COMPILING DATA FOR CONTROL TAPES FOR TRANSMISSION TESTING OF TRUNKS USING AUTOMATIC PROGRESSION TRUNK TEST FRAME AND AUTOMATIC TRANSMISSION MEASURING SYSTEM NO. 5 CROSSBAR OFFICES

CONTENTS PAGE

1. GENERAL

1.01 ▶This section describes the procedure for compiling data used in the preparation of control tapes for transmission testing of trunks using the Automatic Progression Trunk Test Frame (APTT) SD-25938-01, and the Automatic Transmission Measuring System (ATMS) SD-99746-01. These trunks may be outgoing from the office containing the APTT or outgoing from a remote office test line (ROTL). The control tapes provide instructions to the APTT, and when remote office testing is being performed, to the ROTL. These instructions include information to enable the APTT or ROTL to seize the trunks to be tested and to connect to the desired far-end test line. Transmission test control tapes also include the loss and noise requirements for each trunk to be tested.◀

1.02 This section is reissued for the following reasons:

(a) To add information in the TMT, TMU entries in Table A for tests of TSP(S), CCSA, and centrex trunks.

(b) To add information in the CLT, CLU entries in Table A for tests of CAMA, centrex and CCSA trunks.

(c) To include additional teletypewriter control characters in Table B for use when performing transmission tests of trunks using the Remote Office Test Line (ROTL).

(d) To revise Fig. 1, 2, 3, and 4 to show the current issue of the E-forms.

(e) To make minor changes as required.

This reissue does not affect Equipment Test Lists.

1.03 The Automatic Progression Trunk Test frame (APTT) and the Automatic Transmission Measuring System (ATMS) are arranged to perform transmission tests on the following types of trunks:

(a) Local interoffice trunks

(b) Intertoll trunks

(c) Toll connecting trunks, high-loss or others, including trunks to CAMA offices arranged for tone supervisory signaling

(d) Local tandem and tandem completing trunks

(e) Data trunks

(f) Intraoffice trunks

(g) Line link pulsing trunks

(h) Intermarker group trunks

(i) Automatic intercept trunks

(j) CCSA trunks

(k) TSP(S) trunks.

1.04 Automatic progression from one trunk to another is accomplished by information perforated on teletypewriter tape. Any 28-type teletypewriter may be used to produce a 5-level tape suitable for use with the APTT. However, it is recommended that a 28-type machine, equipped with a modified A-type keyboard and perforator wheel, be used to maintain consistency of the printed characters associated with each punched code. Use of a machine which produces chadless tape is also desirable. The method of preparing control tapes is described in Section 218-220-304.

1.05 In addition the marker and trunk priming information on the teletypewriter tapes, transmission data is also provided to prime the test circuit. The method of transmission testing is described in Section 218-262-502.

1.06 The APTT, Issue 36D and later is arranged to operate with remote office test line (ROTL) to test trunks outgoing from remote offices.

2. TEST AND PRIMING INFORMATION

2.01 The necessary information required for priming the APTT to perform a transmission test is given in Table A. This table is provided to aid in the preparation of Tape Preparation Worksheets. (See Fig. 1, 2, 3, and 4.) The worksheets when properly completed, provide the information required to prepare a control tape. Figure 1 illustrates a worksheet to record information for a preamble to be inserted at the beginning of a control tape. It should contain a brief description of the contents of the control tape and any other pertinent information desired. The preamble information is read by the transmitter-distributor and causes a printout to be made by the teletypewriter.

2.02 Information required for each item of priming information in Table A is covered in office records such as wiring lists, trunk cards, marker cross-connection tables, maintenance records, etc.

2.03 Caption information will be included on the worksheet. Recommended caption information is shown in Fig. 2. This information will appear on the perforated control tapes and page printout but serves no purpose in priming the APTT or ATMS. Caption information should ordinarily be limited to that information required for prompt identification of trunk group under test, transmission requirements, type of tests, originating and terminating offices, test lines, and similar type information.

2.04 Space is provided on the chart for recording information for office record purposes.

2.05 A second chart is provided as shown in Fig. 3, Supplementary Tape Preparation chart (All Trunks, Tape Simplification Provided—SD-25938-01, Issue 30 and Later). This chart contains blank spaces for trunk priming information and is used when the basic chart does not provide sufficient space to list all trunks in a group. A new chart (Fig. 2) should be started for each new trunk group.

2.06 The test circuit is arranged to lock in information common to all trunks of the group. Only that information which relates to the trunk location address and trunk number or the

digits to be outpulsed to a ROTL are required to be perforated for each trunk once the common priming has been perforated.

2.07 In addition to the priming entries, certain teletypewriter characters are required as machine instructions. These symbols and their usages are defined in Table B.

3. ARRANGEMENT OF DATA

3.01 ***General:*** The trunk data may be arranged for testing in various sequences depending on the purpose of the tests, as covered in Section 660-420-010. Usually, trunks will be arranged by transmission facility for transmission tests. If the results of the tests, as provided by the ATMS deviation registers, are to be used for computing the Trunk Transmission Maintenance Index, the trunks must be arranged so that results on 2-wire facilities can be separated from results on 4-wire facilities. This is necessary because different component index tables are used to compute the index. In addition, trunks tested at different intervals for index purposes cannot be mixed on the same tape.

3.02 The recommended transmission measurement intervals are monthly, semimonthly, weekly, and daily. The computer program for summarizing transmission results for index purposes will not accept any interval greater than monthly or any interval less than weekly. If some trunks are to be tested more frequently than weekly, these trunks should be on a tape separate from those trunks tested at other intervals. However, in the case of trunks tested more frequently than weekly, the deviation registers would be read only on one day per week.

