

RECORDER FRAMES

AUTOMATIC MESSAGE ACCOUNTING

EQUIPMENT DESIGN REQUIREMENTS

NO. 1, NO. 5, AND TANDEM CROSSBAR, NO. 4 TYPE TOLL SWITCHING, AND STEP-BY-STEP SYSTEMS

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 recorder frames and recorder units, which form part of the automatic message accounting equipment in No. 1, No. 5 and tandem crossbar, No. 4A or 4M toll switching and No. 1 step-by-step offices.

1.02 This specification is reissued:

- (a) To incorporate Addendum Issues 1, 2, and 3.
- (b) To provide arrangements for more than 20 AMA recorders per SD-25872-01, Issue 47B.

CAPACITY

1.03 The capacities of the recorder frame and supplementary recorder frame are as follows:

	RECORDER FRAME CAPACITY	TRANSVERTER CAPACITY
No. 1 Crossbar	4 Rcdr Units	8
No. 5 Crossbar	3 Rcdr Units & 2 CII Units or 2 Rcdr Units, 4 CII Units	7

RECORDER FRAME CAPACITY

TRANSVERTER CAPACITY

No. 5 Crossbar With AMA Trunk Transfer Feature	2 Rcdr Units, 2 CII Units, & 1 AMA Trunk Transfer Unit	
Tandem Crossbar & No. 4A or 4M Toll Offices	4 Rcdr Units	12
No. 1 Step-by- Step	4 Rcdr Units	6

Supplementary Recorder Frame

	RECORDERS	TRANVERTERS
No. 5 Crossbar	28 Regular 1 Emergency	3 (eighth, ninth, tenth)

Supplementary Recorder Unit

No. 5 Crossbar	2 Regular	3 (eighth, ninth, tenth)
----------------	-----------	-----------------------------

In each case, the recorder unit has a capacity of 100 trunks or 100 district junctors in a call identity indexer group.

DESCRIPTION

1.04 The recorders covered herein are part of the automatic message accounting equipment in local, tandem, or No. 4A or 4M toll offices. Each recorder is associated with a maximum of 100 AMA trunks or district junctors by means of a call identity indexer, and in conjunction with a perforator, transfers the information needed for billing purposes to the paper tape. The recorder operates in response to a trans-

verter in making initial entries on the tape on customer and test calls, and in response to the call identity indexer, in making time-of-answer and time-of-disconnect entries. Certain other entries are made under the control of the master timing frame. Upon being engaged by a transverter, call identity indexer, or the master timing frame, the recorder operates the perforator magnets as directed by the circuit in control, operates the perforator stepping magnet as each line is perforated, and checks the one-out-of-three or two-out-of-five operation of the perforator magnets. Each recorder registers time in minutes and tenths of minutes past the hour under the control of the master timing circuit, and causes a record of the time in minutes and tenths to be placed on the tape at the beginning and end of the conversation period as directed by the trunk or district junctor. At the start of each hour, the recorder places on the tape an hour entry, and at 3:00 a.m., an end-of-tape pattern. These are made under the control of the master timing frame. Included in the end-of-tape entry in the marker group number in No. 1 and 5 crossbar offices, the recorder group number in tandem and No. 4A or 4M toll offices, and the identifier group number in step-by-step offices.

1.05 An emergency recorder and perforator are provided, which may be substituted for any regular recorder in the transverter group. The substitution is made automatically under certain trouble conditions or by inserting a make-busy plug in a regular recorder. Prior to the transfer being affected, the master timing circuit causes the end-of-tape pattern to be placed on the tapes of both the regular and emergency recorders, which procedure is repeated when the regular recorder is returned to service. A record of the transfer thus appears on both tapes. While the emergency recorder is in use, it enters on the tape the number of the regular recorder for which it is substituted.

1.06 The *recorder frame for No. 1 crossbar offices* is a one-bay frame, 5 feet 6-7/8 inches long, 11 feet 6 inches high, and 10 inches wide, employing bulb-angle uprights and a sheet-metal base and guardrail assembly. It accommodates four recorder units. Located at the top of the frame are two fuse panels with split bus

bars to provide separate fusing for each recorder unit, and terminal strips for the vertical multiple local cables interconnecting the recorder units and for the switchboard cables to other frames. Located between the second and third recorder units are two mountings accommodating recorder lamps and the equipment of the frame miscellaneous circuit. In No. 1 crossbar offices the call identity indexer units and the sender group connector units for four district frames are mounted on a separate frame called the call identity indexer frame.

1.07 The *recorder frame for No. 5 crossbar offices* is a 2-bay frame of sheetmetal construction, 5 feet 11-1/4 inches long, 11 feet 6 inches high, and 10-1/2 inches wide. As shown in Fig. 1, it accommodates two or three recorder units and two or four call identity indexer units in accordance with Table A below. When the AMA trunk transfer feature is equipped for 100 or less AMA trunks, the recorder frame accommodates two recorder units, two call identity indexer units, and one AMA trunk transfer unit in accordance with Table B below. Both of these units use 30-1/2 inch mounting plates, the recorder unit being two bays wide and the call identity indexer unit one bay wide. Two call identity indexer units occupy the space of one recorder unit. The call identity indexer unit is covered in another specification listed in Part 2. Structural requirements dictate bay widths of 30-1/2 inches and 34-5/8 inches. Adapters are furnished with indexer units intended for the wider bay. Located at the bottom of the frame are two fuse panels with split bus bars to provide separate fusing for each recorder and its associated call identity indexer. At the top of the frame are terminal strips for the vertical multiple local cable interconnecting recorder units and for the switchboard cables to other frames. The recorder lamps and the equipment of the frame miscellaneous circuit are located on mountings in the frame uprights and on supplementary supports. The increase from seven to ten transverters in the No. 5 crossbar recorder requires a modification of the recorder unit and the addition of a supplementary recorder frame and a supplementary recorder unit mounted on relay rack.

