not arranged for foreign area code 11.

J. Furnish S wiring at CB relay in Fig. 19 when negative battery is used for coin collection; furnish Y wiring when positive battery is used.

K. Furnish Fig. G when coin test circuit is not arranged for timing. Furnish Fig. E when message register test circuit is not arranged for timing.

L. Furnish RN lamps per list 18 and 19 for each recorder in the largest associated recorder group.

M. The 1C and 1D timers and 52B drive with cover per SD-25938-01, Fig. 5, 17, and 19 are ordered separately and mounted on a 23-inch relay rack bay near the 52A drives and timers serving the trunks. The 1C and 1D timers are located in position 13 and 14, respectively, of the drive. The 48-volt battery and ground are supplied from a fuse located on the relay rack bay.

N. A&M Only—When wire spring trunks are added in existing offices where the trunk trip relay adjustments are not the same as for

- the added trunks, ZE or ZF or ZG options and F, G, and H resistors per ZD option must be furnished. (See Note AP.)
- P. A&M Only—Furnish ZL wiring in Fig. 6, 12, and 14 when there are ten or less recorders in each recorder group associated with the automatic progression trunk test frame.
- Q. Furnish ZM wiring in Fig. 6 and 12 when there are more than ten recorders in any recorder group associated with the automatic progression trunk test frame.
- R. When class of service and rate treatment are on the basis of:
1. A&M Only—For 1-out-of-30 classes of service, furnish XA, YU, and YW options.
 2. For 100 classes of service without 20 rate treatments, furnish XB, YV, and YW options.
 3. For 100 classes of service with 20 rate treatments, furnish XB and YV options.
 4. A&M Only—For 20 classes of service with 20 rate treatments, furnish YU and YV options.
- S. Connect ZZ wiring in Fig. 2 and 4 when area codes and CAMA are not required.
- T. Connect YB wiring in Fig. 1, 2, 3, 7, and 13 when CAMA testing is not provided. Connect YC wiring in Fig. 1, 3, 4, 6, 7, 11, 12, 13, and 35 when CAMA testing is provided.
- U. Connect YD wiring in Fig. 2 when CAMA testing is provided and CAMA intermarker group trunks are not tested.
- V. List 1 includes lamp equipment for SD-25938-01, Fig. 1; Fig. 2 less YE option; Fig. 3; Fig. 4 less YE option; Fig. 6 through 9, Fig. 11 through 16, Fig. 19 through 23, Fig. 81, A, B, D, E, G, H, and J.
- W. List 21 includes lamp equipment for SD-25938-01, Fig. 2 and 4, YE option and Fig. 25 and 27.
- X. List 25 includes lamp equipment for SD-25938-01, Fig. 30.
- Y. Connect YZ wiring, Fig. 1, 2, and 6 when rate treatment is provided in any marker group tested. Connect YY wiring in Fig. 2 and 4 when rate treatment is not required in any marker group tested.
- Z. For equipment manufactured prior to SD-25938-01, Issue 13D, when any class-of-service indication is on a 100 class-of-service basis, Fig. J and YX wiring and apparatus must be furnished in Fig. 1. (See Note 133 on SD-25938-01.)
- AA. If the test connector is associated with any marker group arranged for CAMA, furnish YK and YP options. Otherwise furnish YJ and YO options.
- AB. For equipment manufactured prior to Issue 13D when class-of-service indication is on a 20 class-of-service basis, YX option must be provided and also XE option when Fig. 1 is furnished.
- AC. When offices manufactured prior to Issue 11D are modified to test trunks arranged for digit 1 access codes, V option must be furnished.
- AD. When offices manufactured prior to Issue 18D are modified to test wire spring intermarker group trunks, XI option must be furnished.
- AE. J23450E (supplementary timing unit) must always be furnished in new installations and must be provided when auxiliary units other than J23450B are added to existing installations.
- AG. J23450J (automatic start timer unit) must always be furnished in new installations and must be provided when updating existing installations to Issue 23D of SD-25938-01.
- AH. Wiring required in addition to list 5 and 6 when 2-digit office codes are required per SD-25938-01, VG option.
- AI. VF options required when the 2-digit office codes feature is not provided.
- AJ. Furnish WW option when frame is not arranged for transmission testing (ATMS).

- AK. AT&TCo Special—List 33 includes the following apparatus of Fig. 62: PVTR LP, PVTR/CTXR key, CCSA2/CCSA4, TCS, and SOTL relays only. The remaining apparatus of Fig. 62 is provided under list 3 of J23450Q.
- AL. Provide SO option when the APTT frame is not arranged for coin service improvements (dial-tone-first).
- AM. Provide SP option when the APTT is arranged to operate with coin supervisory circuits arranged for coin service improvements (dial-tone-first).
- AN. Provide RH option when the APTT is in an office where the marker is arranged to cancel AMA records on test calls.
- AO. Provide wiring per RQ option when office is arranged for 4000 trunk number testing.
- AP. When wire spring trunks are added in existing offices where the trunk trip relay adjustments are not the same as for the added trunks, ZE, ZF, or ZG options and F, G, H, and I resistors per RW option must be furnished.

J23450B—AT&TCo Std—Auxiliary Automatic Progression Trunk Test Connector Unit

Equipment—J23450B-()

List 1—Framework, assembly, wiring, and common equipment for one auxiliary APT test connector unit. (See Notes A, B, C, and D.)