3.03 There may be advantages in arranging the trunks for testing by trunk group (terminating office). Further information or factors relating to the sequencing of trunks for testing is covered in Section 660-420-100.

3.04 ***By Facility:*** In this arrangement, trunks routed over a common transmission facility are grouped together. A caption normally should be placed ahead of the data for the trunks or the particular facility in question. If any such group contains trunks to different terminating offices, the group is divided so that those in each subgroup have a common terminating office. Subcaptions to identify each subgroup and to provide other pertinent information applying to the subgroup, which is not included in the caption, would be placed ahead of the data for the trunks in each subgroup. Within each subgroup, the trunks would normally be arranged in order of the channel number of the facility which they occupy, if applicable. When compiling the data for testing by type of facility, a separate worksheet, or group of worksheets, should be prepared for each subgroup in the facility where different priming information is required. All of the worksheets applying to the facility should then be identified so that they will be grouped together in the proper order.

3.05 ***By Trunk Group:*** In this arrangement, trunks to a common terminating office are grouped together. If the trunks within the group require different transmission priming information, the group should be divided so that the trunks in each subgroup all require the same transmission priming information. Further subdivisions can be made if desired so that each resulting subgroup contains trunks leaving the office over a common transmission facility. Subcaptions would be used giving the identity of the corresponding subgroup and any pertinent information applying to it which is not included in the caption. Within each subgroup, the trunks would be arranged in order of the traffic assigned trunk number.

3.06 ***Compiling Data for Mechanized Tape Preparation:*** Control tapes are usually prepared at a centralized location using mechanized procedures. Normally, this requires that the data compiled on the sheets be entered on punched cards or other storage devices. In such cases, it is necessary to modify the attached forms to include entries for sort codes and other information. Also, the arrangement of the trunks must be in accordance with the particular mechanized procedure to be used. The exact methods employed vary between different centralized tape preparation locations and hence the modifications to the forms and the order in which the trunks are to be listed are to be specified locally.

4. PREPARING WORKSHEETS

4.01 Prepare worksheets to include all trunks of all trunk groups in the office on which transmission tests are to be made. Prepare each worksheet by trunk group and facilities within the trunk group. List on each worksheet only those

trunks that have common caption, marker priming, and transmission priming information (Fig. 2 and 3). Where the marker priming information for a trunk group is to be retained and the transmission priming information changed, prepare another worksheet containing new caption, transmission priming, and trunk priming information as indicated in Fig. 3.

4.02 Record proper entries in GROUPING METHOD (FACILITY OR TRUNK GROUP) and ACCESS boxes at the top of the chart. This information is for record purposes and does not appear on the control tape.

4.03 Using Table A and office records, record one digit in each space provided (Fig. 2) under the heading MARKER PRIMING. In some instances, the line designation may not be applicable. In these cases, Table A indicates the use of a filler digit or the omission of any digit. Refer to Table B for teletypewriter characters required as machine instructions.

4.04 Record one digit in each space provided (Fig. 2) for TRANSMISSION PRIMING. This information is included in Table A and referenced documents. Refer to Table B for teletypewriter characters required as machine instructions.

4.05 Under the heading TRUNK PRIMING (Fig. 2), list all trunks that have common marker and transmission priming information. ASN, ASH, IUT, and ITH will not be used for transmission testing as this information is used for making operational tests of CAMA trunk circuits. IHT and ITT are required only when making transmission tests of line link pulsing trunks. RDA, RDB, RDC, RDD, and RDE are required only when making ROTL tests. Refer to Table B for teletypewriter characters required as machine instructions.

4.06 Copies of these charts should be retained in the central office as part of the permanent office records.

TABLE A

LINE DESIG		TRUNK SELECTING AND CONTROL INFORMATION		PRIMING DIGIT	
MARKER PRIMING	CRT LNF FIG	Carriage Return Line Feed Figures	Sets Typing Unit in Proper Condition To Receive Information		
	RET	Retest Digit		0 Through 9	
	MKG	Marker Group Number		0 Through 2	
			Translation Marks Tens and Units	TMT	TMU
	TMT and TMU	Originating Calls	7-Digit Called Number, No Prefix (LT and OR Leads Grounded to Marker) or	0	0
			0+ Operator Assistance TSP(S) (LT and OR Leads Grounded to Marker) or		
			7-digit Called Number With Prefix 1 or 11 (LT1 and OR Leads Grounded to Marker) or	0	2
			1+ Call Station TSP(S) (LT1 and OR Leads Grounded to Marker) or		
			7-Digit Called Number With Prefix 8 CCSA (LT3 and OR Leads Grounded to Marker) or	0	8
			0+ Special Assistance TSP(S) (LT2 and OR Leads Grounded to Marker) or		
			10-Digit Called Number, No Prefix (LT and FAC Leads Grounded to Marker) or	0	1
			10-Digit Called Number With Prefix 1 or 11 (LT1 and FAC Leads Grounded to Marker) or	0	3
			1+ Call Station TSP(S) (LT1 and FAC Leads Grounded to Marker) or		
			10-Digit Called Number With Prefix 8 CCSA (LT3 and FAC Leads Grounded to Marker) or	0	9
			0+ Special Assistance TSP(S) (LT2 and FAC Leads Grounded to Marker) or		
			6-Digit Called Number, 2-Digit Office Code (2DT and OR Leads Grounded to Marker) or	0	5
			5-Digit Called Number, Centrex (FVD and OR Leads Grounded to Marker) or	0	6
			4-Digit Called Number, Centrex (X11 and OR Leads Grounded to Marker) or	0	7
			7-Digit Home Office Test Phase II Post-Transfer (BETA) Circuit (X11 and OR Leads Grounded to Marker) or		

