SWITCHED SERVICE NETWORK

ELECTRONIC TANDEM NETWORKS (ETN)

EXAMPLES OF NETWORK ROUTING GUIDES FOR "DIMENSION®" FEATURE PACKAGE 8 TANDEMS

1.01 This appendix shows the Network Routing Guides (NRGs) used on the Electronic Tandem Network (ETN) for DIMENSION Feature Package 8 (FP8). It provides an easy reference to the NRG when more detailed information may be required.

1.02 The NRG defines the switching machine assignments and routing of network service. The NRGs are important references and are used by various work centers. Information contained in the routing guide is listed below:

- Network and Tandem Diagrams
- Facility Restriction Levels
- Automatic Alternate Routing (AAR) Codes and Location Record
- RNX Code Assignments
- RNX Code Patterns
- AAR Group Attributes
- AAR Routing Patterns
- Automatic Route Selection (ARS) Routing Record
- NPA 3-Digit Pattern List
- NPA 6-Digit NXX Translation List
- HNPA NXX List
- NPA 6-Digit NXX Local Call List
- ARS Group Attributes
- ARS Routing Patterns
- ARS Special/Service Codes
- Intertandem Trunking Record
- Intertandem Group Attributes
- Intertandem Routing Patterns
- Miscellaneous Information
- Master DAC/Pattern Assignments and Trunk Group Restrictions
- Master 6-Digit Local Call List Assignments
- Test/Administrative Codes

1.03 ***Network and Tandem Diagrams:*** Figure 1 shows the network configuration with all tandem locations. Figure 2 shows subtending locations and facilities for each tandem switch.

1.04 ***Facility Restriction Levels (FRLs):*** There is a maximum of eight FRLs. They are 0 through 7 and are used to deny certain users access to specific groups of circuits and stations served from a tandem switch. An FRL is assigned to all circuit groups. The customer can upgrade or downgrade station and originating access tie trunk FRLs as required. An example of FRL use is a Level 3 calling certain NPAs. Levels of a lesser value would be denied (Fig. 3). Another example would be that a Level 3 FRL could be assigned for daytime use but be downgraded by the customer to a lower FRL after normal working hours.

1.05 ***AAR Codes and Location Record:*** A form which is used for record keeping purposes at the tandem switch and which lists the location, Message Telecommunication System (MTS) number, dial access code (DAC) assigned, TOUCH-TONE® or dial pulse signaling, originating (default) FRL, outpulsing required, network attendant number, if applicable, and the type of equipment used (Fig. 4).

1.06 ***RNX Code Assignments:*** An RNX code is a unique 3-digit code to access a given network location and is an integral part of the uniform numbering system. The special first digit restriction (R) is due to the reservation of any digits 4 through 9. Each switch at every location (Fig. 5) is assigned a unique block of RNX codes, an associated routing pattern, and a DAC.

1.07 ***RNX Code Patterns:*** Each RNX is assigned a unique routing pattern number which provides the switcher with information on call routing. Figure 6 shows how RNX codes and routing pattern numbers are assigned. This form indicates every RNX routing pattern in the ETN.

1.08 ***AAR Group Attributes:*** Items unique to the group of circuits being addressed are identified as AAR group attributes. A form (Fig. 7) is used to show these items. The DAC column on this form shows the assignment of the trunk group in the tandem. The authorization code (AC) column indicates if ACs are required on all calls. (A 0 indicates that an AC is not required on all calls, and a 1 indicates that it is required.) The trunk reservation (Trk. Res.) column indicates the quantity of trunks in the group reserved for special application. The access AAR/ARS column indicates if the trunk group has access to both on-net (AAR) and off-net (ARS) circuits. (A 0 indicates access denied to both on-net and off-net while 1 indicates access to both.) The automatic circuit assurance (ACA) column indicates the thresholds for short holding time (SHT) in seconds and long holding time (LHT) in hours.

1.09 ***AAR Routing Patterns:*** Routing patterns for each RNX are assigned 2-digit or 3-digit numbers. Pattern 01 is usually reserved for intercept. AAR routing pattern forms (Fig. 8) show the following:

(a) ***Dial Access Codes:*** Three-digit codes assigned by Business Services to each circuit group. (See dial access code record.)

(b) ***Term FRL:*** The facility restriction level assigned to the terminating group.

(c) ***Warning Tone:*** A warning tone can be provided to the calling party indicating a less than economical route has been accessed, for example, an on-net call overflowing to MTS on a more expensive route would be indicated by a 1. An economically acceptable route would be indicated by a 0 and no warning tone would be generated.

(d) ***Off Net:*** If routine pattern is equal to 1, call is destined for off-net via a main PBX and must be controlled by the switcher. Subnetwork trunking must be completed. An on-net call is indicated by 0.