	WIRE	EQUIP	NOTES
Automatic Progression Trunk Test Ckt, SD-25938-01: Test Conn Ckt, Fig. 6, less J, M, & Z, VE, and TG options	1	1	

List 2—Apparatus per SD-25938-01, Fig. 6, J apparatus required in addition to list 1 to arrange test connector for 2-digit office codes. (See Notes E and F.)

List 3—Apparatus per SD-25938-01, Fig. 6, M apparatus required in addition to list 1 to arrange test connector for 3-digit office codes.

List 4—Apparatus per SD-25938-01, Fig. 6, Z apparatus required in addition to list 1 to arrange test connector for AMA testing.

List 6—Equipment per SD-25938-01, Fig. 6, VE option required in addition to list 1 when tandem trunks are to be tested.

List 7—Equipment per SD-25938-01, Fig. 6, TG option when transmission testing is required (ATMS).

Notes

- A. The auxiliary test connector unit is furnished when the APTT frame is required to serve a third marker group. It occupies the space of eight 2-inch mounting plates and mounts on a relay rack bay located as near as practicable to the APTT frame and the master test frame.
- B. A&M Only—Furnish ZL wiring in Fig. 6 when there are ten or less recorders in each recorder group associated with the automatic progression trunk test frame.
- C. Furnish ZM wiring in Fig. 6 when there are more than ten recorders in any recorder group associated with the automatic progression trunk test frame.
- D. Connect YC, YK, and YP wiring in Fig. 6 when the test connector is associated with CAMA testing. Connect YJ and YO wiring in Fig. 6 when the test connector is not associated with CAMA testing.
- E. Wiring required in addition to list 2 when 2-digit office codes are required per SD-25938-01, VG option.
- F. VF option is required when the 2-digit office code feature is not provided.

J23450C—AT&TCo Std—CAMA Automatic Progression Trunk Test Frame

Equipment—J23450C-()

List 1—Framework, assembly, wiring, and common equipment for one CAMA automatic progression trunk test frame arranged for

one CAMA marker group. (See Note B and Table A.)

	WIRE	EQUIP	NOTES
Framework, ED-26524-70:			
G2		1	
Jk Mounting, ED-26567-01:			
G3		1	
App Outlets, ED-26528-01:			
G1		1	
Misc Ckt, SD-25574-01:			
Grd Fdr Ckt, Fig. 10	1	1	
48V Fr Test Bat. Ckt,			
Fig. 13	1	1	
Spare Jack Ckt,			
Fig. 16	1	1	
Fr Line Tel Jack			
Ckt, Fig. 17	1	1	
Auto. Prog Trk Test Ckt,			
SD-25938-01:			
CAM0 and			
CAM1 Selectors and			
Banks, Fig. 27		1	
Local Cable	1		B

Notes

A. Reserved.

B. The local cable for this frame shall contain the following wiring:

1. All wiring except unit surface wiring for SD-25938-01, Fig. 24, 25, 26, 27, 28, 29, and 79.
2. Wiring for the circuit figures of SD-25574-01, miscellaneous circuit, specified in list 1 of this J code.

C. Provide wiring per RQ option when the office is arranged for 4000 trunk number testing.

J23450D—AT&TCo Std—Auxiliary Intertoll Trunk Test Unit

Equipment—J23450D-()

List 1—Framework, assembly, wiring, and equipment for one auxiliary intertoll trunk test unit wired for three marker groups and equipped for one marker group. (See Note 5.01.)

Automatic Progression
Trunk Test Ckt,
SD-25938-01:
Intertoll Trk Tst Ckt,
Fig. 32

WIRE EQUIP NOTES

1 1

List 2—Apparatus per SD-25938-01, Fig. 33 required in addition to list 1 to arrange the IT trunk test unit for one additional marker group.

J23450E—AT&TCo Std—Supplementary Timing Unit

Equipment—J23450E-()

List 1—Equipment and wiring for one supplementary timing unit. (See Note 5.01.)

WIRE EQUIP NOTES

1 1

Auto. Progression Trk
Test Ckt, SD-25938-01:
Supplementary Timing
Unit, Fig. 35 and
TB Option

J23450F—AT&TCo Std—Detector Control Unit

Equipment—J23450F-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 41, for one detector control unit. (See Note 5.01.)

J23450G—AT&TCo Std—WADS Control Unit

Equipment—J23450G-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 40, less keys and lamps, for one WADS control unit. (See Note 5.01.)

J23450H—AT&TCo Std—Printout Control Unit

Equipment—J23450H-()

List 2—Wiring and equipment required in addition to list 1 or 4 when 28 receive-only

teletypewriter set (remote typing unit) is provided per SD-25938-01, Fig. 36, UF option.

List 3—Wiring and equipment required in addition to list 1 or 4 when 28 receive-only typing reperforator set (second reperforator) is provided per SD-25938-01, Fig. 36, UH option.

List 4—Assembly, wiring, and equipment per SD-25938-01, Fig. 36, less UF and UH options, less keys and lamps plus one timer per SD-94820-01, Fig. 3 for one printout control unit. (See Note 5.01.)

J23450J—AT&TCo Std—Automatic Start Timer Unit

Equipment—J23450J-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 38, less VD option required for one automatic start timer unit. (See Note 5.01.)

List 2—Wiring and equipment per SD-25938-01, Fig. 38, VD option required in addition to list 1 to arrange for automatic starting of the APTT frame.