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

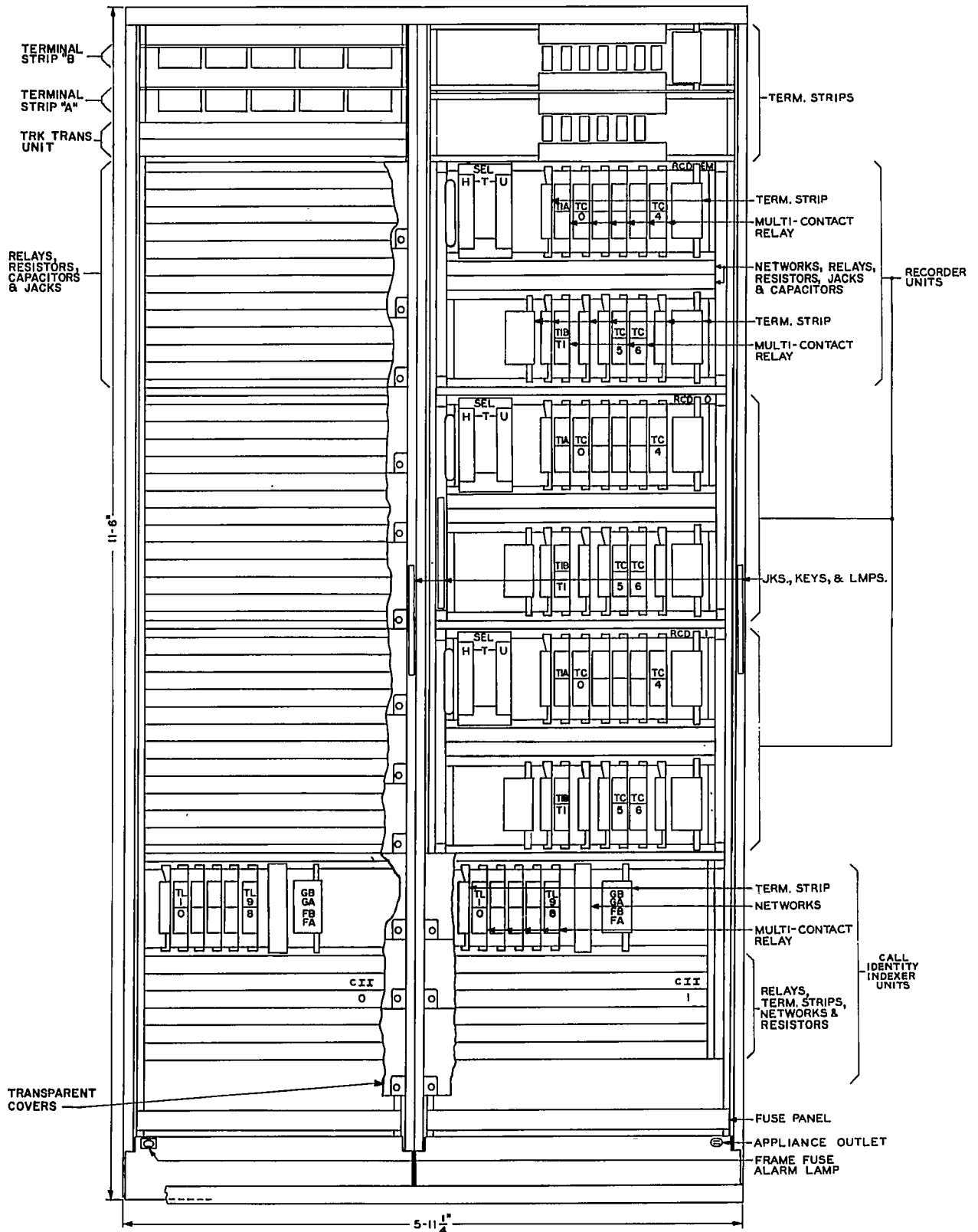


Fig. 1 — Crossbar Systems No. 5 Recorder Frame — Automatic Message Accounting

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

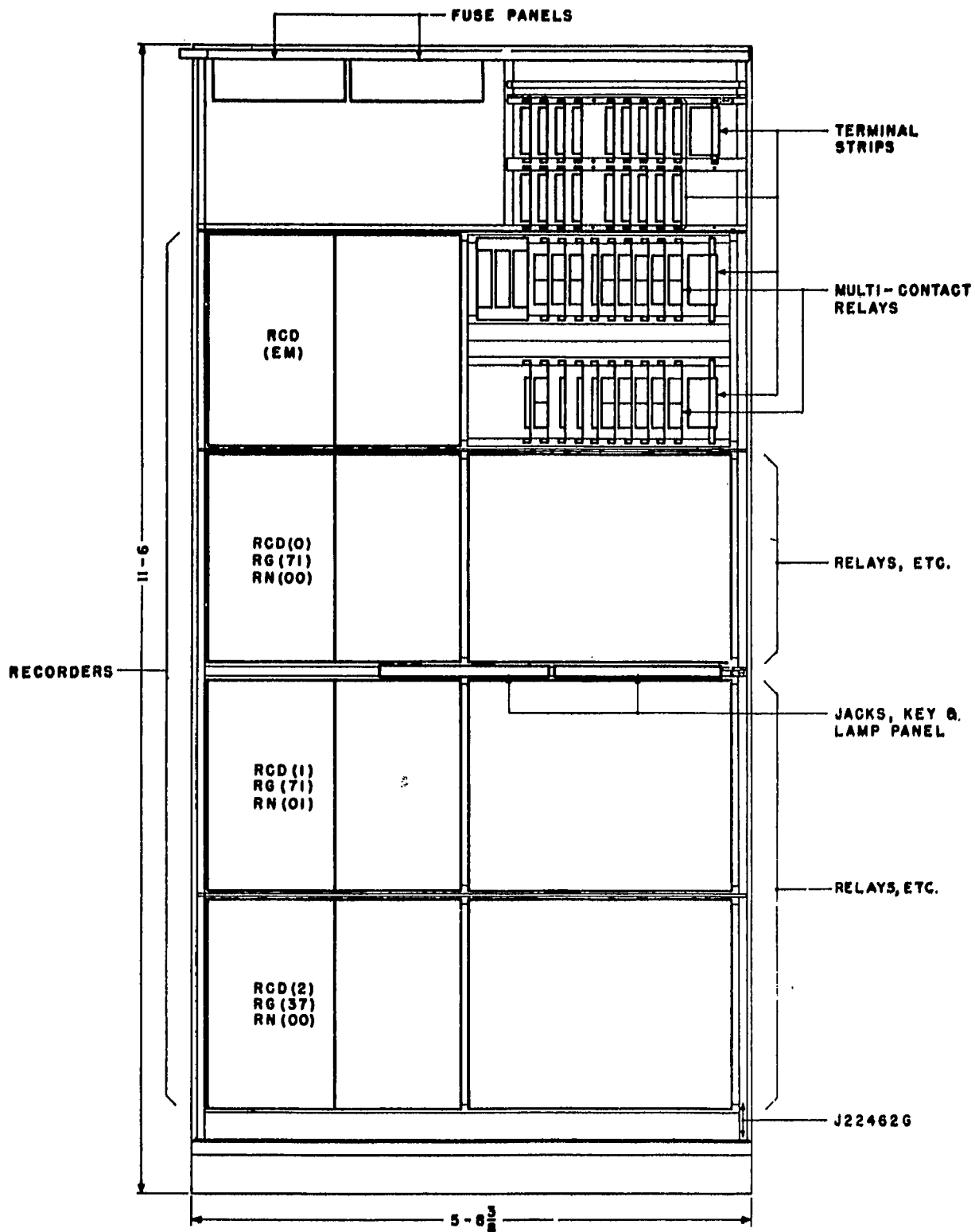


Fig. 2 — Recorder Frame for Tandem and No. 4A or 4M Offices

TABLE A

	TOP POSITION	NEXT TO TOP	NEXT TO BOTTOM	BOTTOM POSITION
	0 Rcdr EM	Rcdr 0 ,	Rcdr 1	CII 0,1
R 1	Rcdr 2	Rcdr 3	CII 2,3	CII 4,5
E 2	Rcdr 4	Rcdr 5	Rcdr 6	CII 6,7
C 3	Rcdr 4	Rcdr 8	Rcdr 9	CII 8,9
R 4	Rcdr 10	Rcdr 11	Rcdr 12	CII 10,11
D 5	Rcdr 13	Rcdr 14	CII 12,13	CII 14,15
E 6	Rcdr 15	Rcdr 16	Rcdr 17	CII 16,17
	7 Rcdr 18	Rcdr 19	Rcdr 20	CII 18,19
F 8	Rcdr 21	Rcdr 22	CII 20,21	CII 22,23
R 9	Rcdr 23	Rcdr 24	Rcdr 25	CII 24,25
A 10	Rcdr 26	Rcdr 27	Rcdr 28	CII 26,27
M 11	Rcdr 29			CII 28,29
E				

TABLE B

Recorder Frame

Above Top Position	
Left	ATT Unit
Top Position	—
Next to Top	Rcdr 0
Next to Bottom	Rcdr 1
Bottom Position	CII 0-1

1.08 A mixture of CAMA trunks and LAMA trunks may be assigned to recorders 0 through 9, but recorders 10 through 19 may have LAMA trunks only assigned to them. However to provide for future growth of CAMA trunks, intermediate recorders may be omitted. In arrangements where any recorder 10 through 19 is equipped, this situation must be considered as one having over 10 recorders. Similarly, whenever any recorder 20 through 29 is equipped, this situation must also be considered as one having over 20 recorders.

1.09 The *recorder frame for tandem and No. 4A or 4M offices*, shown in Fig. 2, differs from the one used in No. 1 offices in that its length is 5 feet 8-3/8 inches instead of 5 feet 6-7/8 inches due to provision being made for twelve instead of eight transverters. A further variation is provision for entry on the tape of a recorder group number instead of the marker group number, and means for connecting through a set of leads to the tandem trunk test frame. The call identity indexer units in tandem and No. 4A or 4M offices are mounted on a separate frame 1 foot 10-1/8 inches long, accommodating four units.

1.10 The *recorder frame for step-by-step offices* is a bulb-angle structure 5 feet 6-7/8 inches long, accommodating four recorder units. The frame and units are the same as those used in No. 1 crossbar offices, except that provision is made for six instead of eight transverters and for different wiring options. The call identity indexer units are mounted on a separate frame, 1 foot 10-1/8 inches long, accommodating four units.

1.11 There are four *recorder units* covered herein, namely:

- J22462D — No. 1 Crossbar Offices
- J22462F — No. 5 Crossbar Offices
- J22462H — Tandem Crossbar and No. 4A or 4M Toll Offices
- J22462K — No. 1 Step-by-Step Offices

These units differ mainly in the number of transverters cut-in relays and in the dimensions of the unit frameworks. Basically, the recorder unit comprises about 130 U-, Y-, and polar-type relays, multicontact cut-in relays for the transverters, master timing frame and trouble indicator, trouble recorder or master test equipment, and three 206-type selectors for 60-minute timing. The U, Y, and polar relays occupy the left-hand bay of the unit: the selectors, multicontact relays, two plates of miscellaneous apparatus, and terminal strips occupy the right-hand bay. Each recorder unit is wired universally for use as a regular or an emergency recorder.

1.12 The recorder units mount on the recorder frames from the rear. For this reason and because the vertical multiple local cables cascade down over the right half of the frame, it is necessary to equip the recorder units in top-down order.

1.13 The recorder multiple switchboard cables from the transverter and master timing frames, and from the trouble indicator, trouble recorder, office test, or master test and connector frames, and their extensions to other recorder frames are brought in on terminal strips at the top of the frame. From this point, the leads are multiplied by means of vertical local cables to terminal strips on the recorder units below. There are five of these vertical multiple cables, designated B, C, D, E, and F on the frame local cable drawings. Local cable B contains the odd and even recorder multiples from the master timing frame and the trouble indicator, trouble recorder, office test, or master test frames. Local cables C and D, contain the recorder multiples for transverters, 0 and 1, respectively, together with miscellaneous multiple leads between recorders. Local cables E and F contain the recorder multiples for additional transverters. Appropriate pairs of E and F cables may be combined in common forms when the associated transverters are provided concurrently. A recorder frame arranged for three transverters requires one each of local cables B, C, D, and E. Besides the vertical multiple cables, there is a frame local cable, designated A. This contains the battery and ground supply from the fuse panels, talking lines, alarm leads, etc, and terminates on a terminal strip at the top of the frame.