(e) ***Precision Dial Tone (PDT):*** The PDT will be received as a 1 from all subnetwork links in a specific route. Zero indicates some portion or links in the route are not PDT.

(f) ***Digits to Delete:*** Indicates to the terminating switcher the number of digits to delete in order to complete the call. For example, a PBX with 3-digit station codes would require the switch to delete four digits.

(g) ***Subnetwork Trunking:*** Required if a call is destined to go via a main PBX to a tributary, etc, or if the on-net dialed call overflows to off-net for completion.

(1) Digits to insert indicates to the switcher those digits necessary to insert for off-net calls.

(2) Groups 1, 2, and 3 indicate call progression through the network. The subitems are:

(a) TOUCH-TONE (TT) — Indicated by 1. Dial pulse is indicated by 0.

(b) Pause Length — The maximum seconds to wait before outpulsing.

(c) Digits Outpulsed — The number of digits to outpulse (maximum of 7).

1.10 ***ARS Routing Record:*** The ARS routing record lists the various off-network routes being served by a specified switch by NPA and NXX or NPA only. Figure 9 is an example of an

ARS routing record. The routing record contains the following information:

(a) ***NPA:*** The 3-digit numbering plan area of the served area.

(b) ***Remarks:*** Indicates miscellaneous information on call routing.

(c) ***FX Terminating Central Office (CO):*** Lists the 3-digit NXX of the terminating CO if an FX is involved.

(d) ***Route On:*** Indicates how calls to a given NPA are routed. In Fig. 9, calls to NPA 214 route on the 214 NPA and calls to NPA 817 route on both the NPA and the NXX.

(e) ***First Route, Second Route, etc:*** Off-net (ten digit) dialed calls have various routes to complete by. These columns reflect the first choice and the available overflow routes (eg, first choice—Wide Area Telecommunications Service—(WATS) full band 5, second choice—WATS measured time band 5, third choice—DDD, etc), up to a maximum of ten routes.

1.11 ***NPA 3-Digit Pattern List:*** This form, Fig. 10, identifies the pattern number of translated NPAs with the exception of the HNPA. The time of day route (maximum of 3) is indicated in hours, minutes (given in military time). The T.O.D. sequence column goes into effect as indicated by the hours and minutes columns. When the horizontal columns intersect the vertical columns, a 2-digit pattern number is inserted to tell the switch which route this NPA is to be routed on. For example, (20X) from the horizontal column combined with (XX1) from the vertical column equals NPA (201). If tail-end-hop-off (TEHO) is utilized, a pattern number for intermachine trunks is indicated.

1.12 ***NPA 6-Digit NXX Translation List:*** This list, Fig. 11, is used to provide the necessary information for 6-digit translation related to foreign numbering plan areas. It supplements the 3-digit pattern list and includes the following information.

(a) ***NPA:*** Lists the NPA that is 6-digit translated. There is a separate sheet for each NPA.

(b) ***Pattern Columns:*** Each NPA can have a maximum of four groups terminated in it. The number of groups is indicated by a 2-digit route pattern number shown as Default or FX List 1 through 4.

(c) ***NXX Code:*** All the NXXs in an NPA must be routed. The NXX is listed by FX list number and corresponds to the FX pattern number which, when translated, will route to the specified pattern. If an NXX is not listed under any pattern, the program automatically defaults to NPA FX Pattern I.

1.13 If Fig. 11 is used as an example of the NPA 6-Digit NXX translation list, it can be determined that NPA 817 when translated will route to patterns 06 and 04. At this point, it can be determined that there are 10 NXXs to be routed to the FX ARS pattern 04. All other NXXs (not listed) within the 817 NPA will automatically default to pattern 06.

1.14 ***HNPA NXX List:*** Figure 12 shows a sample list for a (home) HNPA NXX list. It is similar to the form listing the NPA 6-Digit NXX translation list except that it lists the HNPA. In this list, the actual pattern number is listed for each NXX routed.

1.15 ***NPA 6-Digit NXX Local Call List:*** Figure 13 shows a sample 6-Digit NXX local call list. It indicates calls that are local to an FX calling area or calls that do not have a digit 1 prefix to them. The pattern number relates to the pattern number on the top of the NPA 6-Digit NXX translation list (Fig. 11). The local call list is assigned by Business Services and can be between 02 and 99. All NXXs not requiring a prefix of digit 1 are indicated by a check (✓).

1.16 ***ARS Group Attributes:*** This form (Fig. 14) is used for an overview of the ARS routes in a given switch. The DAC column on this form shows the assignment of the trunk group in the tandem. The serving NPA column shows the NPA serving the far-end or open-end. The # of ckts. column shows the quantity of circuits used. The Trk. Res. column indicates the quantity of trunks in the group that are reserved for special application. The ACA column indicates the thresholds for short holding time in seconds and long holding time in hours.