TABLE A (Cont)

LINE DESIG		TRUNK SELECTING AND CONTROL INFORMATION		PRIMING DIGIT	
MARKER PRIMING			Translation Marks Tens and Units	TMT	TMU
	TMT and TMU (Cont)	Incoming Calls	7-Digit Called Number (LT Lead Grounded to Marker) or	1	0
			7- or 10-Digit Called Number (TT Lead Grounded to Marker) or	1	1
			6-Digit Called Number (2DT Lead Grounded to Marker) or	1	2
			5-Digit Called Number LLP (FVD Lead Grounded to Marker) or	1	3
			Home Office Test of Phase III Centrex Post-Transfer (Beta Circuits) (FVD Lead Grounded to Marker) or		
			4-Digit Called Number LLP (OA Lead Grounded to Marker) or	1	4
			4-Digit Called Number LLP (OB Lead Grounded to Marker) or	1	5
			4-Digit Called Number LLP (PHC Lead Grounded to Marker) or	1	6
			4-Digit Called Number LLP (THC Lead Grounded to Marker) or	1	7
			7-Digit Toll Call (TT Lead Grounded to Marker) or	1	8
		Centrex	7-Digit Intercom Call (2DT and FAC Leads Grounded to Marker)	2	0
	A	1st Digit of Terminating Toll Center (TTC) for Intertoll Trunks Terminating in Home Numbering Plan Area (HNPA) or		0 or 1	
		1st Digit of Called Office Code for Local Trunks or		2 Through 9	
		1st Digit of 3-Digit Foreign Area Code or			
		Thousands Digit of Directory Number Arranged for Regular Intercept (Line Link Pulsing Only)*			
		1st Digit of 5-Digit Line Link Pulsing Number (Terminating Test Line Number) or		2 Through 7	
		Filler Digit for 4-Digit Called Number		0	
	B	2nd Digit of Called Office Code for Local Trunks or		0 Through 9	
		2nd Digit of TTC for Intertoll Trunks Terminating in HNPA or			
		2nd Digit of 3-Digit Foreign Area Code or			
		Hundreds Digit of Directory Number Arranged for Regular Intercept (Line Link Pulsing Only)* or			
		Filler Digit for 4- and 5-Digit Called Numbers		0	

* These digits used when testing automatic intercept trunks.

TABLE A (Cont)

	LINE DESIG	TRUNK SELECTING AND CONTROL INFORMATION					PRIMING DIGIT
MARKER PRIMING	C	3rd Digit of Called Office Code for Local Trunks or					0 Through 9
		3rd Digit of TTC for Intertoll Trunks Terminating in HNPA or					
		3rd Digit for Foreign Area Code or					
		Tens Digit of Directory Number Arranged for Regular Intercept (Line Link Pulsing Only) * or					
		Filler Digit for 4-, 5-, and 6-Digit Called Numbers					0
	OA or DDA	1st Digit of Called Office Code in FNPA or					2 Through 9
		1st Digit of Calling Office Code (CAMA Calls)					
		Filler Digit for 4-, 5-, 6-, and 7-Digit Called Numbers					0
	OB or DDB	2nd Digit of Called Office Code in FNPA or					2 Through 9
		2nd Digit of Calling Office Code (CAMA Calls)					
		Filler Digit for 4-, 5-, 6-, and 7-Digit Called Numbers					0
	OC or DDC	3rd Digit of Called Office Code in FNPA or					0 Through 9
		3rd Digit of Calling Office Code (CAMA Calls)					
		Filler Digit for 4-, 5-, 6-, and 7-Digit Called Number					0
		Units Digit of Directory Number Arranged for Regular Intercept (Line Link Pulsing Only) *					
		Calls To Terminating Test Line Number Last 4 Digits of Called Number	Code 10X Terminating Test Line — (Tandem and Toll)	Automatic Intercept Calls Code 10X	Return Test Line Number		
					4, 6, 7 or 10 Digit Calls	5 Digit Call	
	NTH	Thousands Digit	Hundreds Digit (1)	4th Digit Intercepted No.	Thousands Digit	2nd Digit	0 Through 9
	NH	Hundreds Digit	Tens Digit (0)	Hundreds Digit (—)	Hundreds Digit	3rd Digit	
	NT	Tens Digit	Units Digit (X)	Tens Digit (0)	Tens Digit	4th Digit	
	NU	Units Digit	Filler Digit	Units Digit (X)	Units Digit	5th Digit	

* These digits used when testing automatic intercept trunks.