1.14 Switchboard cables, other than the recorder multiple cables described above, such as those to the perforator cabinet, call identity indexers, and miscellaneous points, terminate directly on the recorder units an on the miscellaneous terminal strip at the top of the frame.

1.15 The *supplementary recorder frame for No. 5 crossbar offices* is a standard sheet-metal, single-bay frame, 11 feet 6 inches high and 2 feet 2-1/16 inches long. It accommodates the multicontact relay equipment for transverters 7, 8, and 9 for a maximum of 20 recorders.

1.16 The *register transfer control* unit for No. 5 crossbar offices equipped with CAMA is a one-plate unit equipped with two control circuits to serve two recorders. This unit is used for keeping a traffic count of the activity of the recorders and is mounted on the supplementary recorder frame when provided, or on relay rack. A maximum of five of these units will serve the ten recorders 0 to 9 to which CAMA is restricted.

1.17 The AMA trunk transfer unit for No. 5 crossbar permits the use of two regular recorders and two call identity indexers, without an emergency recorder, in small offices with 100 or less AMA trunks. This unit provides for transferring of 50 or less trunks assigned to one CII unit to the other CII unit, under control of the recorder TN jacks on the master test frame jack bay when the associated recorder is out of service. When the unit is removed from offices which expand beyond its capacity, the removal is accomplished without appreciable loss of recorder in-service time, by the addition of strapping on the A terminal strip and the removal of strapping on the D terminal strip of the recorder frame.

1.18 The supplementary recorder unit for No. 5 crossbar offices accommodates the multicontact relay equipment for transverters 7, 8, and 9 and two regular recorders (recorders 28, 29). This unit is relay rack mounted and is only required when more than 28 recorders are provided.

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	EQUIPMENT DRAWING	CIRCUIT DRAWING
J22462C	AT&TCo Std	Recorder Frame for No. 1 Crossbar Offices	J22462C- ()	SD-25872-01 SD-25884-01

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

EQUIPMENT CODE	RATING OF UNIT	TITLE	EQUIPMENT DRAWING	CIRCUIT DRAWING
J22462D	AT&TCo Std	Recorder Unit for No. 1 Crossbar Offices	J22462D-()	SD-25872-01
J22462E	AT&TCo Std	Recorder Frame for No. 5 Crossbar Offices	J22462E-()	SD-25872-01 SD-25574-01
J22462F	AT&TCo Std	Recorder Unit for No. 5 Crossbar Offices	J22462F-()	SD-25872-01
J22462G	AT&TCo Std	Recorder Frame for Tandem and No. 4A or 4M Toll Offices	J22462G-()	SD-25872-01 SD-25884-01
J22462H	AT&TCo Std	Recorder Unit for Tandem and No. 4A or 4M Toll Offices	J22462H-()	SD-25872-01
J22462J	AT&TCo Std	Recorder Frame for No. 1 Step-by-Step Offices	J22462J-()	SD-25872-01 SD-25884-01
J22462K	AT&TCo Std	Recorder Unit for No. 1 Step-by-Step Offices	J22462K-()	SD-25872-01
J22462L	AT&TCo Std	Supplementary Recorder Frame for No. 5 Crossbar Offices	J22462L-()	SD-25872-01 SD-25574-01
J22462M	AT&TCo Std	Register Transfer Control Unit	J22462M-()	SD-25872-01
J22462N	AT&TCo Std	AMA Trunk Transfer Unit for No. 5 Crossbar	J22462N-()	SD-25715-01
J22462P	AT&TCo Std	Supplementary Recorder Unit for No. 5 Crossbar Offices	J22462P-()	SD-25872-01

Circuit Schematic Index

CIRCUIT DRAWING	J22462 EQUIPMENT CODE
SD-25574-01	E and L
SD-25715-01	N
SD-25872-01	C,D,E,F,G,H,J,L,M, and P
SD-25884-01	C,G, and J

2. SUPPLEMENTARY INFORMATION

814-000-000 — Step-by-Step Systems Index
816-000-000 — No. 1 Crossbar System Index
817-000-000 — Tandem Crossbar System Index
818-000-000 — No. 4 Type Toll Switching Sys-
tems Index
819-000-000 — No. 5 Crossbar System Index

800-600-000 — List of General Equipment Re-
quirements Sections

J22151 — 814-113-151, 816-101-150, 817-107-150,
818-110-150, 819-107-150 — Call Identi-
tity Indexer Frame and Units

J22457 — 816-104-100 — Automatic Message Ac-
counting — General — No. 1 Crossbar
System

J29253 — 817-010-100 — General Outline — Tan-
dem Crossbar System

J29259 — 819-005-150 — General Outline — No.
5 Crossbar System

J39215 — 814-100-150 — Automatic Message Ac-
counting — General — No. 1 Step-by-
Step System

J60103 — 818-031-150 — Limiting Conductor
Lengths — No. 4A and 4M Toll Sys-
tems

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

J69202 — 818-005-150 — General No. 4A Toll Switching System

J69210 — 818-101-150 — Conversion of No. 4A or 4M Offices to Provide CAMA Operation

Floor Plan Data

Section 5.2,
 Sheet 39 — No. 1 Step-by-Step Offices
 Section 9.1,
 Sheet 38 — No. 1 Offices
 Sheet 42 — TDM Offices
 Section 10.1,
 Sheet 41 — No. 4A or 4M Toll Offices
 Section 11.1,
 Sheet 3 — No. 5 Offices

3. DRAWINGS

For additional drawings forming a part of this specification, see listings under Subdivisions of Equipment and Detailed Index.

Keysheets

SD-25000-01 — No. 1 Crossbar System
 SD-25435-01 — Tandem Crossbar System
 SD-25760-01 — No. 5 Crossbar System
 SD-32230-01 — No. 1 Step-by-Step System
 SD-68400-01 — No. 4A Toll Switching System
 SD-68470-01 — No. 4M Toll Switching System

Wiring and Cabling

ED-25346-14 } Method of Running Power
 ED-25346-15 } Feeders — No. 1 and Tandem
 ED-68066-01 — Method of Running Power
 Feeders — Toll Systems No.
 4A and 4M

4. EQUIPMENT

J22462C — AT&TCo Std — Recorder Frame for No. 1 Crossbar Offices

Equipment — J22462C-()

List 1 — Framework, assembly, wiring, and common equipment for one recorder frame arranged for four recorders and

eight transverters and wired for four recorders and two transverters. (See Notes A, B, C, and F.)

WIRE EQUIP NOTES

Misc Ckt, SD-25884-01:

Fig. 1	4	2
Fig. 2 to 7, 9, & 10	1	1
Fig. 8	2	1

Rcdr and Rcdr Conn Ckt,
 SD-25872-01:

Fig. 1; 3, 5, 9, 10 & K	4	0
Fig. 4	8	0

List 2 — Equipment required in addition to list 1 for a recorder frame accommodating more than two recorders. (See Note D.)

WIRE EQUIP NOTES

Fuse Panel, ED-25025-01,

Item 11		1
---------	--	---

Misc Ckt,
 SD-25884-01:

Fig. 1		2
--------	--	---

List 3 — Equipment required in addition to list 1 for each recorder to be mounted on a recorder frame.

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
 SD-25872-01:

Fig. 1, MTRA, HR, & NP Lamps Only		1
Fig. 3 or 9, MTR & XRG Lamps Only		1

List 4 — Equipment required in addition to list 1 for the recorder frame accommodating the emergency recorder.

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
 SD-25872-01:

Fig. 9, EW Lamp Only		1
----------------------	--	---

List 5 — Apparatus per SD-25884-01, Fig. 8 required in addition to list 1 when two sender test frames serve the marker group with which the recorder frame is to operate.

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

List 6 — Vertical multiple wiring and equipment required in addition to list 1 to give one recorder frame access to transverter 2, 3, or 4. (See Notes C and E.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 4, Rel Contact

Multiples Only

4

List 7 — Vertical multiple wiring and equipment required in addition to list 1 to give one recorder frame access to transverter 5, 6, or 7. (See Notes C and E.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 4, Rel Contact

Multiples Only

4

Notes

A. List 1 includes framework and equipment items as covered therein and on the equipment drawing. The fuse panel serves the first and second recorder units and includes all associated equipment as shown on the equipment drawing.

B. List 1 includes only that wiring for the frame miscellaneous circuit and four recorders, which constitutes cables A, B, C, and D shown on the local cable drawing. Cable A includes universal wiring for Fig. 3 and 9. The lamp wiring per Fig. 9, however, is furnished for only the uppermost recorder position on the frame. Master timer multiple cable B contains two separate multiples, one for the first and third recorders and another for the second and fourth recorders, permitting interframe cables to be connected in such manner as to associate even recorders with one master timer and odd recorders, including the emergency recorder, with the other master timer.

C. Vertical multiple local cables B, C, D, E, and F, interconnect terminal strips at the top of the frame with terminal strips or

multicontact relays on the recorder units. As the units are mounted on the frame from the rear, the future use of unequipped recorder spaces requires that such spaces be at the bottom of the frame. Recorder units are therefore equipped in top-down order and the vertical multiple cables originating at the top of the frame run to the first recorder equipped and then multiple to each recorder down the frame looping at unequipped positions.

D. List 2 covers the fuse panel required for the third and fourth recorder units on the frame and includes all associated equipment as shown on the equipment drawing.