1.17 ***ARS Routing Patterns:*** These patterns provide information related to off-net routing arrangements (Fig. 15). They are identical to the on-net routing patterns with the following exceptions:

(a) Subnetwork trunking is used for off-net calls via subtending locations.

(b) Only four digits are inserted.

(c) There are a maximum of ten routes associated with each pattern rather than four.

(d) Time of day sequence (T.O.D. Seq.) is available. If the customer subscribes to time variable off-network routing, each T.O.D. Seq. is indicated with a 1, 2, or 3. The time of day is in military time, hours and minutes. Each sequence uses the same pattern number.

1.18 The following is a description of the columns on the ARS routing pattern form.

(a) ***Pattern Number:*** A 2-digit arbitrarily assigned number from 02 to 99.

(b) ***DAC:*** An arbitrarily assigned 3-digit trunk or group identification code from 100 to 199.

(c) ***Term FRL:*** The facility restriction level assigned to the terminating group.

(d) ***Warning Tone:*** A warning tone can be provided to the calling party indicating a less than economical route has been accessed. For example, if a warning tone is provided, an on-net call overflowing on a more expensive route would be indicated by a 1. If the call accesses an economically acceptable route, no warning tone would be generated and a 0 would be shown.

(e) ***Distant NPA:*** The terminating or distant NPA of the WATS or FX facility.

(f) ***Dial 1 for Toll:*** If 0, only local calls are allowed to be completed. A 1 indicates the digit 1 or barrier code is required for a 10-digit toll call only. A 2 indicates the digit 1 is required for both 7- and 10-digit toll calls.

(g) ***Local List Number:*** This column lists the NPA 6-digit NXX local call list number (see paragraph 1.15).

1.19 ***ARS Special/Service Codes:*** This form (Fig. 16) is used to route all special codes and/or service code requirements of the customer. The actual patterns these codes are to be routed to are inserted in the space provided. Blank spaces indicate routing to intercept.

1.20 ***Intertandem Trunking Record:*** This form (Fig. 17) is a written description of the intertandem tie trunk routes to distant tandem locations. The first alternate route is the first choice trunk group. The alternate indicates the first through the third alternate in tandem routes.

1.21 ***Intertandem Group Attributes:*** Figure 18 shows the intertandem group attributes which give an overview of intertandem routes for a given tandem. The following columns are shown:

(a) ***DAC:*** The assignment of the trunk group in the tandem.

(b) ***# Of Ckts:*** Indicates the quantity of circuits to be used.

(c) ***Trk. Res:*** Indicates the quantity of trunks in the group that are reserved for special application.

(d) ***ACA:*** Indicates the thresholds for short holding time (SHT) in seconds and long holding time (LHT) in hours.

1.22 ***Intertandem Routing Patterns:*** This form (Fig. 19) is used to record intertandem routing patterns. The following columns are shown:

(a) ***Pattern Number:*** A 2- or 3-digit arbitrarily assigned number, excluding 00 and 01.

(b) ***DAC:*** An arbitrarily assigned 3-digit trunk or group identification code.

(c) ***Term FRL:*** The facility restriction level assigned to the terminating group.

(d) ***Warning Tone:*** A warning tone can be provided to the calling party indicating a less than economical route has been accessed. For example, if a warning tone is provided, an on-net call overflowing to MTS on a more expensive route would be indicated by 1. If an economically acceptable route is accessed, no

warning tone would be generated and a 0 would be shown.

(e) ***Off Net:*** If routing pattern is equal to a 1, call is destined for off-net via a main PBX and must be controlled by the switcher. Subnetwork trunking must be completed. An on-net call is indicated by 0.

(f) ***Precision Dial Tone (PDT):*** The PDT will be received as a 1 from all subnetwork links in a specific route. A zero indicates some portion or links in the route are not PDT.

(g) ***Digits to Delete:*** Indicates to the terminating switcher the number of digits to delete in order to complete the call. For example, a PBX with 3-digit station codes would require the switch to delete four digits.

(h) ***Subnetwork Trunking:*** Required if a call is destined to go via a main PBX to a tributary, etc, or if the on-net dialed call overflows to off-net for completion.

1.23 ***Miscellaneous Information:*** This form (Fig. 20) is used to record miscellaneous information common to the tandem switch. The following information is included:

(a) ***Authorization Codes:*** The number of authorization codes the customer has (9000 maximum) is listed. The length of the code (4 to 7 digits) and the number of seed digits (3 or 4) are included.

(b) ***Customer Administration Center FRL:*** List the FRL of the Customer Administration Center (CAC), usually 7. The Dialing Plan is the number of station digits (3 or 4) or number of RNX digits (2 or 3).

(c) ***Station Message Detail Recording (SMDR)***

(1) Ineffective attempts on printout requires a yes or no response.