List 3—Miscellaneous conduit and cable required in addition to list 2 when automatic start timer unit will be mounted on the supplementary APTT frame or a miscellaneous relay rack frame where an ac conduit run is not available.

J23450M—AT&TCo Std—Supplementary Automatic Progression Trunk Test Frame

Equipment—J23450M-()

List 1—Assembly and equipment for one supplementary automatic progression trunk test frame arranged to mount automatic progression trunk test frame equipment units. (See Notes A and B and Table C.)

WIRE EQUIP NOTES

Miscellaneous Ckt, SD-25574-01:

48V Bat. Supply, Fig. 3, & ZK

Option

1 1

48V Fuse Alarm, Fig. 4

1 1

Ground Supply, Fig. 10

1 1

48V Frame Test

Bat., Fig. 13

1 1

+130V Frame Test

Bat., Fig. 15

1 1

Spare Jack, Fig. 16

1 1

Frame Line Test

Jack, Fig. 17

1 1

Remote Control

Jack, Fig. 64

1 1

—130V Frame Test

Bat., Fig. 76

1 1

Notes

A. This frame when provided shall be located as near as practicable to the APTT frame.

B. Wiring between units on the frame shall be run as loose wire.

J23450N—A&M Only—Line Link Pulsing Trunk Test Unit

Equipment—J23450N-()

List 2—Equipment per SD-25938-01, Fig. 47, required in addition to list 1 for each marker group in which line link pulsing trunks are tested.

List 3—Wiring and equipment required in addition to list 1 when office is arranged for automatic intercept service per SD-25938-01, Fig. 45, TQ option.

J23450P—AT&TCo Std—Transmission Automatic Progression Trunk Test Frame.

Equipment—J23450P-()

List 1—Framework, assembly, wiring, and common equipment for one transmission automatic progression trunk test frame. (See Notes A and B and Table B.)

	WIRE	EQUIP	NOTES
Misc Ckt, SD-25574-01:			
48V Bat. Supply, Fig. 3 & ZK			
Option	1	1	
48V Fuse Alarm, Fig. 4	1	1	
Ground Supply, Fig. 3	1	1	
48V Frame Test Bat., Fig. 13	1	1	
+130V Frame Test Bat., Fig. 15	1	1	
Spare Jack, Fig. 16	1	1	
Frame Line Test Jack, Fig. 17	1	1	
Remote Control Jack, Fig. 64	1	1	
-130V Frame Test Bat., Fig. 76	1	1	
51A Automatic Transmission Mea- suring System Director, J94051A	1	1	A
51C Automatic Trans- mission Measuring System Loss and Noise Deviation Register, J94051C-L1	1	1	A

Notes

- A. The local cable for this frame shall include the wiring called for in list 1 or 2, all wiring between coded units mounted thereon and all wiring shown in CAD 44 associating the APTT circuit with the ATMS circuits.
- B. This frame when provided shall be located as near as practicable to the APTT frame.

J23450Q—AT&TCo Std—Centrex Trunk Test Unit

Equipment—J23450Q-()

List 2—Wiring and equipment per SD-25938-01, Fig. 55, required in addition to list 1 or 5 for each marker group equipped with centrex trunks.

List 3—AT&TCo Special—Wiring and equipment per SD-25938-01, Fig. 62 and YS option

and SD-94820-01, Fig. 2 required in addition to list 1 for testing trunks in 3-Digit Intercommunication Systems.

List 4—A&M Only—Wiring and equipment per SD-25938-01, Fig. 67, required in addition to list 1 or 6 for each marker group equipped with centrex trunks.

List 5—Assembly, wiring, and equipment required for testing transfer feature of centrex trunks per SD-25938-01, Fig. 76. (See Note A and 5.01.)

List 6—Wiring and equipment required in addition to list 5 when IAO centrex trunks are tested per SD-25938-01, Fig. 50.

List 7—A&M Only—Wiring and equipment per SD-25938-01, Fig. 50, VW option required in addition to list 6 when centrex trunks are provided.

Notes

- A. When the centrex phase II and III intraoffice trunks are to be tested by the APTT frame, an auxiliary unit per J23059N for the incoming trunk test line circuit, SD-27640-01, must be provided. (See SD-25938-01, Note 333.)
- B. Provide RH wiring option when the APTT is in an office where the marker is arranged to cancel AMA records on test calls.

J23450R—AT&TCo Std—Trunk Number Unit (Traffic)

Equipment—J23450R-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 53 and 65 for one trunk number unit. (See Note 5.01.)

J23450S—A&M Only—Centrex Trunk Don't Answer Transfer Test Unit

Equipment—J23450S-()

List 1—Assembly, wiring, and equipment required for one centrex trunk don't answer transfer test unit per SD-25938-01, Fig. 56 and VV option. (See Note B and 5.01.)

Notes

- A. Reserved.

- B. Provide this unit when centrex don't answer transfer testing feature is required on frames prior to SD-25938-01, Issue 30.

J23450T—AT&TCo Std—TTY Copy Unit

Equipment—J23450T-()

- List 1**—Assembly, equipment, and wiring per SD-25938-01, Fig. 60 to provide improved copy feature. (See Note A.)

Note

- A. This unit should be mounted in the relay rack brackets on the 28B teletypewriter set cabinet.

J23450U—AT&TCo Std—Tandem Trunk Test Unit

Equipment—J23450U-()

- List 1**—Assembly, wiring, and equipment per SD-25938-01, Fig. 57, less VE option for one tandem trunk test unit. (See Note 5.01.)

