SWITCHING SYSTEMS MANAGEMENT
NO. 2 ELECTRONIC SWITCHING SYSTEM
ASSIGNMENT ADMINISTRATION
PREFERENTIAL NETWORK ASSIGNMENT LIST (PNAL)

CONTENTS PAGE

1. GENERAL

1.01 The preferential network assignment lists (PNALs) are computer lists of terminal equipment numbers (TENs) generated by Western Electric Company (WECo). (Reference Fig. 1 and 2.) The lists are arranged so that when lines, trunks, and service circuits are assigned, a numerical balance of the various kinds of services will appear in each No. 2 Electronic Switching System (ESS) concentrator. The objective is to give the best load balance (CCS) over all concentrators. There are separate listings for assigning loop start lines; trunks and service circuits; and ground start lines to the TENs. The PNAL lists are separated so that TENs which are designed for a specific service can be properly assigned without being constantly aware of the specific TEN restriction rules. Separate lists are provided for both initial offices and growth additions. It is essential that the network administrator assign, or coordinate the assignment of TENs for lines, trunks, and service circuits from the assignment lists in order to insure proper load balance. The operating telephone company has the option of requesting WECo to assign trunks and service circuits for growth and initial installations via the equipment specification, Form E-8071. However, the network administrator is responsible for the proper assignments. The PNAL lists reflect the terminal equipment numbers that are located in designated zones of the main frame by the following categories of assignment:

(a) Class A and ground start lines—12.5 percent of the total terminals assignable in the zone

(b) Trunks and service circuits—37.5 percent

(c) Loop start lines—50 percent.

1.02 When this section is reissued, the reason for reissue will be listed in this paragraph.

1.03 The title for each figure includes a number(s) in parentheses which identifies the paragraph(s) in which the figure is referenced.

1.04 This section of the Dial Facilities Management Practices provides the assignment rules and usage considerations of the PNAL lists provided by WECo. In order to recognize numerical load imbalances between zones, the procedure for using the PNAL listing requires establishing a numerical percentage of the entire office for loop start; class A and ground start lines; trunks and service circuits and indicating each percentage with respect to the size of each of the per zone list. These percentages are used to establish ranges on each PNAL (by central distributing frame [CDF] zone). The assignments are made to provide the best load balance with a minimum of long jumpers.

1.05 After an office is operational or after a growth addition is in service, it is recommended that the PNAL be discarded, and load balance procedures be implemented as discussed in Dial Facilities Management Practices (DFMPs), Division H, Section 10g, Load Balance. Office records produced by the Translation Office Records Generation (TORG) system is the recommended vehicle for maintaining TEN, directory numbers (DN) and other records. (For detail description, refer to Dial Facilities Management Practices, Division H, Section 10u, Translation Office Record Generation (TORG).

2. MAIN FRAME CONSIDERATIONS

2.01 Soon after the equipment order is issued to WECo, the equipment engineer, design (traffic) engineer, outside plant engineer, network maintenance personnel, and network administrator must determine together the best cable (customer line as well as trunk and service circuit cabling) and terminal equipment number layout on the main frame for optimum load balance and short jumper assignment.

2.02 There are two general types of main frames used in No. 2 ESS offices: (1) the combined distributing frame (modular) which is zoned by half-vertical (ie, verticals may have TENs or cable wiring and are alternated one with the other) and (2) the standard or conventional main frame which has cable terminated on the vertical side of the frame and TENs terminated on the horizontal side of the frame. The frame may be zoned by bay or bays. In both of these frames, zoning minimizes the need for long jumpers.

2.03 A No. 2 ESS is usually used as either a replacement unit or a growth unit (area cut unit) for an existing wire center. In either case, customer cable complements, such as those from centrex customer groups or other areas should be distributed evenly in each vertical or bay. This minimizes the possibilty of community of interest assignments to TENs within the same concentrator.

3. ASSIGNMENT CONSIDERATIONS

3.01 Before actual assignments begin, the following information is to be gathered so that the ESS forms can be prepared:

(1) Interdepartmental record check lists

(2) Trunk and service circuit lists

(3) Test line assignment procedures as discussed in the Translation Guide (TG-2H).