E. Lists 6 and 7 cover the vertical multiple wiring and frame terminal strips constituting cables E and F shown on the local cable drawing. List 7 for transverters 5, 6, and 7 may be combined in the same forms with list 6 for transverters 2, 3, and 4, respectively, when furnished concurrently. Lists 6 and 7, as separate forms, differ in the spacing of terminal strip and associated relays.

F. When the third recorder unit from the top is omitted, furnish material covered by group 2 of ED-25939-70. When the fourth unit from the top is omitted, furnish material per group 3 of ED-25939-70.

**J22462D — AT&T Co Std — Recorder Unit for
No. 1 Crossbar Offices**

Equipment — J22462D-()

List 1 — Framework, assembly, wiring, and common equipment for one recorder unit arranged for eight transverters. (See Notes A, B, C, D, E, and H.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Rcdr Ckt, Fig. 1, Less

AT Sw and MTRA, HR,

& NP Lamps, but Incl

YJ Option

1 1

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

WIRE EQUIP NOTES

Transfer & MB Ckt,
 Fig. 3, Less MTR &
 XRB Lamps 1 0
 Transverter Conn Ckt,
 Fig. 4 8 0
 TLB Ind &
 Master Tmg Conn Ckt,
 Fig. 5, With YN Option 1 1
 Master Tmg Pref Rel,
 Fig. 6 1 1
 Hour Record Pref Rel,
 Fig. 7 1 1
 District Junctor Pref Rel,
 Fig. 8 1 1
 Make-busy Ckt, Fig. 9,
 Less MTR, XRB, & EW
 Lamps 1 0
 Transverter Transfer Rel,
 Fig. 10 1 0
 Transverter Blocking Rel,
 Fig. 12 1 0
 First Transverter Pref Rel,
 Fig. A 1 0
 Int Transverter Pref Rel,
 Fig. B 6 0
 Last Transverter Pref Rel,
 Fig. C 1 0
 Tmg Ckt, Fig. K 1 1
 Irregular Hour Entries Ckt,
 Fig. G 1 0

List 2 — Apparatus per SD-25872-01, Fig. 3, less MTR and XRB lamps, required in addition to list 1 to arrange one recorder unit for use as a regular recorder. (See Note G.)

List 3 — Apparatus per SD-25872-01, Fig. 9, less MTR, XRB, and EW lamps, required in addition to list 1 to arrange one recorder unit for use as an emergency recorder.

List 4 — Wiring and equipment required in addition to list 1 to arrange one regular recorder unit for more than five transverters. (See Note F.)

WIRE EQUIP NOTES

Redr and Redr Conn Ckt,
 SD-25872-01:
 Transverter Conn Ckt,
 Fig. 4 3 0

WIRE EQUIP NOTES

Transverter Transfer Rel,
 Fig. 10 1
 Transverter Blocking Rel,
 Fig. 12 1

List 5 — Apparatus per SD-25872-01, Fig. 4 and A, B, or C, required in addition to list 1 or 4 for each transverter with which a recorder is to operate. (See Note E.)

List 6 — P-424439 support required in addition to list 1 when the fifth list 5 is not equipped, or in addition to list 4 when the eighth list 5 is not equipped.

List 8 — Wiring and equipment per SD-25872-01, Fig. G required in addition to list 1 to arrange one recorder unit for two irregular hour entries.

List 9 — Wiring and equipment required in addition to list 1 to arrange one emergency recorder unit for more than five transverters. (See Note F.)

WIRE EQUIP NOTES

Redr and Redr Conn Ckt,
 SD-25872-01:
 Transverter Conn Ckt,
 Fig. 4 3 0
 Transverter Blocking Rel,
 Fig. 12 1

Notes

A. The multicontact relay mountings are treated as an equipment item rather than as part of the unit assembly. It is considered desirable to mount the relays as required on the auxiliary framework and strap them as a separate assembly.

B. The local cable shall contain all wiring options shown in the circuit figures specified insofar as their No. 1 crossbar office application is concerned. The variables are to be connected in each recorder as required by job conditions.

C. Universal wiring for circuit Fig. 3 and 9 shall be furnished in all recorder units.

D. Where transverter connector multicontact relays are partially equipped, the horizontal multiple strapping shall be prepared for extension as shown in the cabling and wiring specification.

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

- E. The transverter connector multicontact and preference relays shall be equipped in consecutive order.
- F. Lists 4 and 9, in addition to the equipment specified, include the TCA multicontact relay terminal strip shown on the equipment drawing and the bare wire strapping to the associated TC relays. No other wiring per circuit Fig. 4 is furnished under these lists.
- G. Provide Figure R and XO option to insure that the major alarm remains operated until a perforator tape feed irregularity is corrected or a manual transfer to an emergency recorder is made.
- H. When peg count information for service performance measurements plan (XU option) is added in an office prior to Issue 38D, remove XS and add XT option.

J22462E — AT&TCo Std — Recorder Frame for No. 5 Crossbar Offices

Equipment — J22462E-()

List 1 — Framework, assembly, wiring and common equipment for one recorder frame. (See Notes A and B.)

	WIRE	EQUIP	NOTES
Misc Ckt, SD-25574-01:			
Fig. 3	2	2	
Fig. 10	1	1	
Fig. 13, 16, 17, 19, 43, 48, & 49	0	1	
Redr and Redr Conn Ckt, SD-25872-01:			
Fig. 1, 3, 5, 9, & J, Fuses Only	0	2	
Call Identity Indexer Ckt, SD-25621-01:			
Fig. 1, A, B, & C, Fuses Only	0	2	
Fig. 1, D, J, RC, TC, OT Leads for Two CII Units Mtd in Lower Left & Lower Right Bay Pos	2	0	
AMA Trunk Transfer Ckt, SD-25715-01:			
Fig.1, Fuses Only	1	1	

List 2 — Equipment required in addition to list 1 for each recorder to be mounted on a recorder frame.

	WIRE	EQUIP	NOTES
Redr and Redr Conn Ckt, SD-25872-01:			
Fig. 1, MTRA, HR, & NP Lamps Only		1	
Fig. 3 or 9, MTR & XRB Lamps Only		1	

List 3 — Equipment required in addition to list 1 for the recorder frame accommodating the emergency recorder.

	WIRE	EQUIP	NOTES
Redr and Redr Conn Ckt, SD-25872-01:			
Fig. 9, EW Lamp Only		1	

List 4 — Wiring and equipment required in addition to list 1 for a recorder frame accommodating a third recorder. (See Note C.)

	WIRE	EQUIP	NOTES
Misc Ckt, SD-25574-01:			
Fig. 3	1	1	
Fig. 10	1	1	
Redr and Redr Conn Ckt, SD-25872-01:			
Fig. 1, 3, 5, 9, & J, Fuses Only	0	1	
Call Identity Indexer, SD-25621-01:			
Fig. 1, A, B, & C, Fuse Only	0	1	

List 9 — Wiring required in addition to list 1 to arrange one recorder frame for three recorders and two call identity indexers. (See Notes D, E, and L.)

	WIRE	EQUIP	NOTES
Misc Ckt, SD-25574-01:			
Fig. 4, 13, 16, 17, 19, 43, 48, 49, & 64	1		
Redr and Redr Conn Ckt, SD-25872-01:			
Fig. 1, 3, 9, 11, 13, & J and XR Option	3		
Fig. 1, HR & NP Lamps Only	3		
Fig. 3, MTR & XRB Lamps Only	3		

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

WIRE EQUIP NOTES

Fig. 9, MTR, XRB,
& EW Lamps Only

1

List 10 — Vertical multiple wiring and equipment required in addition to list 1 to arrange one recorder frame to give a maximum of three recorders access to master timers. (See Notes F and I.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 5, Rel Contact
Multiples Only

3

List 11 — Vertical multiple wiring and equipment required in addition to list 1 to arrange one recorder frame to give a maximum of three recorders access to transverters 0 and 1. (See Notes G and I.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 1 & 3
Fig. 4, Rel Contact
Multiples Only

3

6

List 12 — Vertical multiple wiring and equipment required in addition to list 1 to arrange one recorder frame to give a maximum of three recorders access to transverter 2, 3, or 4. (See Notes H and I.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 4, Rel Contact
Multiples Only

3

List 13 — Wiring required in addition to list 1 to arrange one recorder frame for two recorders and four call identity indexes. (See Notes D, E, and L.)

WIRE EQUIP NOTES

Misc Ckt, SD-25574-01:

Fig. 4, 13, 16, 17, 19,
43, 48, 49, & 64

1

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 1, 3, 9, 11, 13, & J
and XR Option

2

WIRE EQUIP NOTES

Fig. 1, HR, & NP

Lamps Only

2

Fig. 3, MTR & XRB

Lamps Only

2

Fig. 9, MTR, XRB, & EW

Lamps Only

1

List 14 — Vertical multiple wiring and equipment required in addition to list 1 to arrange one recorder frame to give a maximum of two recorders access to master timers. (See Notes F and I.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 5, Rel Contact
Multiples Only

2

List 15 — Vertical multiple wiring and equipment required in addition to list 1 to arrange one recorder frame to give a maximum of two recorders access to transverters 0 and 1. (See Notes G and I.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 1 & 3
Fig. 4, Rel Contact
Multiples Only

2

4

List 16 — Vertical multiple wiring and equipment required in addition to list 1 to arrange one recorder frame to give a maximum of two recorders access to transverter 2, 3, or 4. (See Notes H and L.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 4, Rel Contact
Multiples Only

2

List 17 — Apparatus per SD-25574-01, Fig. 64 required in addition to list 1 in offices having automatic progression trunk test frame.