- List 2**—Wiring and equipment per SD-25938-01, VE option required in addition to list 1 for each marker group equipped with tandem trunks.

- List 3**—Wiring and equipment required in addition to list 1 when CCSA trunks and off-net access lines (ONAL and LONAL) are tested per SD-25938-01, Fig. 73.

J23450W—AT&TCo Std—Tape to Page Copy Unit

Equipment—J23450W-()

- List 1**—Assembly, wiring, and equipment per SD-25938-01, Fig. 59 for one tape to page copy unit. (See Note 5.01.)

Notes

- A. Reserved.
- B. The tape to page copy unit is directly associated with the printout control unit, J23450H, and where practical should be located immediately below the printout control unit.

J23450Y—AT&TCo Std—Busy Retest Tape Simplification Unit

Equipment—J23450Y-()

- List 1**—Assembly, wiring, and equipment per SD-25938-01, Fig. 61, less RF option for one busy retest tape simplification unit. (See Note 5.01.)

- List 2**—Wiring and equipment required in addition to list 1 when trunk testing through the remote offices test line is provided per SD-25938-01, Fig. 61, TK option.

- List 3**—Wiring and equipment per SD-25938-01, Fig. 61, RQ option only required in addition to list 1 to increase the capacity of the APTT up to trunk number 4000 (not inclusive).

J23450AA—AT&TCo Std—Centrex Trunk Don't Answer Transfer Test Unit

Equipment—J23450AA-()

- List 1**—Assembly, wiring, and equipment per SD-25938-01, Fig. 56, for one centrex trunk don't answer transfer test unit. (See Note 5.01.)

J23450AC—AT&TCo Std—4-Wire Trunk Test Unit

Equipment—J23450AC-()

- List 1**—Assembly, wiring, and equipment required for one 4-wire trunk test unit arranged for one marker group per SD-25938-01, Fig. 64, less SS option, and Fig. 66. (See Note 5.01.)

- List 2**—Wiring and equipment required in addition to list 1 when a second marker group is arranged for 4-wire trunk testing per SD-25938-01, Fig. 64, less SS option.

J23450AD—AT&TCo Std—Program Selection and Detection Test Unit

Equipment—J23450AD-()

- List 1**—Assembly, wiring, and equipment required for one program selection and detection test unit per SD-25938-01, Fig. 48, 68, and 75. (See Note 5.01 and B.)

- List 2**—Wiring and equipment required in addition

to list 1 for each marker group arranged for program selection of digit translation marks per SD-25938-01, Fig. 49 (a maximum of three).

Notes

- A. Reserved.
- B. Marker traffic sampling for offices prior to SD-25938-01, Issue 36D is provided by J23450AU.

J23450AE—A&M Only—Supplementary LLP Trunk Test Unit

Equipment—J23450AE-()

- List 1**—Assembly, wiring, and equipment required for line link pulsing per SD-25938-01, Fig. 45, UT option. (See Note C.)
- List 2**—Equipment per SD-25938-01, Fig. 47, UY option required in addition to list 1 for each marker group in which line link pulsing trunks are tested.
- List 3**—Equipment per SD-25938-01, Fig. 67, required in addition to list 1 for each marker group in which line link pulsing trunks are tested. (See Note B.)

Notes

- A. Reserved.
- B. Provide list 3 when centrex trunk testing unit, J23450Q, List 2 is not provided.
- C. This unit is only required in offices arranged for LLP and equipped with line link pulsing trunk test unit, J23450N.

J23450AF—AT&TCo Std—Trunk Glare Detection Test Unit

Equipment—J23450AF-()

- List 1**—Assembly, wiring, and equipment required when intertoll trunks are arranged for glare detection per SD-25938-01, Fig. 72.
- List 2**—Wiring and equipment required in addition to list 1, when glare detection is provided and multilevel preemption trunks are used in an office arranged for confirmation signaling per SD-25938-01, Fig. 72, TP option.

J23450AH—AT&TCo Std—ROTL Control Unit

Equipment—J23450AH-()

- List 1**—Assembly, wiring, equipment, and local cable required when trunk testing through the remote office test line is provided per SD-25938-01, Fig. 69, 70, and 71.

J23450AJ—A&M Only—Auxiliary LLP Trunk Test Unit

Equipment—J23450AJ-()

- List 1**—Assembly, wiring, and common equipment required when LLP trunks are tested per SD-25938-01, Fig. 45, SK option, CTTO, 1, 2, 4, and 7 and CUTO, 1, 2, 4, and 7 relays only. (See Note 5.01.)
- List 2**—Equipment and wiring required in addition to list 1 for each marker group arranged for LLP trunks per SD-25938-01, Fig. 47, SK option, CSC relay only.

J23450AM—AT&TCo Std—Home Office Test Line Test Unit

Equipment—J23450AM-()

- List 1**—Assembly, common equipment, and local cable for one home office test line test unit. (See Note 5.01.)

WIRE EQUIP NOTES

Home Office Test Line

Testing Circuit SD-25938-01:

Fig. 81	1	1
Strap Wire Mult		
CAD 107B		1

- List 2**—Equipment per SD-25938-01, Fig. 47, required in addition to list 1 for each marker group arranged for home office test line testing.