(2) Length of Account Codes is optional, 5 to 9 digits.

(3) Account Code Prefix Digit is the reserved R digit, from 2 through 9.

(4) Reserved Digits are digits reserved for future use.

(5) Group Exceptions (DAC) are those groups for which SMDRs are to be excluded.

(d) ***Attendant Console # (ACA):*** The number associated with the attendant console needed to provide ACA.

(e) ***Attendant Console FRL:*** The FRL associated with the attendant console (usually 7).

(f) ***Network:*** Symmetrical prohibits on-net alternate routing while Hierarchial means alternate routing is permitted.

(g) Access Codes

(1) AAR indicates access digit (usually 8).

(2) ARS indicates access digit (usually 8 or 9).

(3) IDDD indicates an IDDD special cut-through code if applicable.

1.24 ***Master DAC/Pattern Assignments and Trunk Group Restrictions:*** This form (Fig. 21) is a master list by DAC showing the first choice AAR or ARS pattern and the trunk group assigned. The trunk group restriction (TGR) column, if checked, indicates that the associated DAC is restricted from direct access by stations.

1.25 ***Master 6-Digit Local Call List Assignments:*** This form (Fig. 22) is used to list in numerical order all assigned 6-digit NXX local call list numbers and their associated ARS patterns. As these numbers are assigned, they are recorded under the Assigned To column to prevent duplication.

1.26 ***Test and Administrative Codes:*** This form, Fig. 23, provides administrative test code numbers and a test for tie trunks and intermachine tie trunks associated with a given switch. It also provides space to list telephone numbers of involved work centers.