TABLE A (Cont)

	LINE DESIG	TRUNK SELECTING AND CONTROL INFORMATION				PRIMING DIGIT	
MARKER PRIMING		Filler Digit for all Tests Except Home Office Test Line, Line Link Pulsing, CAMA, TSP(S), Centrex				0	
		Home Office Test Line Test				3	
	X	CAMA	TSP(S)	LLP	CENTREX		
		Local Completion	Non-ANI	Reverse Battery Supervision	IAO - Without Transfer - Repeated Supervision	4	
		Tandem Completion	ANI	—	—	5	
		Toll Completion	—	—	—	6	
		—	—	E & M Lead Supervision	IAO - With Transfer Feature	7	
	CLT and CLU	Trunk Class Tens and Units				CLT	CLU
		Test Call Originated From Toll Originating Test Line for: Intertoll Trunk or Toll Completing Trunk With Toll Appearance or Intermarker Group Trunk With Toll Appearance or				0	0
		Outgoing Flat-Rate Trunk or				0	1
		Outgoing Flat-Rate Trunk for Subscriber Access to Intertoll Trunk or				1	9
		CCSA Flat-Rate Trunk, Subscriber Access, no Repeated Supervision to Local Customer or					
		Outgoing Message Register Trunk† or				0	2
		Outgoing Message Register Trunk‡ or				0	6
		Outgoing AMA Trunks Arranged to Initiate Disconnect Entry or				0	3
		Outgoing AMA Trunks Arranged to Omit Disconnect Entry or				0	7
		Outgoing AMA Trunks for Subscriber Access to Intertoll Trunk or				0	9
		CCSA AMA Trunk, Subscriber Access, No Repeated Supervision to Local Customer or					
		CCSA Off-Net Access Lines (ONAL) or					

† All nonwire-spring-relay type trunks and those wire-spring-relay type trunks associated with first 4-ipm interrupter.

‡ Wire-spring-relay type trunks associated with second 4-ipm interrupter.

TABLE A (Cont)

	LINE DESIG	TRUNK SELECTING AND CONTROL INFORMATION	PRIMING DIGIT	
MARKER PRIMING	CLT and CLU (Cont)	Trunk Class Tens and Units (Cont)	CLT	CLU
		Outgoing Coin Trunks† or	0	4
		Outgoing Coin Trunks‡ or	0	5
		Outgoing ANI Trunks or	0	8
		CAMA Incoming — Operator Identified	1	0
		CAMA Incoming — ANI	1	1
		CAMA Junctor	1	2
		CAMA Intermarker Group Arranged To Initiate Disconnect Entry	1	3
		CAMA Intermarker Group Arranged To Omit Disconnect Entry	1	4
		Data AMA Operation or	1	5
		Data Messsage Operation or	1	6
		Line Link Pulsing or Home Office Test Line or	1	7
		IAO Trunks — Centrex Transfer Test Without Repeated Supervision or Distant Office Incoming Trunks or Home Office Centrex Test Lines or	1	8
		Centrex, Repeated Supervision, IAO Trunks or	2	0
		Tandem (Through-Switched) Operation (Test Call Originated From Tandem Originating Test Line) or	2	1
		Automatic Intercept Trunk or	2	7
		CCSA Flat-Rate Trunk, Subscriber Access, Repeated Supervision to Local Customer or	2	8
		CCSA AMA Trunk, Subscriber Access, Repeated Supervision to Local Customer or	2	9
		CCSA Trunk or Off Net Access Line (ONAL) Tandem Access — 103 Test or	3	0
		CCSA Trunk, Subscriber Access, Repeated Supervision to Local Customer, Centrex Transfer Feature in Distant Office Trunk or	3	1
		Junctor Circuit for Use as CCSA Off-Net Access Line (LONAL) or	3	2
		Toll Switch Through to Centrex Transfer Test Line or	3	3

† All nonwire-spring-relay type trunks and those wire-spring-relay type trunks associated with first 4-ipm interrupter.

‡ Wire-spring-relay type trunks associated with second 4-ipm interrupter.

TABLE A (Cont)

	LINE DESIG	TRUNK SELECTING AND CONTROL INFORMATION			PRIMING DIGIT	
MARKER PRIMING	CLT and CLU (Cont)	Trunk Class Tens and Units (Cont)			CLT	CLU
		Coin Only to Centrex Transfer or Don't Answer Transfer Test Line or			3	4
		IAO Trunks — Centrex AMA With Repeated Supervision Arranged for Disconnect Entry or			3	5
		IAO Trunks — Centrex AMA with Repeated Supervision Arranged to Omit Disconnect Entry or			3	6
		IAO Trunks — Centrex With Repeated Supervision— Flat-Rate or			3	7
		IAO Trunks — Centrex With Repeated Supervision — Transfer Test or			3	8
		Trunk Equipped With AMA for Traffic Sampling			3	9
				TSPS TRUNKS		
		Non Coin Trunks	Hi-Lo Supervision	Without Toll Diversion or	4	0
				With Toll Diversion or	4	1
			E & M Supervision	Without Toll Diversion or	4	2
				With Toll Diversion or	4	3
		Coin Trunks	Hi-Lo Supervision	With Coin Service Improvements (Dial-Tone-First) or	4	4
				With Automatic Coin Return But Without Dial-Tone-First	4	5
				Without Either Dial-Tone-First or Automatic Coin Return	4	6
			E & M Supervision	With Coin Service Improvements (Dial-Tone-First) or	4	7
				With Automatic Coin Return But Without Dial-Tone-First	4	8
				Without Either Dial-Tone-First or Automatic Coin Return	4	9
		CCSA Trunks With Repeated Supervision Arranged for AMA Traffic Sampling or			5	0
		CCSA LONAL Circuit Arranged for AMA and Traffic Sampling			5	1

TABLE A (Cont)