List 18 — Vertical multiple wiring and equipment required in addition to list 1 to arrange one recorder frame to give a maximum of three recorders access to transverters 5 or 6. (See Notes H and I.)

List 19 — Vertical multiple wiring and equipment required in addition to list 1 to arrange one recorder frame to give a maximum of two recorders access to transverter 5 or 6. (See Notes H and I.)

List 20 — Local cable required in addition to list 1 per two Fig. 1 of SD-25715-01 when the recorder frame is arranged for more than two call identity indexers. (See Note K.)

List 21 — Supplementary local cable required in addition to list 1 per SD-25621-01, Fig. 59 and 60, and SD-25872-01, part of Fig. 59 and 60, when the recorder frame is arranged for AMA trunk transfer.

Notes

A. List 1 includes framework and equipment items as covered therein and on the equipment drawing.

B. For the miscellaneous, recorder, and call identity indexer circuit figures specified, list 1 includes only the fuses and battery and ground feeders required for the first and second recorders on the frame.

C. For the miscellaneous, recorder, and call identity indexer circuit figures specified, list 4 includes only the fuses, battery feeders, and ground and alarm bar bonds required for the third recorder on the frame.

D. Lists 9 and 13 cover only the wiring constituting cable A shown on the local cable drawing. For the recorder circuit figures specified, these lists include only the wiring interconnecting the BB6A-type unit terminal strips, the BB6A-type frame terminal strip, the fuse panels, and the jack mountings.

E. Lists 9 and 13 contain universal wiring for the MTR and XRB lamps of recorder circuit Fig. 3 and 9. The lamp wiring per Fig. 9 is furnished for the uppermost recorder unit position on the frame.

F. Lists 10 and 14 cover only the wiring and the frame terminal strips constituting cable B shown on the local cable drawing. Cable B contains two separate multiples, one for the first and third recorders and another for the second recorder, permitting interframe cables to be connected in such manner as to associate even recorders with one master timer and odd recorders including the emergency recorder, with the other master timer.

G. Lists 11 and 15 cover only the wiring and the frame terminal strips constituting cables C and D shown on the local cable drawing. Each list includes both cables. For recorder circuit Fig. 1 and 3, these cables include the interunit multiple wiring clearing through the RA and RB terminal strips.

H. Lists 12 and 16 cover the vertical multiple wiring and frame terminal strips constituting cables E shown on the local cable drawing. Lists 18 and 19 cover the vertical multiple wiring and frame terminal strips constituting cables F shown on the local cable drawing. List 18 or 19 for transverters 5 and 6 may be combined in the same forms with list 12 or 16 for transverters 2 and 3, respectively, when furnished concurrently. Lists 12 and 16 differ from lists 18 and 19, as separate forms, in the spacing of terminal strip and associated relays.

I. Vertical multiple local cables B, C, D, E, and F, interconnect terminal strips at the top of the frame with terminal strips or multicontact relays on the recorder units. As the units are mounted on the frame from the rear, the future use of unequipped recorder spaces requires that such spaces be at the bottom of the frame. Recorder units are therefore equipped in top-down order and the vertical multiple cables originating at the top of the frame run to the first recorder equipped and then multiple to each recorder down the frame looping at unequipped positions.

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

J. When the recorder units on an existing frame are modified to provide for ten transverters instead of seven, the leads designated Fr LC in Fig. 67 and 68 shall be superimposed on the frame local cable by the installation force.

K. The local cable per list 20 includes only the DJ leads for the call identity indexer units mounted in the upper positions of the left and right bays. This cable may be sewn into the frame local cable.

L. Connect wiring per XR option when trunk transfer unit is provided.

J22462F — AT&TCo Std — Recorder Unit for No. 5 Crossbar Offices

Equipment — J22462F-()

List 1 — Framework, assembly, wiring, and common equipment for one recorder unit.
 (See Notes A, B, C, D, E, I, J, and U.)

	WIRE	EQUIP	NOTES
Rcdr and Rcdr Conn Ckt, SD-25872-01:			
Rcdr Ckt, Fig. 1, Less AT Sw and MTRA, HR, & NP Lamps, but Incl YJ Option	1	1	
Transfer and Make-Busy Ckt, Fig. 3 & R With XO Option, less MTR & XRB Lamps	1	0	R
Transverter Conn Ckt, Fig. 4	7	0	F
Conn Ckt, Fig. 5			
Tbl Rcdr & Master Tmg With V & YO Options	1	1	
Master Tmg Pref Rel, Fig. 6	1	1	
Hour Record Pref Rel, Fig. 7	1	1	
Trk Pref Rel, Fig. 8	1	1	
Make-busy Ckt, Fig. 9, Less MTR, XRB, & EW Lamps	1	0	
Trk Test Rel, Fig. 11			
Auto. Prog Trk Tst Ckt, Fig. 17 & 18	1	0	
First Transverter Pref Rel, Fig. A	1	0	K,L

	WIRE	EQUIP	NOTES
Int. Transverter Pref Rel, Fig. B	8	0	H
Last Transverter Pref Rel, Fig. C	1	0	H
Tmg Ckt Rel, Fig. J	1	1	
Irregular Hour Entries Ckt, Fig. G	1	0	
Transverter Transfer Rel, Fig. 10	1	0	
Transverter Blocking Rel, Fig. 12	1	0	
Grp No. Rel, Fig. 13 & 14	1	0	
Transfer Rel, Fig. 22	1	0	
CAMA Call Count Rel, Fig. 23	1	0	M,N,P
Recorder Pref Improvement Fig. 27 & WA Option	1	1	

List 2 — Apparatus per SD-25872-01, Fig. 3, 11, and R required in addition to list 1 to arrange one recorder unit for use as a regular recorder.

List 3 — Apparatus per SD-25872-01, Fig. 9 required in addition to list 1 to arrange one recorder unit for use as an emergency recorder.

List 4 — Apparatus per SD-25872-01, Fig. 4 and A, B, or C required in addition to list 1 for each transverter with which a recorder unit is to operate.

List 5 — P-424439 support required in addition to list 1 in each recorder unit not having five lists 4.

List 7 — Wiring and equipment per SD-25872-01, Fig. G required in addition to list 1 to arrange one recorder unit for two irregular hour entries.

List 8 — Apparatus per SD-25872-01, Fig. 17 and 18 required in addition to list 1 to arrange one regular recorder unit to work with automatic progression trunk test frame.

List 9 — Wiring and equipment required in addition to list 1 to arrange one regular recorder unit for more than five transverters. (See Notes F and G.)

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

	WIRE	EQUIP	NOTES
Mounting Bar, P-30B614 Rcdr and Rcdr Conn Ckt, SD-25872-01:		2	
Transverter Conn Ckt, Fig. 4	2	0	
Transverter Transfer Rel, Fig. 10		1	
Transverter Blocking Rel, Fig. 12		1	

List 10 — Wiring and equipment required in addition to list 1 to arrange one emergency recorder unit for more than five transverters. (See Notes F and G.)

	WIRE	EQUIP	NOTES
Mounting Bar, P-30B614 Rcdr and Rcdr Conn Ckt, SD-25872-01:		2	
Transverter Conn Ckt, Fig. 4	2	0	
Transverter Blocking Rel, Fig. 12		1	

List 11 — Apparatus per SD-25872-01, Fig. 22 and Fig. 27, XZ option only required in addition to lists 1 and 9 to arrange one regular or emergency recorder unit for more than eight transverters.

List 12 — Apparatus and wiring per SD-25872-01, Fig. 13, less options; and Fig. 23 required in addition to list 1 and 2 to arrange one regular recorder unit for CAMA only, or CAMA and LAMA, or LAMA with more than one recorder group number.

List 13 — Apparatus and wiring per SD-25872-01, Fig. 14, less options, required in addition to lists 1 and 3 to arrange the emergency recorder unit for CAMA only, or CAMA and LAMA, or LAMA with more than one recorder group number.

List 14 — Apparatus and wiring per SD-25872-01, Fig. 13, option WR only, required in addition to list 12 to arrange a regular recorder to provide recorder group hundreds information in offices where the recorder groups are not in the same hundreds. (See Note T.)

List 15 — Apparatus and wiring per SD-25872-01, Fig. 14, option WL only, required in addition to list 13 to arrange an emergency recorder to provide recorder group hundreds information in offices where the recorder groups are not in the same hundreds. (See Note T.)