J23450AN—AT&TCo Std—Line Link Pulsing Trunk Test Unit

Equipment—J23450AN-()

- List 1**—Assembly, wiring, and equipment per SD-25938-01, Fig. 45, less UT option for

one line link pulsing trunk test unit. (See Note 5.01.)

List 2—Wiring and equipment required in addition to list 1 when the office is arranged for automatic intercept service per SD-25938-01, Fig. 45, TQ option.

J23450AP—A&M Only—Home Office Test Line Test Unit

Equipment—J23450AP-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 81, SQ option only required for testing home office test lines. (See Note C.)

Notes

- A. Reserved.
- B. Reserved.
- C. This unit is to be located on a miscellaneous relay rack frame.

J23450AR—AT&TCo Std—Supplementary 4-Wire Trunk Test Unit

Equipment—J23450AR-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 64, SS option only for one supplementary 4-wire trunk test unit required for testing home office test lines. (See Note C.)

List 2—Wiring and equipment required in addition to list 1 when a second marker group is arranged to test home office test lines per SD-25938-01, Fig. 64, SS option only.

Notes

- A. Reserved.
- B. Reserved.
- C. This unit is required in addition to the J23450AC unit and is relay rack mounted.

J23450AS—AT&TCo Std—APTT Supplementary Relay Unit A

Equipment—J23450AS-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 83, for one MC17 relay for the first marker group. (See Note C.)

List 2—Equipment and wiring per SD-25938-01, Fig. 83 required in addition to list 1 for each additional marker group (max two).

Notes

- A. Reserved.
- B. This is a relay rack mounted unit required with J23450AM or J23450AP.
- C. List 1 serves the first marker group, list 2 required for each additional marker group.

J23450AT—AT&TCo Std—APTT Auxiliary Remote Office Control Unit

Equipment—J23450AT-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 82 for one auxiliary ROTL control circuit for the first marker group when the APTT frame and ROTL frame are located in the same office. (See Note C.)

List 2—Equipment and wiring per SD-25938-01, Fig. 82 required in addition to list 1 for each additional marker group (max two).

Notes

- A. Reserved.
- B. This is a relay rack mounted unit.
- C. List 1 serves the first marker group, list 2 is required for each additional marker group.

J23450AU—A&M Only—Class Information Unit

Equipment—J23450AU-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 75 for one class information unit required for marker traffic sampling.

Notes

- A. Reserved.

- B. Traffic sampling on a Standard basis is provided by J23450AD.

J23450AW—AT&TCo Std—AMA Trunk Check Unit

Equipment—J23450AW-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 85 for one AMA trunk check unit arranged for one marker group required in an office when more than 2000 AMA trunks are provided.

List 2—Equipment and wiring per SD-25938-01, Fig. 85 in addition to list 1 for each additional marker group (max two lists 2).

J23450AY—AT&TCo Std—Auxiliary Trunk Number Unit

Equipment—J23450AY-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 84 required when intermarker group trunks are tested in a CAMA office arranged for a maximum of 4000 trunk numbers.

Notes

- A. Reserved.
- B. This is a one-plate relay rack mounted unit.

J23450BA—AT&TCo Std—APTT Supplementary Relay Unit B

Equipment—J23450BA-()

List 1—Assembly, equipment, and wiring per SD-25938-01, Fig. 92 less options for one APTT supplementary Unit B. (See Note B.)

List 2—A&M Only—Equipment and wiring per SD-25938-01, PC option, required in addition to list 1 when program selection of digit translation marks feature (SD-25938-01, Fig. 48) is not provided and associated markers are arranged for the new numbering plan with interchangeable codes. (See Note C.)

List 3—Equipment and wiring per SD-25938-01, Fig. 94, required in addition to list 1 when the office is arranged to function with

Centralized Status, Alarm and Control System.

Notes

- A. Reserved.
- B. This unit is a one-plate miscellaneous relay rack mounted unit always provided in a No. 5 crossbar office equipped with an APTT frame per SD-25938-01, Issue 42D and later.
- C. List 2 is to be applied as required only to those offices having an APTT frame of vintage prior to Issue 30D of SD-25938-01.

J23450BB—AT&TCo Std—Traffic Service Position Systems Test Unit

Equipment—J23450BB-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 93 and SD-94820-01, two Fig. 2 for one TSP(S) unit required in an office arranged for the Traffic Service Position Systems feature.

Notes

- A. Reserved.
- B. This is a 6-plate miscellaneous relay rack mounted unit.

J23450BD—A&M Only—Automatic Restart and Retest Tape Control Unit

Equipment—J23450BD-()

List 1—Assembly, wiring, and equipment required for one automatic restart and retest tape control unit arranged for one marker group per SD-25938-01, Fig. 65, 87, 88, 89, and 109. (See Notes B and C.)

List 2—Wiring and equipment per SD-25938-01, Fig. 87, required in addition to list 1 for each additional marker group. (Maximum two list 2.)

List 3—Wiring and equipment per SD-25938-01, Fig. 86, required in addition to list 1 to provide the printout control feature. (See Note D.)

List 4—Wiring and equipment per SD-25938-01, Fig. 90, required in addition to list 1 to

provide the variable terminating test line number feature. (See Note E.)

Notes

- A. Reserved.
- B. Keys, lamps, switches, selectors, and loudspeaker associated with these figures are located on the APTT frame J23450A.
- C. This unit requires the space of 13 2-inch mounting plates and shall be located on miscellaneous relay rack as near as possible to the APTT frame.
- D. List 3 is not required in offices equipped with App Fig. 36 (J23450H).
- E. This list 4 is required when App Fig. 36 (J23450H) is provided in offices of prior to SD-25938-01, Issue 30D, vintage.