	LINE DESIG	TRUNK SELECTING AND CONTROL INFORMATION			PRIMING DIGIT	
MARKER PRIMING	TIT and TIU§	Trunk Information Tens and Units			TIT	TIU
		Outgoing Intertoll Trunks to Code 100, 102, 104, or 105 Test Line in Distant Office (See FE Digit for Test Line Used) or			0	9
		Outgoing to TSP(S) Code 10X Test Line in TSP(S) Office or			1	0
		Equivalent 102-Type Terminating Test Line or			1	9
		Equivalent 104-Type Terminating Test Line or			1	7
		Equivalent 105-Type Terminating Test Line or			1	8
		Equivalent 100-Type Combined Milliwatt Balance Terminating Test Line or			2	0
		Local Originating Test Line (Subscriber Class) to Codes 102, 104, and 105			2	9
	AGRA	Line Link Pulsing Trunk Group Not Allotted Between Number Groups			0	
		Allotter Group and Route Advance				
		LLP Trunk Group Allotted Between No. Groups	Trunk Allotter Group	No. of Marker Route Advances		
		NGTA	—	—	1	
		NGTB	—	—	2	
		NGTC	—	—	3	
		NGTD	A or None	0	4	
		NGTE	A or None	1	5	
		NGTF	A or None	2	6	
		NGTG	B	0	7	
		NGTH	B	1	8	
		—	B	2	9	
	CRG	Rate Treatment Class Group A (Tens) ¶			0	
		Rate Treatment Class Group B (Tens) ¶			1	
	CRU	Rate Treatment Class Units ¶			0 Through 9	
	CST ASN	Class of Service Tens (Local Originating Test Line) (Obtain Information From Office Records)			0 Through 9	

§ Test lines of the 100-, 102, 104-, and 105-type used for testing other than intertoll trunks are reached by an NNX, NNX-XXXX, or XXXX code.

¶ Bypassed if rate treatment is not required or provided (filler digit not required).

TABLE A (Cont)

	LINE DESIG	TRUNK SELECTING AND CONTROL INFORMATION			PRIMING DIGIT
MARKER PRIMING	CST ASN (Cont)	Toll or Tandem Testing			
		Trunk No. Thousands Digit of APTT appear of Toll and Tan. Originating Test Line		Class Group Lead Grounded to Marker	
		Office Arranged for a Maximum of:			
		2000 Trk. Nos.	4000 Trk. Nos.		
		0	Trunk No. for Toll and Tandem Testing is hard-wired when a Maximum of 4000 Trunk Numbers is Provided	TCA	0
				TCB	1
				TCC	2
		1		TCA	3
				TCB	4
				TCC	5
	CSU ASH	Class of Service Units (Local Originating Test Line) or			0 Through 9
		Toll or Tandem Testing			
		TAN Class Lead Grounded to Marker or			0
		TAN 1 Class Lead Grounded to Marker or			1
		TAN 2 Class Lead Grounded to Marker or			2
		TAN 3 Class Lead Grounded to Marker or			3
		TAN 4 Class Lead Grounded to Marker or			4
		TOL Class Lead Grounded to Marker or			5
		INC Class Lead Grounded to Marker or			6
		PCR Class Lead Grounded to Marker or			7
		PCD Class Lead Grounded to Marker or			8
		PCD 1 Class Lead Grounded to Marker or			9
TRANSMISSION PRIMING	FE	Far-End Equipment — Combined Milliwatt and Balance Termination — Code 100 or			0
		Far-End Equipment — Milliwatt Supply — Code 102 or			2
		Far-End Equipment — Transmission and Noise Checking Circuit — Code 104 or			4
		Far-End Equipment — Automatic Transmission Measuring System — Code 105			5
	TPL	Test Pad Loss — TP0 or			0
		Test Pad Loss — TP2			2

TABLE A (Cont)

	LINE DESIG	TRUNK SELECTING AND CONTROL INFORMATION	PRIMING DIGIT	
TRANSMISSION PRIMING	DBH	Expected Measured Loss — Tens**	0, 1	
	DBT	Expected Measured Loss — Units**	0 Through 9	
	DBU	Expected Measured Loss — Tenths**	0 Through 9	
	LDT (Tenths) LDU (Units)	Loss Deviation Limits	LDT	LDU
		Loss deviation limits as selected for a particular office. (Refer to Section 660-402-300.)	0	4
			0	6
			0	8
			1	0
			1	2
			1	5
			2	0
			2	5
			3	0
			3	5
	NRT	Noise Maintenance Limits — Tens††	2 Through 4	
	NRU	Noise Maintenance Limits — Units††	0 Through 9	
	NDL	Noise Deviation Limits 0 through 9‡‡	0 Through 9	
	ANT	Noise Immediate Action Limits — Tens§§	3, 4	
	ANU	Noise Immediate Action Limits — Units§§	0, 2, 4, 6, 8	
	DR	Do Not Peg Loss and Noise Deviation Registers or	0	
		Peg Loss and Noise Deviation Registers	1	

** Permissible values of 0.0 dB to 11.3 dB in 0.1 dB steps except 104-type tests. 0.0 dB to 5.6 dB in 0.1 dB steps for 104-type tests. (Refer to circuit record card or trunk layout card for EML values.)

†† APTT permissible values 20 through 48 in 1-dB steps. (Refer to Section 660-403-500.)

‡‡ Use 0 until other values are established and published.

§§ APTT permissible values 30 through 48 in 2-dB steps. (Refer to Section 660-403-500.)