Notes

- A. The multicontact relay mounting units are treated as an equipment item rather than as part of the frame assembly. It is considered desirable to mount the relays as required on the auxiliary framework and strap them as a separate assembly.
- B. Except as specifically covered in the wiring list, the local cable shall contain all wiring options shown in the circuit figures specified insofar as their No. 5 crossbar office application is concerned, to be connected in each recorder as required by job conditions.
- C. Universal wiring for circuit Fig. 3, 9, and R shall be furnished in all recorder units.
- D. Where transverter connector multicontact relays are partially equipped, the horizontal multiple strapping shall be prepared for extension as shown in the cabling and wiring specification.
- E. The transverter connector multicontact and preference relays shall be equipped in consecutive order.
- F. Lists 9 and 10, in addition to the equipment specified, include the TCA multicontact relay terminal strip shown on the equipment drawing, the bare wire strapping to TC5 and TC6, relays and unit local cable B interconnecting the TC and TCA multicontact relay terminal strips. List 1 includes the remaining wiring per circuit Fig. 4, except that furnished in the frame vertical multiple local cables to the multicontact relay contacts.
- G. When lists 9 and 10 are used with existing recorder units wired for a maximum of five transverters, the necessary wiring per circuit Fig. 4, 10, 12, B, and C for transverters 5 and 6 is superimposed on the unit local cable by the installation force.

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

- H. Intermediate and last transverter preference relays are wired so that any one may be used as last.
- I. When list 11 is used with existing recorder units wired for a maximum of seven transverters, the necessary wiring per circuit Fig. 22, B, and C is superimposed on the unit local cable by the installation force.
- J. When list 12 or 13 is used with existing recorder units to provide for CAMA and/or more than one recorder group number, the necessary wiring per circuit Fig. 13, 14, and 23 is superimposed upon the unit local cable by the installation force.
- K. A&M Only — Connect XF wiring when the recorder is to be used in an office arranged to work with an automatic progression trunk test frame and all marker groups are arranged for ten or less recorders.
- L. Connect XG wiring when the recorder is to be used in an office arranged to work with an automatic progression trunk test frame and any marker group is arranged for 11 or more recorders.
- M. List 12 is required for each regular recorder that serves LAMA and CAMA traffic or only CAMA traffic.
- N. Connect YQ wiring when regular recorder serves CAMA traffic only and CAMA call count process control operates with recorders arranged to count initial entries per recorder.
- P. Connect YP wiring when the recorder serves both LAMA and CAMA traffic and CAMA call count process control operates with recorders arranged to count initial entries by transverter group.
- R. Connect XO wiring when emergency recorder is provided.
- S. When peg count information for service performance measurements plan, XU option is added in an office prior to Issue 38D, remove XS and add XT option.

T. For offices where the recorder groups are in the same hundreds, the master timer will provide the recorder group hundreds instead of the individual recorders providing it.

U. In addition there are options involving wiring only per Note 102 of SD-25872-01.

J22462G — AT&T Co Std — Recorder Frame for Tandem and No. 4A or 4M Toll Offices

Equipment — J22462G- ()

List 1 — Framework, assembly, wiring, and common equipment for one recorder frame arranged for four recorders and twelve transverters and wired for four recorders and two transverters. (See Notes A, B, and C.)

	WIRE	EQUIP	NOTES
Mtg Panels, P-267514		2	
Misc Ckt, SD-25884-01:			
Fig. 2 to 7, 8, 9, & 10	1	1	
Fig. 12	4	2	
Rcdr and Rcdr Conn Ckt, SD-25872-01:			
Fig. 1, 3, 5, 9, 10, K, L, & Fig. J, With YY Option	4	0	
Fig. 4	8	0	

List 2 — Equipment required in addition to list 1 for a recorder frame accommodating more than two recorders. (See Note D.)

	WIRE	EQUIP	NOTES
Misc Ckt, SD-25884-01:			
Fig. 12		2	

List 3 — Equipment required in addition to list 1 for each regular recorder to be mounted on a recorder frame.

	WIRE	EQUIP	NOTES
Rcdr and Rcdr Conn Ckt, SD-25872-01:			
Fig. 1, HR, NP, & MTRA Lamps Only		1	
Fig. 3, MTR & XRB Lamps Only		1	

List 4 — Equipment required in addition to list 1 for the emergency recorder.

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:
Fig. 1, HR, NP, & MTRA
Lamps Only
Fig. 9, MTR, XRB, & EW
Lamps Only

1

1

List 5 — Vertical multiple wiring and equipment required in addition to list 1 to give one recorder frame access to transverter 2, 3, 4, 5, or 6. (See Notes C and E.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:
Fig. 4, Rel Contact
Multiples Only

4

List 6 — Vertical multiple wiring and equipment required in addition to list 1 to give one recorder frame access to transverters 7, 8, 9, 10, or 11. (See Notes C and E.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:
Fig. 4, Rel Contact
Multiples Only

4

List 7 — Equipment per SD-25872-01, MTCE test post only required in addition to list 3 or 4 for each recorder mounted on a recorder frame in a No. 4A or 4M office.

List 8 — Supplementary local cable required when the call identity indexer frame is located adjacent on the right. (See Note G.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:
Fig. 3 (Leads to the
Call Identity Indexer
Only)

4 0

Notes

- A. List 1 includes framework and equipment items as covered therein and on the equipment drawing. The fuse panel serves the first and second recorder units and includes all associated equipment as shown on the equipment drawing.
- B. List 1 includes only that wiring, for the frame miscellaneous circuit and four recorders, which constitutes cables A, B, C, and D shown on the local cable drawing. Cable A includes universal wiring for Fig. 3 and 9. The lamp wiring per Fig. 9, however, is furnished for only the uppermost recorder position on the frame. Master timer multiple cable B contains two separate multiples, one for the first and third recorders and another for the second and fourth recorders, permitting interframe cables to be connected in such manner as to associate even recorders with one master timer and odd recorders, including the emergency recorders, with the other master timer.
- C. Vertical multiple local cables B, C, D, E, and F, interconnect terminal strips at the top of the frame with terminal strips or multicontact relays on the recorder units. As the units are mounted on the frame from the rear, the future use of unequipped recorder spaces requires that such spaces be at the bottom of the frame. Recorder units are therefore equipped in top-down order and the vertical multiple cables originating at the top of the frame run to the first recorder equipped and then multiple to each recorder down the frame looping at unequipped positions.
- D. List 2 covers the fuse panel required for the third and fourth recorder units on the frame and includes all associated equipment as shown on the equipment drawing.
- E. Lists 5 and 6 cover the vertical multiple wiring and frame terminal strips constituting cables E and F shown on the local cable drawing. List 6 for transverters 7, 8, 9, 10, and 11 may be combined in the same forms with list 5 for transverters 2, 3, 4, 5,

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

and 6, respectively, when furnished concurrently. Lists 5 and 6, as separate forms, differ in the spacing of terminal strip and associated relays.

- F. When the third recorder unit from the top is omitted, furnish material covered by group 2 of ED-26830-70. When the fourth unit from the top is omitted, furnish material per group 3 of ED-26830-70.
- G. This local cable also includes the battery (A,B,C) and ground (A,C) leads from the four call identity indexer units to the fuse panel in the recorder frame.

J22462H — AT&TCo Std — Recorder Unit for Tandem and No. 4A or 4M Toll Offices

Equipment — J22462H- ()

- List 1** — Framework, assembly, wiring, and common equipment for one recorder unit arranged for twelve transverters. (See Notes A, B, C, D, E, G, and I.)

	WIRE	EQUIP	NOTES
Rcdr and Rcdr Conn Ckt, SD-25872-01:			
Rcdr Ckt, Fig. 1, Less AT Sw and MTRA, HR, & NP Lamps, but Incl YJ Option	1	1	
Transfer and Make-busy Ckt, Fig. 3 and R, Incl ZX and XO Option, Less MTR & XRB Lamps	1	0	
Transverter Conn Ckt, Fig. 4	12	0	
Tbl Rec, Tbl Ind, & Master Tmg Conn, Less XC App Ckt, Fig. 5 Incl YN Option	1	1	
Master Tmg Pref Rel, Fig. 6	1	1	
Hour Record Pref Rel, Fig. 7	1	1	
Trunk Pref Rel, Fig. 8	1	1	
Make-busy Ckt, Fig. 9, Incl ZX Option, Less MTR, XRB, & EW Lamps	1	0	

	WIRE	EQUIP	NOTES
Transverter Blocking Rel, Fig. 12, Incl ZY & YH			
Options	1	0	
Rcdr Grp Ckt — Reg. Fig. 13	1	0	
Rcdr Grp Ckt — EM, Fig. 14	1	0	
Trk Tst Rel, Fig. 15			
Incl XM Option	1	0	
Transverter Transfer Rel, Fig. 16 & 19, Incl YJ & YL Options	1	0	
Recorder Preference Improvement & Single Time Line, Fig. 27, less WA & XZ Options	1	1	
First Transverter Pref Rel, Fig. A	1	0	
Int Transverter Pref Rel, Fig. B	10	0	
Last Transverter Pref Rel, Fig. C	1	0	
Irregular Hour Entries Ckt, Fig. G	1	1	

- List 2** — Apparatus per SD-25872-01, Fig. 3, 13, less WK option, Fig. 15, less XM option, Fig. 19, less MTR and XRB lamps and ZY apparatus, and Fig. 27. The WA option only required in addition to list 1 to arrange one recorder unit for use as a regular recorder in a tandem office.

- List 3** — Apparatus per SD-25872-01, Fig. 9 and 14, less WL option, MTR, XRB, and EW lamps, required in addition to list 1 to arrange one recorder unit for use as an emergency recorder.