J23450BE—AT&TCo Std—Manual Transmission Test Unit

Equipment—J23450BE-()

- List 1**—Assembly, wiring, and equipment per SD-25938-01, Fig. 105 and 106, less options for one manual transmission test unit arranged for three but equipped for only one marker group. (See Notes B and C.)
- List 2**—Equipment and wiring per SD-25938-01, Fig. 106, less options required in addition to list 1 for each additional marker group. (Maximum 2 list 2.)
- List 3**—Equipment and wiring per SD-25938-01, Fig. 105, QL option required in addition to list 1 when toll and/or tandem trunks are to be tested.
- List 4**—Equipment and wiring per SD-25938-01, Fig. 106, QM option required in addition to list 1, or list 1 and 2 for each marker group when toll and/or tandem trunks are to be tested. (Maximum 3 list 4.)

Notes

- A. Reserved.
- B. This unit is to be located on a miscellaneous relay rack frame.

- C. The monitoring amplifier J93802Y-1, must be provided with this unit.
- D. The supplementary unit C J23450BJ is required when this unit is provided.

J23450BG—AT&TCo Std—Trunk Trouble Printout Unit

Equipment—J23450BG-()

- List 1**—Assembly, equipment, and wiring per SD-25938-01, Fig. 91 for one trunk trouble printout unit required for printout of trunks in trouble. (See Note B.)

Notes

- A. Reserved.
- B. This unit is mounted on a miscellaneous relay rack frame.

J23450BH—AT&TCo Std—Random Trunk Selection Unit

Equipment—J23450BH-()

- List 1**—Assembly, equipment, and wiring per SD-25938-01, Fig. 87, 88 for one random trunk selection unit arranged for one marker group. (See Note B.)
- List 2**—Wiring and equipment per SD-25938-01, Fig. 87, required in addition to list 1 for each additional marker group. (Maximum 2 list 2.)

Notes

- A. Reserved.
- B. This unit is mounted on a miscellaneous relay rack frame.

J23450BJ—AT&TCo Std—Supplementary Unit C

Equipment—J23450BJ-()

- List 1**—Assembly, equipment, and wiring per SD-25938-01, Fig. 89 and 109, relays only, for one supplementary relay unit C required for the following features. (See Note B.)

1. Rotary switch control of priming information.
2. Reserved.

Notes

- A. Reserved.
- B. This is an always provided 2-plate unit mounted on a miscellaneous relay rack frame.

J23450CA—AT&TCo Std—CAMA Test Connector Unit

Equipment—J23450CA-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 24, with ZY and YE options for one CAMA test connector unit.

List 2—Wiring and equipment required in addition to list 1 when more than 1000 trunk numbers are provided per SD-25938-01, Fig. 79.

J23450CB—AT&TCo Std—CAMA Originating Test Line Unit

Equipment—J23450CB-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 25 for one CAMA originating test line unit.

J23450CC—AT&TCo Std—Tandem and Intertoll Terminating Test Line Unit

Equipment—J23450CC-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 26 for one tandem and intertoll terminating test line unit.

J23450CD—AT&TCo Std—CAMA Test Unit

Equipment—J23450CD-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 27 less selectors for one CAMA test unit. (See Note A.)

Note

- A. Connect wiring as follows when CAMA positions are remotely located; loop signaling, YL wiring, E and M signaling, and WN wiring.

J23450CE—AT&TCo Std—CAMA Trunk Access Connector Unit

Equipment—J23450CE-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 28 less crossbar switch for one CAMA trunk access connector unit.

J23450CF—AT&TCo Std—Multifrequency Pulsing Unit

Equipment—J23450CF-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 29, for one multifrequency pulsing unit.

J23450CG—AT&TCo Std—Trunk Switch Unit

Equipment—J23450CG-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 28 crossbar switch only, for one trunk switch unit or for each 100 CAMA incoming and CAMA intermarker group trunks.

J23450CH—AT&TCo Std—Supplementary Trunk Switch Unit

Equipment—J23450CH-()

List 1—Assembly, wiring, and equipment required for each additional 100 CAMA incoming and/or CAMA intermarker group trunks in excess of 500 per SD-25938-01, Fig. 77 and 78. (See Note 5.01.)

J23450PA—AT&TCo Std—Automatic Transmission Measuring System Control Unit

Equipment—J23450PA-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 42 for one Automatic Transmission Measuring System control unit.

J23450PB—AT&TCo Std—Automatic Transmission Measuring System Printout Unit

Equipment—J23450PB-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 54 for one Automatic Transmission Measuring System printout unit.***J23450PC—AT&TCo Std—Automatic Transmission Measuring System Priming Unit***

Equipment—J23450PC-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 52 for one Automatic Transmission Measuring System priming unit.***J23450PD—AT&TCo Std—Automatic Transmission Measuring System Test Unit***

Equipment—J23450PD-()

List 1—Assembly, wiring, and equipment per SD-25938-01, Fig. 51 for one Automatic Transmission Measuring System test unit.**List 2**—Wiring and equipment required in addition to list 1 when transmission test to code 100 or 100-type combined milliwatt and balanced test termination is provided per SD-25938-01, Fig. 51, TH position.**5. GENERAL NOTES****Equipment****5.01** These units are arranged to mount on the supplementary automatic progression trunk test frame or a miscellaneous relay rack frame. When mounted on a miscellaneous relay rack frame the units shall be located as near as practicable to the APTT frame.**5.02 Associated Teletypewriter Equipment:**

(a) The tape used in the teletypewriter machine is a uniformly impregnated oiled paper tape which contains 100 percent chemical wood pulp. Orders for the tape shall specify the number of cartons, the name of the material, the specification number, the list number, the color (solid), and the roll diameter.