TABLE A (Cont)

	LINE DESIG	TRUNK SELECTING AND CONTROL INFORMATION	PRIMING DIGIT
TRUNK PRIMING	ITH	CAMA Intermarker Group Trunk Number Thousands Digit	0 Through 3
	IHT	CAMA Intermarker Group Trunk Number Hundreds Digit	0 Through 9
		Line Link Pulsing — Tens Block Tens of Number Group ¶¶	
	ITT	CAMA Intermarker Group Trunk Number Tens Digit	0 Through 9
		Line Link Pulsing — Tens Block Units of Number Group ¶¶	
	IUT	CAMA Intermarker Group Trunk Number Units Digit	0 Through 9
	TH	Traffic Assigned Trunk Number, Thousands Digit*** †††	0 Through 9
	HN	Traffic Assigned Trunk Number, Hundreds Digit*** †††	0 Through 9
	TEN	Traffic Assigned Trunk Number, Tens Digit*** †††	0 Through 9
	UNT	Traffic Assigned Trunk Number, Units Digit***	0 Through 9
	FTCD ‡‡‡	Trunk Link Frame Tens Digit or	0 Through 2
		Trunk Link Frame Tens Digit of APTT Trunk Link Appearance for Line Link Pulsing or Home Office Test or	
		Filler Digit for CAMA Incoming Tests	0
	FU‡‡‡	Trunk Link Frame Units or	0 Through 9
		Trunk Link Frame Units Digit of APTT Trunk Link Appearance for Line Link Pulsing or	
		Filler Digit for CAMA Incoming Tests	0

¶¶ Bypassed if not line link pulsing test (filler digit not required).

*** Refer to circuit record card of trunk layout card or equivalent record for trunk number.

††† If traffic assigned trunk number is less than 4 digits, prime uppercase M (.) in this position.

‡‡‡ Bypassed on ROTL test or on random selection calls (filler digit not required).

TABLE A (Cont)

	LINE DESIG	TRUNK SELECTING AND CONTROL INFORMATION			PRIMING DIGIT
TRUNK PRIMING	TT ‡‡‡ §§§	Trunk Tens			
		Trunk Tens 0 Digit Within Block of 20 Trunks or			0
		Line Link Pulsing Sleeve Lead Tens 0 or			
		Trunk Tens 1-Within Block of 20 Trunks			1
		CAMA Trunks			
		Office Arranged for Less Than 500 CAMA Trunks or Max. of 4000 Trunk Numbers Always 0	Trunk Number Thousands for Office Arranged for More Than 500 CAMA Trunks and Max. of 2000 Trunk Numbers		0 or 1
	TU SSN ‡‡‡ §§§	Trunk Units			
		Trunk Units 0 Through 9 Within Block of 20 Trunks or			0 Through 9
		CAMA — Incoming or Intermarker Group Trunks — Access Switch Select Magnet Units or			
		Line Link Pulsing, Sleeve Lead Units			
	RDA ¶¶¶	No. 5 Crossbar ROTL			
		ROTL Arranged to Test to Trunk Link Frames 00-19 Only.	Transmission Test (ATMS)		1
			Operational Test		2
		ROTL Arranged to Test Beyond Trunk Link 19 (20-29) or Over 20 Trunk Groups	Transmission Test (ATMS)		6
			Operational Test		7
	RDB ¶¶¶	Trunk Link Frame Units			0 Through 9
	RDC ¶¶¶	When RDA Digit is 1 or 2			
		Trunk Link Frame Tens	Trunk Tens—Within Block of 20 Trunks	Route Translation Tens	
		0	0	0	0
		1	0	0	1
		0	1	0	2
		1	1	0	3
		0	0	1	4
		1	0	1	5
		0	1	1	6
		1	1	1	7

‡‡‡ Bypassed on ROTL test or on random selection calls (filler digit not required).

§§§ Bypassed on home office test line tests (filler digit not required).

¶¶¶ Information digits which are outpulsed to the ROTL, bypassed for non-ROTL tests (filler digit not required).

TABLE A (Cont)

	LINE DESIG	TRUNK SELECTING AND CONTROL INFORMATION				PRIMING DIGIT
TRUNK PRIMING	RDC ¶¶¶	When RDA Digit is: 6 or 7				
		Trunk Link Frame 20-29	Trunk Link Frame Tens	Trunk Tens — Within Block of 20 Trunks	Route Translation Tens	
		Trunk Group 00-19	2	0	0	0
			2	1	0	2
			2	0	1	4
			2	1	1	6
		Trunk Link Frame 20-29 Trunk Group 20-29	1	0	2	1
			1	1	2	3
			0	0	2	5
			0	1	2	7
			2	0	2	8
			2	1	2	9
	RDD ¶¶¶	Trunk Units — Within Block of 20 Trunks				0 Through 9
	RDE ¶¶¶	Route Translation Units				0 Through 9
		SXS ROTL				
	RDA ¶¶¶	Transmission Test (ATMS)				1
		Operational Test				2
	RDB ¶¶¶	Test Selector Number				0 Through 9
	RDC ¶¶¶	Test Selector Vertical Level				0 Through 9
	RDD ¶¶¶	Test Selector Horizontal Terminal				0 Through 9
	RDE ¶¶¶	Prepare to Outpulse				2

¶¶¶ Information digits which are outpulsed to the ROTL, bypassed for non-ROTL tests (filler digit not required).