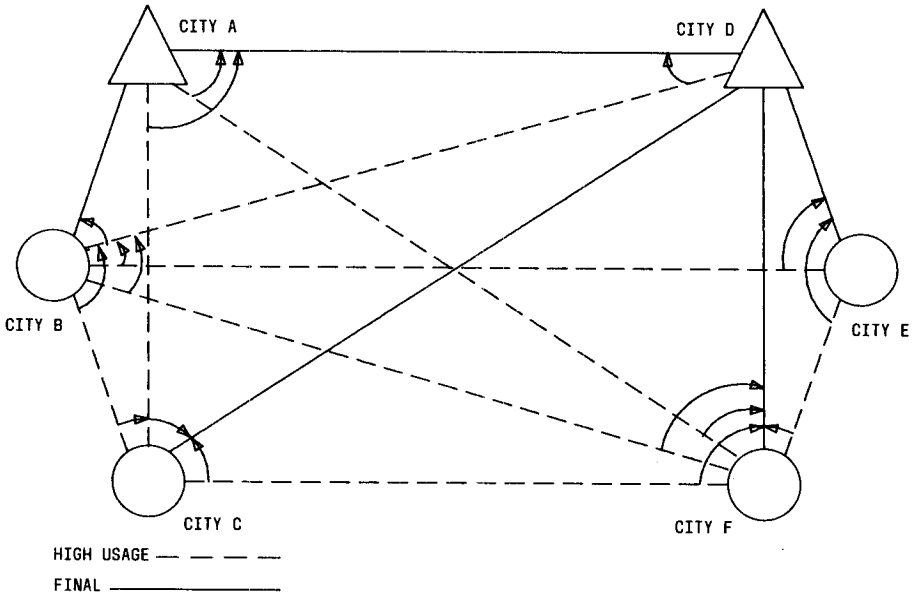

Fig. 1—Example of Network Tandems Configuration

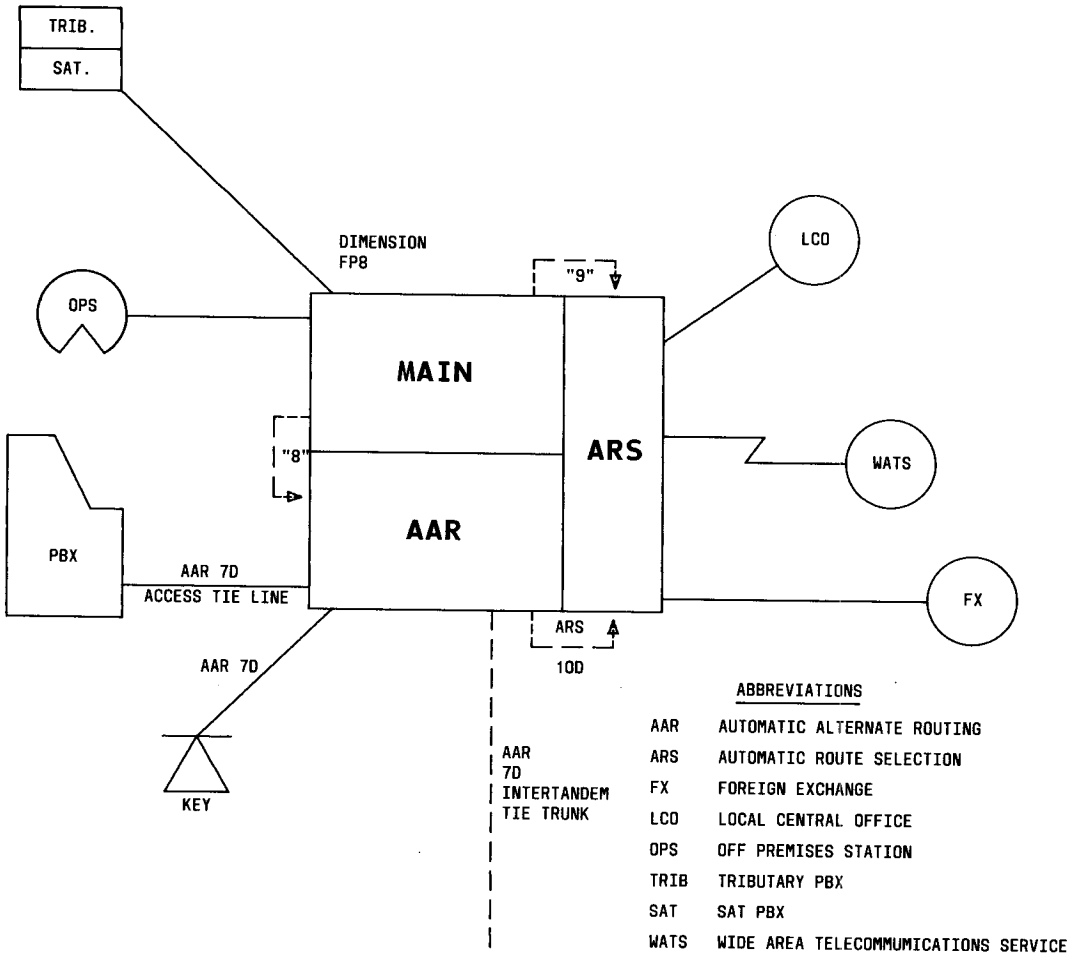

Fig. 2—Example of Tandem Switch Facilities

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FACILITY RESTRICTION LIST

FRL Val.	Description	Alt. FRL
0	INTERCOM	0
1	OPERATOR(011)LOCAL NNX's SERVICE CODES	1
2	FRL 1 AND ON-NETWORK	2
3	FRL 2 AND OFF-NETWORK VIA WATS AND FX	2
4	FRL 3 AND DDD TO CONTINENTAL USA	2
5	FRL 4 AND ALL DDD AND REMOTE ACCESS	2
6	FRL 5 AND ON-NET CALL OVERFLOW TO DDD	2
7	CAC	7

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Fig. 3—Facility Restriction List

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AAR CODES AND LOCATION RECORD

Action	Effective Date	Location (City, State)	RNX	Pattern No.	MTS	DID Y/N	DAC	Signaling In	Signaling Out	DEFLT FRL	Out Pulse	Network ATT DT No.	Type Eqpt.
A	CUT	Dallas, TX 1505 Elm	222	30	214-745-8000	Y	130	TT	TT	2	4	0111	DIM 2000
A	CUT	Dallas, TX 3400 Ill.	251	31	214-333-3211	Y	132	DP	DP	2		0111	OKI
A	CUT	Denver, Co 475 17th St	253	37	303-893-2780	Y	150	TT	TT	0			Key

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Fig. 4—AAR Codes and Location Record

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RNX CODE ASSIGNMENTS

RNX	Effective Date	Route Pattern	DAC
220		— — —	— — —
221		— — —	— — —
222	CUT	1 5 1	1 1 2
223		— — —	— — —
224		— — —	— — —
225		— — —	— — —
226		— — —	— — —
227		— — —	— — —
228		— — —	— — —
229		— — —	— — —
230		— — —	— — —
231		— — —	— — —
232		— — —	— — —
233		— — —	— — —
234	CUT	1 5 2	1 1 3
235	CUT	1 5 3	1 1 4
236	CUT	1 5 4	1 1 5
237		— — —	— — —
238		— — —	— — —
239		— — —	— — —
240		— — —	— — —
241		— — —	— — —
242		— — —	— — —
243		— — —	— — —
244		— — —	— — —
245		— — —	— — —
246		— — —	— — —
247		— — —	— — —
248		— — —	— — —
249		— — —	— — —
250		— — —	— — —
251		— — —	— — —
252		— — —	— — —
253		— — —	— — —
254		— — —	— — —
255		— — —	— — —
256		— — —	— — —
257		— — —	— — —
258		— — —	— — —
259		— — —	— — —