Example: Cartons, Tape, KS-8433 L1, buff, 8 inches.

(b) Orders for the paper used in the page printer shall specify the number of rolls, the name, the specification number, the width, and color.

Example: (No.) Roll(s) Paper, Teletypewriter, KS-1920, (8-1/2"), canary.

(c) A&M Only—When necessary to replace 23A-type teletypewriter set to work with ATMS the conversion can be made by replacing the typing unit with a 28BE typing unit and make necessary changes to provide the horizontal tabulation feature.

(d) Receive-only teletypewriter equipment consists of the following:

28D (console) or 28E (table mounted) teletypewriter cabinet modification kit (321088)

28B teletypewriter base

28A motor unit

28BE typing unit

28AF electrical service unit

28A-5 type box

28A-1 set of gears

314A relay

1A45 paper winder—optional

Copy display rod (TP193950)—optional

(e) Receive-only typing reperforator equipment consists of the following:

28A motor unit

28C-1 typing reperforator unit

Sixteen-pin connector (159541)

28A reperforator table—optional

Shelf (194856)—optional

Shelf enclosure (194770)—optional

SB tape winder—optional

(f) When an office which has a 28A teletypewriter is updated to work with ATMS, the 28A set can be converted to a 28B by using TELETYPE® modification kit 328190. This converts the 28AR typing unit to a 28BE typing unit and provides the necessary wiring changes in the cabinet to provide the horizontal tabulation feature.

(g) The teletypewriter equipment may be shared in an office when both the APTT frame and the TAT frame is provided.

5.03 All designation strips in the jack, key, and lamp panel shall be furnished completely designated.

Wiring

5.04 On frames serving more than one marker group, strap the MEC punching to the MKT lead of the marker assigned to the line insulation test frame. This is done on terminal strip B on the test frame for MKR GRP 1, and on terminal strip F on the APTT connector unit for MKR GRP 2.

List of A&M Only and Mfr Disc. Equipment

EQUIPMENT	RATING	DETAILS LAST SHOWN IN ISSUE	REPLACING EQUIPMENT	EQUIPMENT	RATING	DETAILS LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J23450A,L4	A&M Only	2	—	J23450Q,L1	Mfr Disc.	5	J23450Q, L5&L6
L14	Mfr Disc.	1	J23450A, L27	L4	A&M Only	5	—
L18&L19	A&M Only	1	—	L7	A&M Only	6	—
L24	Mfr Disc.	4	—	J23450S	A&M Only	6	—
L26	Mfr Disc.	1	J23450A, L28	J23450AE	A&M Only	7	—
L28	A&M Only	2	—	J23450AJ	A&M Only	7	—
L31	A&M Only	4	—	J23450AK	Mfr Disc.	8	—
L39	Mfr Disc.	9	—	J23450AL	Mfr Disc.	8	—
L42,L43	A&M Only	7	—	J23450AP	A&M Only	8	J23450AM
&L44				J23450AU	A&M Only	13	J23450AD
J23450B,L5	Mfr Disc.	4	—	J23450BA, L2	A&M Only	—	—
J23450H,L1	Mfr Disc.	12	J23450H, L4	J23450BD	A&M Only	16	—
J23450N	A&M Only	7	J23450AM				
L1	Mfr Disc.	8	J23450AM				

The above listed equipment has been replaced as indicated. Where A&M Only items appear, the

issue numbers shown are those of the issue in which the rating was first applied.

TABLE A

CAMA AUTOMATIC PROGRESSION TRUNK TEST FRAME, J23450C

UNIT		QUANTITY TO BE PROVIDED		DESCRIPTION
J CODE	LIST OR NOTE NO.	ALWAYS	FOR OPTION INDICATED	
J23450CA	1	1		
	2		1	More than 1000 trunk numbers provided
J23450CB	1	1		
J23450CC	1	1		
J23450CD	1	1		
J23450CE	1	1		
J23450CF	1	1		
J23450CG	1	1	4	For each 100 CAMA incoming trunks and/or CAMA intermarker group trunks up to a total of 500 trunks (a maximum of 5 of these units). (For more than 500 CAMA trunks see Table C.)

TABLE B

TRANSMISSION AUTOMATIC PROGRESSION TRUNK TEST FRAME, J23450P

UNIT		QUANTITY TO BE PROVIDED		DESCRIPTION
J CODE	LIST OR NOTE NO.	ALWAYS	FOR OPTION INDICATED	
J23450PA	1	1		
J23450PB	1	1		
J23450PC	1	1		
J23450PD	1	1		
J94051A	1	1		51A Automatic Transmission Measuring System, director
J94051C	1	1		51A Automatic Transmission Measuring System, noise deviation register

TABLE C

UNIT LOCATED ON SUPPLEMENTARY AUTOMATIC PROGRESSION TRUNK TEST FRAME OR ON
MISCELLANEOUS RELAY RACK FRAME. (SEE NOTE 5.01)

UNIT		QUANTITY TO BE PROVIDED		DESCRIPTION
J CODE	LIST OR NOTE NO.	ALWAYS	FOR OPTION INDICATION	
J23450B	1		1	Trunk test connector for third marker group
	2		1	2-digit office codes
	3		1	3-digit office codes
	4		1	AMA testing
	5		1	Area codes required
	6		1	Test tandem trunks
	7		1	ATMS
J23450D	1		1	Test intertoll trunks
	2		2	1 marker group
J23450E	1	1		
J23450F*	1	1		
J23450G	1		1	Test WADS trunks
J23450H	1	1		

*The tone detector, J93020AH, is required with this unit and may be mounted on the SAPTT frame or miscellaneous relay rack frame.