TABLE B

TELETYPEWRITER CONTROL CHARACTER DEFINITIONS

< (Carriage return) ☰ (Line feed) ⋀ (Figures shift)	These are used wherever they are needed to control teletypewriter functions. (See dual usage of ⋀ , figures shift.)
— (Uppercase A)	ROTL responder trunk group signal. Precedes each responder trunk group having same transmission characteristics. Prepares the self-check signal to ATMS at beginning of each responder group.
? (Uppercase B)	ROTL responder trunk group signal. Clears previously stored marker and/or transmission priming, and prints and stores digits for new ROTL responder group.
# (Uppercase H)	Start copy signal. Permits preamble or caption information to be perforated and printed on tapes. This information will appear on page printout but will not prime the test circuit.
// (Uppercase Z)	Stop copy signal. Removes the teletypewriter from the copy mode. Information then perforated and printed on tapes will contain machine instructions, which will be absorbed by the APTT, and priming information for the test circuit.
▼ (Uppercase J)	Clears previously stored MARKER PRIMING information and prints and stores the following digits. (This is only a control character when the teletypewriter is ***not*** in the copy mode.)
⋀ (Figures shift)	When the teletypewriter is ***not*** in the copy mode, this character unlocks the steering chain. It must immediately precede the digits to be registered (MARKER PRIMING, TRANSMISSION PRIMING, TRUNK PRIMING). In addition, it causes a symbol or number to be printed. For example, upper case H = #.
<☰⋀	This combination will normally precede the digits of a new priming entry; it serves to columnize printout on copying and the character unlocks the chain.
((Uppercase K)	Clears previously stored TRANSMISSION PRIMING information and stores the following digits. (This is only a control character when the teletypewriter is ***not*** in the copy mode.)
• (Uppercase M)	Trunk Priming. Trunk Number, Issue 30D and later — Use in leading positions when traffic assigned trunk number is less than 4 digits, eg, ..45.

Summation:

Before preamble, caption, or subcaption: #<☰

At end of preamble, caption, or subcaption: //

Before MARKER PRIMING: ▼<☰⋀

Before TRANSMISSION PRIMING (following MARKER PRIMING): (⋀

Before each trunk entry: <

When changing TRANSMISSION PRIMING only, before new digits: (<☰⋀

APTT-5XB: BSP 218-220-301 & -303
AOTT-4XB: BSP 212-512-301
AOTT-SXS: BSP 226-591-300
ALL: BSP 800-102-100

TAPE PREPARATION WORKSHEET PREAMBLE INFORMATION

NO. 5 CROSSBAR APTT FRAME, ISSUE 30 AND LATER
NO. 4 CROSSBAR AOTT FRAME
STEP-BY-STEP AOTT FRAME

E-6121 (4/72)
SHEET _____ OF ______
DATE ______________

▨ INDICATES SPACE

APTT-5XB: ↑ #

AOTT-4XB: CTL DCO | RUB OUT | RUB OUT

AOTT-SXS: ↑ ↓ ↑ ↓ ↑ ↓

ALL: CRT LNF LNF LNF LNF LNF

ORIGINATING OFFICE					TAPE		DATE				
TOWN	STATE	BLDG	UNIT	▨ ▨	TYPE	▨ ▨	MONTH		DAY		YEAR
M I A M	F L	M A	6 4 2		O P		0 6	/	2 9	/	7 7

ADDITIONAL PREAMBLE INFORMATION:

CRT	LNF	LNF
	CRT	LNF
	CRT	LNF
	CRT	LNF
	CRT	LNF
	CRT	LNF
	CRT	LNF
	CRT	LNF
	CRT	LNF
	CRT	LNF

NOTE: 1. TOTAL CHARACTERS IN THE ADDITIONAL PREAMBLE INFORMATION (INCLUDING CARRIAGE RETURNS AND LINE FEEDS) SHOULD NOT EXCEED 240.
2. INFORMATION IN SHADED AREAS SHALL NOT BE PERFORATED ON THE TAPE.

Fig. 1—

BSP 218-220-301
218-220-303
800-102-100

TAPE PREPARATION WORKSHEET
NO. 5 CROSSBAR APTT FRAME
SD-25938-01, ISSUE 30 AND LATER, WITH TAPE SIMPLIFICATION

E-6122 (11/73)
Sheet 2 Of 4
Date 6-29-77
Tape Type T1

GROUPING METHOD					
✓	F		TF		T

TEST GROUP FACILITY
N1

TEST LINE TYPE
1Ø5

ACCESS MODE
SUBSCRIBER

CAPTION INFORMATION

TTY						ORIGINATING OFFICE: TOWN	STATE	BLDG	UNIT	(space)	PULSING	(space)	TERMINATING OFFICE: TOWN	STATE	BLDG.	UNIT	(space)	TRUNK TYPE: TRAFFIC CLASS	OFFICE CLASSES	TRAFFIC USE	MODIFIER	TTY	
↑	#	<	≡	≡	≡																	<	≡
↑	#	<	≡	≡	≡	MIAM	FL	MA	642		DD		MIAM	FL	GB	448		HU	55	IE		<	≡

TTY		TEST GROUP FACILITY	(space)	(space)	FACILITY IDENTIFICATION: NUMBER	TYPE	(space)	FACILITY TERMINAL: TOWN	STATE	BLDG.	TTY			
<	≡										↑	"	<	≡
<	≡	N1			1Ø1	N1		MIAM	FL	GB	↑	"	<	≡

MARKER PRIMING

TTY					RET	MKG	(space)	TMT	TMU	(space)	A	B	C	(space)	OA/DDA	OB/DDB	OC/DDC	(space)	NTH	NH	NT	NU		X	(space)	CLT	CLU	TIT	TIU	(space)	AG-RA		CRG	CRU	CST	CSU
↑	'	<	≡	↑																																
↑	'	<	≡	↑		Ø		Ø	Ø		4	4	8		Ø	Ø	Ø		2	5	9	9		Ø		Ø	1	1	8		4		Ø	Ø	Ø	Ø