RNX	Effective Date	Route Pattern	DAC
260		— — —	— — —
261		— — —	— — —
262		— — —	— — —
263		— — —	— — —
264		— — —	— — —
265		— — —	— — —
266		— — —	— — —
267		— — —	— — —
268		— — —	— — —
269		— — —	— — —
270		— — —	— — —
271		— — —	— — —
272		— — —	— — —
273		— — —	— — —
274		— — —	— — —
275		— — —	— — —
276		— — —	— — —
277		— — —	— — —
278		— — —	— — —
279		— — —	— — —
280		— — —	— — —
281		— — —	— — —
282		— — —	— — —
283		— — —	— — —
284		— — —	— — —
285		— — —	— — —
286		— — —	— — —
287		— — —	— — —
288		— — —	— — —
289		— — —	— — —
290		— — —	— — —
291		— — —	— — —
292		— — —	— — —
293		— — —	— — —
294		— — —	— — —
295		— — —	— — —
296		— — —	— — —
297		— — —	— — —
298		— — —	— — —
299		— — —	— — —

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Fig. 5—RNX Code Assignments

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RNX CODE PATTERNS

RNX Code (X) (RN)	0	1	2	3	4	5	6	7	8	9
22			151							
23					152	153	154			
24										
25										
26										
27										
28										
29										

RNX Code (X) (RN)	0	1	2	3	4	5	6	7	8	9
32										
33										
34										
35										
36										
37										
38										
39										

RNX Code (X) (RN)	0	1	2	3	4	5	6	7	8	9
42										
43										
44										
45										
46										
47										
48										
49										

RNX Code (X) (RN)	0	1	2	3	4	5	6	7	8	9
52										
53										
54										
55										
56										
57										
58										
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Fig. 6—RNX Code Patterns

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AAR GROUP ATTRIBUTES

DAC	Assignment	# Of Ckts.	AC	Trk. Res.	Access AAR/ ARS	Remarks	ACA SHT	ACA LHT
112	1326 Main St., City A	04	0	00	1		30	2
113	812 South St., City B	10	0	00	1		30	2
114	555 Bow Rd., City C	01	0	00	1		30	2
115	19A West Ave., City D	22	1	06	1		30	2

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Fig. 7—AAR Group Attributes

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AAR ROUTING PATTERNS

Action	Effective Date	Pattern Number	DAC	Term FRL	Warning Tone	Off Net	PDT	Dig. To Del.	Subnetwork Trunking: Digits To Insert	Group 1: TT	Group 1: Pause Length	Group 1: Digits Out Pulsed	Group 2: TT	Group 2: Pause Length	Group 2: Digits Out Pulsed	Group 3: TT	Group 3: Pause Length	Group 3: Digits Out Pulsed
A	CUT	151	150	2	0	0	0	3	19197273734									
			105	6	1	0	1	3										
A	CUT	163	150	2	0	0	0	4		1	08	3						
			114	3	0	1	1	7	130362005 00		08	4	1	00	7			

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Fig. 8—AAR Routing Patterns

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ARS ROUTING RECORD

Action	Effective Date	NPA	Remarks	FX Term C.O.	Route On	1st/6th Route	Out Pulse	2nd/7th Route	Out Pulse	3rd/8th Route	Out Pulse	4th/9th Route	Out Pulse	5th/10th Route	Out Pulse
A	CUT	214	222		NPA	WFBO	10D	DDD	7D						
A	CUT	713 512 806	INTRA		NPA	WFBO	10D	DDD	10D						
A	CUT	817	See TRANSLATIONS		NNX	City A	7D	WBFO	10D	DDD	10D				

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Fig. 9—ARS Routing Record

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NPA 3-DIGIT PATTERN LIST

Action	Effective Date	T.O.D. Hr.	T.O.D. Min.	T.O.D. Seq.	A →	XX0	XX1	XX2	XX3	XX4	XX5	XX6	XX7	XX8	XX9
A	CUT	07	30	1	NP	— —	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					20X	— —	0 —	0 6	0 6	0 7	0 6	0 6	0 6	0 6	0 6
					21X	— —	— —	0 6	0 6	— 6	0 6	0 6	0 6	0 6	0 6
					30X	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					31X	— —	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					40X	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					41X	— —	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					50X	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					51X	— —	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					60X	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					61X	— —	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					70X	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					71X	— —	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					80X	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					81X	— —	— —	0 6	0 6	0 6	0 6	0 6	0 6	0 6	0 6
					90X	— —	0 6	0 7	0 6	0 6	0 7	0 6	0 —	0 6	0 6
					91X	— —	— —	0 6	0 6	0 6	0 3	0 6	0 1	0 6	0 6
						Default Pattern #		— —							

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Fig. 10—NPA 3-Digit Pattern List

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NPA 6-DIGIT NXX TRANSLATION LIST