TABLE C

UNIT LOCATED ON SUPPLEMENTARY AUTOMATIC PROGRESSION TRUNK TEST FRAME OR ON
MISCELLANEOUS RELAY RACK FRAME. (SEE NOTE 5.01) (Cont)

UNIT		QUANTITY TO BE PROVIDED		DESCRIPTION
J CODE	LIST OR NOTE NO.	ALWAYS	FOR OPTION INDICATED	
J23450J	1	1		
	2		1	Arrange for automatic start of frame
	3		1	In addition to list 2
J23450N	1 (Mfr Disc.)		1	Testing LLP trunks
	2		3	1 marker group arranged
	3		1	Testing automatic intercept services
J23450Q	5		1	Testing transfer feature of centrex trunks
	2		3	1 marker group arranged for centrex trunk testing
	3		1	3-digit intercom (Spl)
	4 (A&M Only)		3	Same as list 2
	6,7 (A&M Only)		1	Testing centrex trunks
J23450R	1	1		
J23450S (A&M Only)	1		1	Testing centrex don't answer transfer trunks
J23450T	1	1		This unit located on 28B TTY
J23450U	1		1	Testing tandem trunks
	2		3	1 marker group arranged
	3		1	Testing CCSA trunks or off-net access lines
J23450W	1	1		
J23450Y	1	1		
J23450AA	1		1	Testing centrex don't answer transfer trunks
J23450AC	1		1	Testing 4-wire trunks
	2		1	Second marker group arranged
J23450AD	1	1		
	2		3	1 marker group arranged
J23450AE (A&M Only)	1		1	Provide with LLP
	2		3	1 marker group arranged for LLP
	3		3	1 marker group not arranged for centrex

TABLE C

UNIT LOCATED ON SUPPLEMENTARY AUTOMATIC PROGRESSION TRUNK TEST FRAME OR ON
MISCELLANEOUS RELAY RACK FRAME. (SEE NOTE 5.01) (Cont)

UNIT		QUANTITY TO BE PROVIDED		DESCRIPTION
J CODE	LIST OR NOTE NO.	ALWAYS	FOR OPTION INDICATED	
J23450AF	1		1	4W multilevel preemption trunks are arranged for glare detection
J23450AH	1		1	Remote office testing
J23450AJ (A&M Only)	1		1	Provide with LLP
	2		3	1 marker group arranged for LLP
J23450AM	1	1	0	Provide for home office test line testing
J23450AN	1	0	1	Provide for testing line link pulsing trunks
J23450AP (A&M Only)	1	0	1	Provide for home office test line testing
J23450AR	1	0	1	Home office test line testing in a 4-wire office
	2	0	1	For second Marker Group
J23450AS	1	1	0	
	2		1	For each additional Marker Group
J23450AT	1		1	Remote office testing
	2		1	For each additional marker group
J23450AU (A&M Only)	1		1	Required in offices manufactured prior to Issue 36D or SD-25938-01, to provide traffic sampling when J23450AD unit not present.
J23450AW	1		1	For more than 20 AMA recorders. First marker group.
	2		1	Each additional marker group (max 2).
J23450AY	1		1	Provides a max of 4000 trunk numbers in a CAMA office testing intermarker group trunks.
J23450BA	1	1		Mfr Disc. New numbering plan with interchangeable codes
	2		1	A&M Only New numbering plan without program selection of digit translation.
	3		1	When office is arranged to function with Centralized Status, Alarm and Control System.
	4	1		Supplementary Unit B, mounting plate and terminal strip only.
	5	1		New numbering plan with interchangeable codes.

TABLE C

UNIT LOCATED ON SUPPLEMENTARY AUTOMATIC PROGRESSION TRUNK TEST FRAME OR ON
MISCELLANEOUS RELAY RACK FRAME. (SEE NOTE 5.01) (Cont)

UNIT		QUANTITY TO BE PROVIDED		DESCRIPTION
J CODE	LIST OR NOTE NO.	ALWAYS	FOR OPTION INDICATED	
J23450BB	1		1	Traffic Service Position System.
J23450BD (A&M Only)	1		1	Automatic restart and retest tape control unit
	2		1	For each additional marker group
	3		1	Printout controls.
	4		1	Variable terminating test line number.
J23450BE	1		1	Manual transmission test
	2		1	Each additional marker group
	3		1	Toll and/or tandem trunks testing
J23450BG	1		1	Printout of trunks in trouble
J23450BH	1		1	Random trunk selection.
J23450BJ	1		1	Supplementary Unit C
J23450CH	1		5	For each additional 100 CAMA incoming and/or CAMA intermarker group trunks in excess of 500 CAMA trunks (a maximum of 5 of these units) up to a total of 1000 CAMA trunks.

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