TRANSMISSION PRIMING

TTY				FE	(space)	TPL	(space)	EML	(space)	LOSS DEV	(space)	NOISE M.L.	(space)	NDL	(space)	NOISE I.A.L.	(space)	DR
(	<	≡	↑															
(	<	≡	↑	5		Ø		Ø2.5		Ø.8		28		Ø		4Ø		1

TRUNK PRIMING

TTY			ASN CST	ASH CSU	ITH	IHT	ITT	IUT	TRUNK NUMBER	FT/RDA	FU/RDB	TT/RDC	TU/RDD	RDE	#	(space)	CHAN NO.	"
<	≡	↑													#			"
<	≡	↑							• • • 7	1	7	Ø	5		#		Ø3	"
<	≡	↑							• • • 8	1	3	Ø	5		#		Ø4	"
<	≡	↑							• • • 2	1	5	Ø	5		#		Ø6	"

TRUNK PRIMING

TTY			ASN CST	ASH CSU	ITH	IHT	ITT	IUT	TRUNK NUMBER	FT/RDA	FU/RDB	TT/RDC	TU/RDD	RDE	#	(space)	CHAN NO.	"
<	≡	↑													#			"

(hatched box) INDICATES SPACE

NOTE: INFORMATION IN SHADED AREAS SHALL NOT BE PERFORATED ON THE TAPE

Fig. 2—

E-6123 (11/73)
Sheet 2 Of X
Date 6-29-77
Tape Type T1

BSP 218-220-301
218-220-303
800-102-100

SUPPLEMENTARY TAPE PREPARATION WORKSHEET
NO. 5 CROSSBAR APTT FRAME
SD-25938-01, ISSUE 30 AND LATER, WITH TAPE SIMPLIFICATION

TTY			TRUNK PRIMING																																		
<	=	↑	ASN CST	ASH CSU	FE	TPL	DBH	DBT	DBU	LDT	LDU	NRT	NRU	NDL	ANT	ANU	DR	ITH	IHT	ITT	IUT	TRUNK NUMBER				FT/ RDA	FU/ RDB	TT/ RDC	TU/ RDD	RDE	#		CHAN NO.		"
<	=	↑																				•	•	•	7	1	7	Ø	5		#		Ø	3	"
<	=	↑																				•	•	•	8	1	3	Ø	5		#		Ø	3	"

NOTE: INFORMATION IN SHADED AREAS SHALL NOT BE PERFORATED ON THE TAPE

▨ INDICATES SPACE

Fig. 3—

BSP 218-220-301
218-220-303
800-102-100

TAPE PREPARATION WORKSHEET
NO. 5 CROSSBAR APTT FRAME

SD-25938-01, ISSUE 30 AND LATER, WITH TAPE SIMPLIFICATION

E-6122 (11/73)
Sheet 4 Of 4
Date 6-29-77
Tape Type T1

GROUPING METHOD					
✓	F		TF	✓	T

TEST GROUP FACILITY
T1

TEST LINE TYPE
1Ø5

ACCESS MODE
SUBSCRIBER

CAPTION INFORMATION

TTY						ORIGINATING OFFICE						TERMINATING OFFICE					TRUNK TYPE				TTY	
↑	#	<	≡	≡	≡	TOWN	STATE	BLDG	UNIT		PULSING		TOWN	STATE	BLDG.	UNIT	TRAFFIC CLASS	OFFICE CLASSES	TRAFFIC USE	MODIFIER	<	≡
↑	#	<	≡	≡	≡																<	≡

TTY		TEST GROUP		FACILITY IDENTIFICATION			FACILITY TERMINAL			TTY			
<	≡	FACILITY		NUMBER	TYPE		TOWN	STATE	BLDG.	↑	"	<	≡
<	≡	T1		1Ø1	T1		MIAM	FL	GB	↑	"	<	≡

[shaded box] INDICATES SPACE

TTY						MARKER PRIMING																									
↑	'	<	≡	↑	RET	MKG		TMT	TMU		A	B	C		OA/DDA	OB/DDB	OC/DDC		NTH	NH	NT	NU	X		CLT	CLU	TIT	TIU		AG-RA	CRG	CRU	CST	CSU
↑	'	<	≡	↑																														

TTY				TRANSMISSION PRIMING														
(	<	≡	↑	FE		TPL		EML		LOSS DEV		NOISE M.L.		NDL		NOISE I.A.L.		DR
(	<	≡	↑	5		Ø		Ø4•5		Ø•8		21		Ø		32		1

TTY			TRUNK PRIMING														
<	≡	↑	ASN CST	ASH CSU	ITH	IHT	ITT	IUT	TRUNK NUMBER	FT/RDA	FU/RDB	TT/RDC	TU/RDD	RDE	#		CHAN NO.	"
<	≡	↑							• • • 5	1	4	Ø	5		#		Ø5	"
<	≡	↑							• • • 9	1	9	Ø	5		#		Ø7	"

TTY			TRUNK PRIMING															
<	≡	↑	ASN CST	ASH CSU	ITH	IHT	ITT	IUT	TRUNK NUMBER	FT/RDA	FU/RDB	TT/RDC	TU/RDD	RDE	#		CHAN NO.	"

NOTE: INFORMATION IN SHADED AREAS SHALL NOT BE PERFORATED ON THE TAPE

PRINTED IN U.S.A.

Fig. 4—