Action	Effective Date	NPA
A	CUT	817

DEFAULT OR FX LIST 1 FX LIST 2 FX LIST 3 FX LIST 4: 0 6 0 4 _ _ _ _

(NX)(X)	NXX-FX List (1-4) 0	1	2	3	4	5	6	7	8	9
20										
21										
22										
23			2				2	2		
24										
25										
26										
27										
28										
29										
30		2				2				
31										
32										
33										
34										
35										
36										
37										
38		2				2				
39										
40					2					
41										
42		2								2
43										
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Fig. 11—NPA 6-Digit NXX Translation List

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Customer Sample

ETN Routing Guide

HNPA NXX LIST

Action	Effective Date	HNPA	NXX Code	NXX Code Patterns									
A	CUT	201	(NX)(X)	0	1	2	3	4	5	6	7	8	9
			20										
			21										
			22					05	05				
			23										
			24	05									
			25										
			26										
			27			08							
			28					08			08		
			29										
			30										
			31										
			32										
			33										
			34										
			35										
			36										
			37										
			38										
			39										
			40										
			41										
			42										
			43										
			44										
			45										
			46										
			47										
			48										
			49										
			50										
			51										
			52										
			53										
			54										
			55										
			56										
			57										
			58										
			59										

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Fig. 12—HNPA NXX List

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Customer Sample FP8 Dimension A

ETN Routing Guide

NPA 6-DIGIT NXX LOCAL CALL LIST

Action	Effective Date	NPA	NXX Code	PATTERN NUMBER 04 / LOCAL CALL LIST NUMBER 99									
			(NX)(X)	0	1	2	3	4	5	6	7	8	9
A	CUT	817	20	—	—	—	—	—	—	—	—	—	—
			21	—	—	—	—	—	—	—	—	—	—
			22	—	—	—	—	—	—	—	—	—	—
			23	—	—	✓	—	—	—	✓	—	—	—
			24	—	—	—	—	—	—	—	—	—	—
			25	—	—	—	—	—	—	—	—	—	—
			26	—	—	—	—	—	—	—	—	—	—
			27	—	—	—	—	—	—	—	—	—	—
			28	—	—	—	—	—	—	—	—	—	—
			29	—	—	—	—	—	—	—	—	—	—
			30	—	—	—	—	—	—	—	—	—	—
			31	—	—	—	—	—	—	—	—	—	—
			32	—	—	—	—	—	—	—	—	—	—
			33	—	—	—	—	—	—	—	—	—	—
			34	—	—	—	—	—	—	—	—	—	—
			35	—	—	✓	—	—	✓	—	—	—	—
			36	—	—	—	—	—	—	—	—	—	—
			37	—	—	—	—	—	—	—	—	—	—
			38	—	—	—	—	—	—	—	—	—	—
			39	—	—	—	—	—	—	—	—	—	—
			40	—	—	—	—	—	—	—	—	—	—
			41	—	—	—	—	—	—	—	—	—	—
			42	—	—	—	—	—	—	—	—	—	—
			43	—	—	—	—	—	—	—	—	—	—
			44	—	—	—	—	—	—	—	—	—	—
			45	—	—	—	—	—	—	—	—	—	—
			46	—	—	—	—	—	—	—	—	—	—
			47	—	—	—	✓	—	—	—	—	—	—
			48	—	—	—	—	—	—	—	—	—	—
			49	—	—	—	—	—	—	—	—	—	—
			50	—	—	—	—	—	—	—	—	—	—
			51	—	—	—	—	—	—	—	—	—	—
			52	—	—	—	—	—	—	—	—	—	—
			53	—	—	—	—	—	—	—	—	—	—
			54	—	—	—	—	—	—	—	—	—	—
			55	—	—	—	—	—	—	—	—	—	—
			56	—	—	—	—	—	—	—	—	—	—
			57	—	—	—	—	—	—	—	—	—	—
			58	—	—	—	—	—	—	—	—	—	—
			59	—	—	—	—	—	—	—	—	—	—

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Fig. 13—NPA 6-Digit NXX Local Call List

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Customer Sample FP8 Dimension A

ETN ROUTING GUIDE

ARS GROUP ATTRIBUTES

DAC	Serving NPA	Assignment	# Of Ckts.	Trk. Res.	Remarks	ACA SHT	ACA LHT
130	817	FX TO CITY A	02	00		30	1
131	201	WATS Band 0 (FBD)	20	00		30	1
132							

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Fig. 14—ARS Group Attributes

AT&T OTC Business Services

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Customer Sample
FP8 Dimension A