- List 7** — Apparatus per SD-25872-01, Fig. 12 required in addition to list 1 to arrange one regular or emergency recorder unit for more than five transverters.

- List 8** — Apparatus required in addition to list 1 to arrange one emergency recorder unit for more than seven transverters. (See Note F.)

- List 9** — Apparatus per SD-25872-01, Fig. 4 and A, B, or C required in addition to lists 2 and 3 for each transverter with which a recorder is to operate. (See Note E.)

- List 10** — P-424439 support required in addition to list 1 when the seventh list 9 is not equipped or in addition to list 4 when the twelfth list 9 is not equipped.
- List 11** — Apparatus per SD-25872-01, Fig. 16, ZY option only and multicontact relay terminal strip and strapping required in addition to list 1 to arrange one regular recorder unit for more than seven transverters. (See Notes F and H.)
- List 14** — A&M Only — Wiring and apparatus in accordance with SD-25872-01, Fig. K required in addition to list 1 when tandem office is equipped with a transverter trouble indicator.
- List 15** — Wiring and apparatus in accordance with SD-25872-01, Fig. J, less all options except YY option wiring, required in addition to list 1 when tandem office is equipped with a trouble recorder.
- List 16** — Apparatus per SD-25872-01, Fig. 3, 13, less WK option, 16, 19, 26, and L less MTR and XRB lamps and ZY apparatus and Fig. 27, WA option only required in addition to list 1 to arrange one recorder unit for use as a regular recorder in a No. 4A or 4M office.
- List 17** — Apparatus required in addition to list 1 when the cancel-timing feature is required in tandem office in accordance with SD-25872-01, Fig. N.
- List 18** — Apparatus per SD-25872-01, Fig. 15, WB and XM options only required in addition to list 1 to arrange tandem offices to receive CR, NR, and TR indications from the emergency recorder and to reduce single time line entries.
- List 19** — Apparatus per SD-25872-01, Fig. 27, XZ option only required in addition to list 1 when regular or emergency recorder is arranged for more than eight transverters.
- List 21** — Apparatus per SD-25872-01, Fig. 13, option WK only, required in addition to list 2 or 16 to arrange a regular recorder to provide recorder group hundreds information in offices where the recorder groups are not in the same hundreds. (See Note K.)

- List 22** — Apparatus per SD-25872-01, Fig. 14, option WL only, required in addition to list 3 to arrange an emergency recorder to provide recorder group hundreds information in offices where the recorder groups are not in the same hundreds. (See Note K.)

Notes

- A. The multicontact relay mountings are treated as an equipment item rather than as part of the assembly. It is considered desirable to mount the relays as required on the auxiliary framework and strap them as a separate assembly.
- B. The local cable shall contain all wiring options shown in the circuit figures specified insofar as the tandem crossbar or No. 4A or 4M toll office application is concerned. The variables are to be connected in each recorder as required by job conditions.
- C. Universal wiring for circuit Fig. 3, 9, 13, 14, and R shall be furnished in all recorder units.
- D. Where transverter connector multicontact relays are partially equipped, the horizontal multiple strapping shall be prepared for extension as shown in the cabling and wiring specification.
- E. The transverter connector multicontact and preference relays shall be equipped in consecutive order.
- F. Lists 8 and 11 include the TCA multicontact relay terminal strip shown on the equipment drawing and the bare wire strapping to the associated TC relays.
- G. J22462H-() shows the fuses for the call identity indexer units for the case where these frames are located at the right and adjacent to the associated recorder frames. Where the call identity indexer frames are separated from the recorder frames, these fuses are not used. (See J22151.)

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

H. Provision in the regular recorder for the eleventh and twelfth transverter is covered by wiring option YH.

I. The local cable for recorder units to be used in tandem offices shall include wiring for Fig. 15, while local cables for recorder units to be used in No. 4A or 4M offices shall include wiring for Fig. 26 and L.

J. When peg count information for service performance measurements plan, XU option, is added in an office prior to Issue 38D, remove XS and add XT option.

K. For offices where the recorder groups are in the same hundreds, the master timer will provide the recorder group hundreds information.

J22462J — AT&TCo Std — Recorder Frame for No. 1 Step-by-Step Offices

Equipment — J22462J-()

List 1 — Framework, assembly, wiring, and common equipment for one recorder frame arranged for four recorders and six transverters and wired for four recorders and transverters 0 and 1. (See Notes A, B, and E.)

Misc Ckt, SD-25884-01:

Fig. 3, 4, 5, 7, 9,
10, & 11

Fig. 8, X Option

Swmn Talking Line Ckt,
SD-32021-01:

Fig. 2, Q Option,
Apparatus Only

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 1, 3, 5, 9, 10 & J
Fig. 4

WIRE EQUIP NOTES

1 1
2 1

0 1

4 0
8 0

List 2 — Equipment required in addition to list 1 for each recorder to be mounted on a recorder frame.

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 1, MTRA, HR, &

NP Lamps Only

Fig. 3 or 9, MTR & XRB
Lamps Only

1
1

List 3 — Equipment required in addition to list 1 for the recorder frame accommodating the emergency recorder.

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 9, EW Lamp Only

1

List 4 — Apparatus per SD-25884-01, Fig. 8 required in addition to list 1 when two sender-identifier-transverter test frames serve the identifier group with which the recorder frame is to operate.

List 5 — Vertical multiple wiring and equipment required in addition to list 1 to give one recorder frame access to transverter 2, 3, or 4. (See Note C.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 4, Rel Contact
Multiples Only

4

List 6 — Vertical multiple wiring and equipment required in addition to list 1 to give one recorder frame access to transverter 5. (See Note C.)

WIRE EQUIP NOTES

Rcdr and Rcdr Conn Ckt,
SD-25872-01:

Fig. 4, Rel Contact
Multiples Only

4

Notes

A. List 1 includes only that wiring for the frame miscellaneous circuit and four recorders which constitute cables A, B, C, and D shown on the local cable drawing, ED-25944-10. Cable A includes universal wiring for Fig. 3 and 9. The lamp wiring

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

per Fig. 9, however, is furnished for only the uppermost recorder position on the frame. Master timer multiple cable B contains two separate multiples, one for the first and third recorders and another for the second and fourth recorders, permitting interframe cables to be connected in such manner as to associate even recorders with one master timer circuit and odd recorders, including the emergency recorder, with the other master timer circuit.

- B. Vertical multiple local cables B, C, D, E, and F, interconnect terminal strips at the top of the frame with terminal strips or multicontact relays on the recorder units. As the units are mounted on the frame from the rear, the future use of unequipped recorder spaces requires that such spaces be at the bottom of the frame. Recorder units are therefore equipped in top-down order and the vertical multiple cables originating at the top of the frame run to the first recorder equipped and then multiple to each recorder down the frame looping at unequipped positions.
- C. Lists 5 and 6 cover the vertical multiple wiring and frame terminal strips constituting cables E and F shown on the local cable drawing. List 6 for transverter 5 may be combined in the same form with list 5 for transverter 2 when furnished concurrently. Lists 5 and 6, as separate forms, differ in the spacing of terminal strip and associated relays.
- D. When the third recorder unit from the top is omitted, furnish material covered by group 2 of ED-25939-70. When the fourth unit from the top is omitted, furnish material per group 3 of ED-25939-70.
- E. The switchman jack per SD-32021-01 in list 1 is wired by the installation force.

J22462K — AT&TCo Std — Recorder Unit for No. 1 Step-by-Step Offices

Equipment — J22462K-()

List 1 — Framework, assembly, wiring, and common equipment for one recorder unit arranged for six transverters. (See Notes A, B, C, D, and E.)

	WIRE	EQUIP	NOTES
Rcdr and Rcdr Conn Ckt, SD-25872-01:			
Rcdr Ckt, Fig. 1, Less AT Sw and MTRA, HR, & NP Lamps, but Incl YJ Option	1	1	
Transfer and Make-busy Ckt, Fig. 3, Less MTR & XRB Lamps	1	0	
Transverter Conn Ckt, Fig. 4	6	0	
Tbl Rcdr & Master Tmg Conn Ckt, Fig. 5, Incl YO Option	1	1	
Master Tmg Pref Rel, Fig. 6	1	1	
Hour Record Pref Rel, Fig. 7	1	1	
Trunk Pref Rel, Fig. 8	1	1	
Make-busy Ckt, Fig. 9, Less MTR, XRB, & EW lamps	1	0	
Trunk Test Rel, Fig. 11	1	0	
Transverter Blocking Rel, Fig. 12	1	0	
Trunk No. Ident Rel, Fig. 20	1	1	
Transfer Relay, Fig. 21	1	0	
First Transverter Pref Rel, Fig. A	1	0	
Int Transverter Pref Rel, Fig. B	4	0	
Last Transverter Pref Rel, Fig. C	1	0	
Tmg Ckt, Fig. J and YX Option	1	1	
Irregular Hour Entries Ckt, Fig. G	1	1	
Rcdr Pref Improve- ment and Single Time Line Ckt, Fig. 27, less WA Option	1	1	

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

List 2 — Apparatus per SD-25872-01, Fig. 3, 11, 21, and 27, WA option only, less MTR and XRB lamps, required in addition to list 1 to arrange one recorder unit for use as a regular recorder.

List 3 — Apparatus per SD-25872-01, Fig. 9 less MTR, XRB, and EW lamps required in addition to list 1 to arrange one recorder unit for use as an emergency recorder.

List 4 — Wiring and equipment required in addition to list 1 to arrange one recorder unit for a sixth transverter. (See Note F.)

	WIRE	EQUIP	NOTES
Rcdr and Rcdr Conn Ckt, SD-25872-01:			
Transverter Conn Ckt, Fig. 4	1	0	
Transverter Blocking Rel, Fig. 12		1	

List 5 — Apparatus per SD-25872-01, Fig. 4 and A, B, or C required in addition to list 1 for each transverter with which a recorder is to operate. (See Note E.)

List 6 — P-424439 support required in addition to list 1 when the fifth list 6 is not equipped.

Notes

- A. The multicontact relay mountings are treated as an equipment item rather than as part of the unit assembly. It is considered desirable to mount the relays as required on the auxiliary framework and strap them as a separate assembly.
- B. The local cable shall contain all wiring options shown in the circuit figures specified insofar as their step-by-step office application is concerned. The variables are to be connected in each recorder as required by job conditions.
- C. Universal wiring for circuit Fig. 3 and 9 shall be furnished in all recorder units.
- D. Where transverter connector multicontact relays are partially equipped, the horizontal

multiple strapping shall be prepared for extension as shown in the cabling and wiring specification.

E. The transverter connector multicontact and preference relays shall be equipped in consecutive order.

F. List 4, in addition to the equipment specified includes the TCA multicontact relay terminal strip shown on the equipment drawing and the bare wire strapping to the TC5 relay. No other wiring per circuit Fig. 4 is furnished under this list.

G. When peg count information for service performance measurements plan, XU option, is added in an office prior to Issue 38D, remove XS and add XT option.

J22462L — AT&T Co Std — Supplementary Recorder Frame for No. 5 Crossbar Office

Equipment — J22462L-()

List 1 — Framework, assembly, wiring, and common equipment for one supplementary recorder frame arranged for a maximum of three transverters in one emergency and 28 regular recorders.

	WIRE	EQUIP	NOTES
Rcdr and Rcdr Conn Ckt, SD-25872-01:			
Transverter Conn Ckt, Fig. 25	3	3	
Strap Wire Multiple, CAD 13	1	0	B
Mounting Bar, P-44J350:			
Equipped With BT6A TS in Pos 11		1	
Equipped With BT6A TS in Pos 1 and 2		2	
Equipped With BT6A TS in Pos 2		1	
Misc Ckt, SD-25574-01:			
Grd Feeder Ckt, Fig. 10	1	1	
48V Tst Bat. Ckt, Fig. 13	1	1	C
Spare Jk Ckt, Fig. 16	1	1	
Fr Line Tel Jk Ckt, Fig. 17	1	1	
Remote Cont Jk Ckt, Fig. 19	1	1	

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

List 2 — Transverter multiple local cable and one terminal strip required in addition to list 1 for each transverter position equipped. (See Note D.)

List 3 — Framework, assembly, equipment, two local cables, and strap wire multiple required in addition to list 1 for each two regular recorder positions equipped. (See Note E.)

	WIRE	EQUIP	NOTES
Redr and Redr Conn Ckt, SD-25872-01:			
Transverter Conn Ckt for Two Regular Recorders, Fig. 25	6	0	
Strap Wire Multiple, CAD 13	2	0	
Mounting Bar, P44J350: Equipped With BT6A TS in Pos 2, BU6A TS in Pos 9 and 99A App Blanks in Pos 3 to 8, Incl		1	
Equipped With BT6A TS in Pos 1 and 2, BU6A TS in Pos 9 and 10 and 99A App Blanks in Pos 3 to 8, Incl		1	

List 4 — Equipment per SD-25872-01, two Fig. 25 required in addition to each list 3 for each transverter position equipped, omit four 99A apparatus blanks. (See Note E.)

Notes

- A. Reserved.
- B. Wiring specified for the miscellaneous circuit in list 1 is contained in the frame local cable, as well as ground wires for the recorder connector on the frame. The strap wire multiple and mounting bars in list 1 are for the emergency recorder.
- C. The TBS fuse for the miscellaneous circuit is located on the PRTD frame.
- D. Wiring specified in list 2 includes all leads in SD-25872-01, CAD 14 designated TV mult LC.

E. One list 3 shall be provided for each two regular recorder positions equipped on the frame in the order 0 and 1, 2 and 3, etc, and 26 and 27, and one list 4 shall be provided for each list 3 for each transverter position equipped in consecutive order from 7 to 9. The two local cables in list 3 consist of the leads marked LC in SD-25872-01, CAD 15, for the regular recorders.

G. A&M Only — The register transfer control unit may be mounted on this frame immediately below the emergency recorder connector relays. In this case the two 1-1/3 ampere, 48-volt fuses required for each unit are located on the PRTD frame. (See Note H.)

H. Subsequent to expansion to more than 20 AMA recorders the register transfer control units are no longer mounted on this frame and must be relocated to a relay rack frame when more than 24 regular recorders are provided.

J22462M — AT&TCo Std — Register Transfer Control Unit

Equipment — J22462M-()

List 1 — Assembly, equipment, and wiring for one register transfer control unit for two regular recorders per SD-25872-01, two Fig. 24. (See Note B.)

Notes

- A. Reserved.
- B. This unit is required in No. 5 crossbar offices when the associated regular recorders serve CAMA traffic only, and CAMA call count process control is provided. Each unit serves two regular recorders and a maximum of five units may be required for the ten recorders 0 to 9 to which CAMA operation is restricted. These units should be mounted on miscellaneous relay rack frame. Prior to Issue 47 of SD-25872-01, these units could be mounted on the supplementary recorder frame, in which case the —48 volt fuse per circuit is located on the PRTD frame.

J22462N — AT&TCo Std — AMA Trunk Transfer Unit for No. 5 Crossbar

Equipment — J22462N-()

List 1 — Assembly, wiring, and equipment for one AMA trunk transfer unit equipped for transferring 50 or less AMA trunks for each of two call identity indexers from one indexer to the other.

	WIRE	EQUIP	NOTES
AMA Trunk Transfer Ckt, SD-25715-01:			
Control, Fig. 1	1	1	
Transfer, Fig. 2	10	10	

Notes

- A. Reserved.
- B. This unit is for use in small offices with 100 or less AMA trunks which specify only two regular recorders, two call identity indexers, and *no* emergency recorders.

J22462P — AT&TCo Std — Supplementary Recorder Unit for No. 5 Crossbar System

Equipment — J22462P-()

List 1 — Assembly, wiring, and equipment per SD-25872-01, six Fig. 25, for one supplementary recorder unit equipped for three transverters (TV 7, 8, and 9) and two regular recorders (recorders 28 and 29) and required when more than 28 recorders are provided.

Notes

- A. Reserved.
- B. This unit is always fully equipped and is relay rack mounted.
- C. The wiring specified in list 1 includes leads in SD-25872-01, CAD 49 designated 'TV MULT' and CAD 15 leads designated 'LC'.

5. GENERAL NOTES

5.01 In No. 1 crossbar offices, the recorders, call identity indexers, and perforators are numbered to agree with their associated district frames, for example, EM, 0 through 22 for the first marker group; EM, 100 through 129 for the second group, etc. In No. 5, No. 4A or 4M toll, and tandem offices, where these elements of equipment are independent of the trunk link frames, they are numbered EM, 0 up in all cases. In all three systems, the recorder frame numbers include marker group or transverter group identity, for example, 0 up, 100 up, etc. In step-by-step offices, the recorders are numbered EM, 0 through 9 and the recorder frames are numbered 0 up.

5.02 The gauge and type of wire used on this equipment except for step-by-step offices shall be in accordance with the following gauge and insulation drawings.

ED-27042-01 — No. 5 Crossbar

ED-27114-01 — No. 1 Crossbar

ED-27127-01 — Tandem Crossbar

ED-68870-01 — No. 4A or 4M Toll

For step-by-step office application, No. 24 gauge type BU wire shall be used for local cables where a high percentage of terminals are arranged for solderless wrapping. No. 24 gauge type C wire shall be used for local cables where a high percentage of terminals are arranged for soldering. No. 22 gauge type BH wire shall be used for the magnet, bush, and interrupter terminals of the 206-type selectors.

5.03 Codes J22462R through J22462Y are unassigned.

List of A&M Only and Mfr Disc. Equipment

The following 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.

J22462, ISSUE 12
SECTION 814-115-151, 816-108-150, 817-120-150, 818-108-150, 819-114-150

EQUIPMENT	RATING	DETAILS LAST SHOWN IN ISSUE	REPLACING EQUIPMENT
J22462A	Mfr Disc.	1	J22462E
J22462B	Mfr Disc.	1	J22462F
J22462D, L7	Mfr Disc.	2	—
J22462E, L5			
to L8	Mfr Disc.	2	—
J22462F, L6	Mfr Disc.	2	—
J22462H, L4,			J22462H, L11,
L5, & L6	Mfr Disc.	4	L12, & L13
L12			
& L13	Mfr Disc.	4	J22462H, L1
L14	A&M Only	5	—

Bell Telephone Laboratories, Incorporated

Dept 5243