ETN Routing Guide

ARS ROUTING PATTERNS

Action	Effective Date	Pattern Number	T.O.D. Hr.	T.O.D. Min.	T.O.D. Seq.	DAC	Term FRL	Warning Tone	Distant NPA	Dial 1 For Toll	Local List Number	Subnetwork Trunking: Off Net	PDT	Digits to Insert	Group 1: TT	Group 1: Pause Length	Group 1: Dig. Out	Group 2: TT	Group 2: Pause Length	Group 2: Dig. Out
A	CUT	03	07	30	1	110	3	0	817	1	99	1	0							
						111	3	0	201	0		1	1							

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Fig. 15—ARS Routing Patterns

OTC Business Services

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Page

Customer Sample FP8 Dimension A

ETN Routing Guide

ARS SPECIAL/SERVICE CODES

	0/011	110	111	112	113	114	115	116	117	118
Pattern #	0 7									

	119	211	311	411	511	555	611	711	811	911
Pattern #						0 8 0 7				0 7

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Fig. 16—ARS Special/Service Codes

AT&T OTC Business Services

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Customer Sample FP8 Dimension A

ETN Routing Guide

INTERTANDEM TRUNKING RECORD

Distant Tandem	Routes			
	1st	1st Alt.	2nd Alt.	3rd Alt.
Tandem B	IMT Hi-usage Direct	Tandem C	DDD	
Tandem C	IMT Hi-usage	Tandem B	DDD	

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Fig. 17—Intertandem Trunking Record

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Customer Sample FP8 Dimension A

ETN ROUTING GUIDE

INTERTANDEM GROUP ATTRIBUTES

DAC	Assignment	# Of Ckts.	Trk. Res.	Remarks	ACA	
					SHT	LHT
L73	Tandem B	50	10		40	22
L71	Tandem C	26	08		40	22

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Fig. 18—Intertandem Group Attributes

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Customer Sample FP8 Dimension A

ETN Routing Guide

INTERTANDEM ROUTING PATTERNS

Action	Effective Date	Pattern Number	DAC	Term FRL	Warning Tone	Subnetwork Trunking: Off Net	PDT	Dig. To Del.	Digits To Insert	Group 1: TT	Group 1: Pause Length	Group 1: Digits Out Pulsed	Group 2: TT	Group 2: Pause Length	Group 2: Digits Out Pulsed	Group 3: TT	Group 3: Pause Length	Group 3: Digits Out Pulsed
A	CUT	LBL	L73	2	0	0	0	0										
			L77	2	0	0	0	0										
			L05	6	L	L	L	3	1303620050 0									

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Fig. 19—Intertandem Routing Patterns

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Customer_____ FP8 Dimension _____

ETN Routing Guide

MISCELLANEOUS INFORMATION

Authorization Codes:
- Quantity Total _____
- Length Of Code _____
- Number Of Seed Digits _____

Customer Administration Center FRL
Dialing Plan:
- Number Of Station Digits _____
- Number Of (RNX) Digits _____

Station Message Detail Recording:
- Ineffective Attempts On Printout _____
- Length Of Account Codes _____
- Account Code Prefix Digit _____
- Reserved Digits _____
- Group Exceptions (DAC) _ _ _ _ _ _ _ _ _
_ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Attendant Console #(ACA) _ _
Attendant Console FRL _____
Network – Symmetrical _____
– Hierarchial _____
Access Codes – AAR _____
– ARS _____
– IDDD _____

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Fig. 20—Miscellaneous Information

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Customer Sample FP8 Dimension A

ETN Routing Guide

MASTER DAC/PATTERN ASSIGNMENTS
and TRUNK GROUP RESTRICTIONS

DAC	TGR	Assigned To	AAR Patt	Assigned To	ARS Patt	Assigned To
112		830 Oak St., City A	151			
113		71 Jones Dr., City B	163			
114		Sunset Rd., City C	164			
115		Telco Ave., City D	165			

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Fig. 21—Master DAC/Pattern Assignments and Trunk Group Restrictions

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Customer ____________ FP8 Dimension ____________

ETN Routing Guide

MASTER 6-DIGIT LOCAL CALL LIST ASSIGNMENTS

Local List No.	ARS Patt	Assigned To	Local List No.	ARS Patt	Assigned To
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	
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— —	— —		— —	— —	
— —	— —		— —	— —	
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— —	— —		— —	— —	
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— —	— —		— —	— —	
— —	— —		— —	— —	
— —	— —		— —	— —	

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Fig. 22—Master 6-Digit Local Call List Assignments

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ETN Routing Guide

TEST/ADMINISTRATIVE CODES

	Dialing Plan For Test Calls Originating From:	
	Directly Terminated Lines And PBX/CTX Tie Trunks	Intermachine Trunks
Test Codes:		
Balance Termination Test Line		
Toll Test Board Trunk		
Milliwatt		
Supervisory And Signaling Test		
Far End Transmission And Noise Test		
Data Test Line		
Administrative Codes:		
Toll Test Board		
Trouble Reporting		
Switch Contact		

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Fig. 23—Test/Administrative Codes