During the period when customer lines are assigned in the No. 2 ESS, duplicate records (old and new office records) must be maintained since activity in the old office will continue until the time of cutover.

3.02 Each dial system will have characteristics unique to that system. Therefore, before assignments are made, the network administrator should be aware of the following items:

(a) Concentrators arranged for range extension. (TENs from these concentrations are indicated in the PNAL by an "RXT" designation next to the TEN.) Customer lines which are range extended with unigauge cable along with trunks and service circuits may be assigned in these concentrators. Coin lines, nonrange extended lines, certain PBXs, off premise extentions, and telephone answering equipment may not be assigned in these concentrators. For additional informtion, refer to EL1577.

(b) Class A (essential lines) must be assigned to even-numbered switches on level 0. TEN assignments are made from the "Class A and Ground Start Lines" PNAL, beginning from the top of the list.

(c) Ground start lines must be assigned to even levels on any switch. In these cases, the ferrod sensors associated with these lines in the line trunk switch frame must be rewired to remove the ground from the ferrod preparatory to dial tone return. TEN assignments are selected, from bottom to top, from the "Class A and Ground Start Lines" list.

Note: Essential lines may be either loop start or ground start. (All ferrod sensors are wired as loop start to accept a short circuit across the tip and ring which is on the line before dial tone is returned.)

(d) Centrex lines are considered as business with various classes of service; however, some of these lines may have the same characteristics as a residence line, eg, dormitory lines, and should be assigned as the "apparent" class of service. (Reference the Translation Guide [TG-2H], Division 4, Section 3 for additional information on line class codes.)

(e) Outward wide area telephone service (WATS) and inward WATS lines will usually contribute heavy usage in all hours of the day. There may also be computer ports with "polling" characteristics contributing heavy usage. These lines should be assigned as an "apparent" class of service.

(f) Two or more rate center area lines should be spread as evenly as possible by class of service within the concentrators and between as many concentrators as possible.

(g) Centrex console loops should be assigned top to bottom.

(h) Trunk groups and service groups obtain their TENs from the "Trunk and Service Circuits" PNAL. The TENs on this list are not reserved specifically for these services but can be used as loop or ground start line TENs, when required. Specific rules are covered with each PNAL printout.

3.03 Lines should be ordered by class of service or "apparent" class of service; trunks ordered by trunk groups; service circuits ordered by service circuit groups; and each assigned in those orders to the appropriate listing. When assigning in this manner, an equal distribution of those services should appear in the concentrators.

4. PREFERENTIAL NETWORK ASSIGNMENT LIST RULES

A. Initial Office

4.01 Each zone of a main frame requires a balance of the number of loop start lines, class A (essential), ground start lines, trunks, and service circuits. The PNALs generated by the computer will reflect the availability of TENs in each zone as follows.

(a) Loop start lines—50 percent of the available TENs in the zone

(b) Class A and ground start lines—12.5 percent of the available TENs in the zone

(c) Trunk and service circuits—37.5 percent of the available TENs in the zone.

4.02 The rules, shown graphically in Fig. 3, essentially identify how many TENs should be assigned to each zone. The number of TENs identified for assignment in the zone in each list is proportional to the total cable pairs and the trunk and service circuit equipment requiring a TEN. Generally there will be fewer or more TENs required than this proportional quantities. If there are fewer TENs, those within the list will have short jumpers. If there are more TENs required for assignment, the excess that are beyond the cutover requirements should be assigned with long jumpers to zones which have not been filled. This will ensure reasonable load balance over all zones, even through the excess assignments will result in longer jumpers. The long jumpers should be changed whenever possible after cutover and when load balance measurements are available. The load balance procedure given in DFMP, Division H, Section 10g should be followed.

4.03 By using the following rules, a numerical load balance in the office should result and should minimize rearrangements after cutover when CCS load measurements are taken.

4.04 If it is necessary to a line class count report, prepare tally records on summary forms. These forms can also provide a ready reference for class-of-service spread by concentrator. Automatically generated office records (TORG) which are available for No. 2 ESS should be used after cutover.

4.05 An example of the procedures for using the PNAL are as follows:

(1) Determine the number of TENs required for coin, business, residence, class A, ground start, trunks, and service circuits at the time of office cutover.

(2) Determine the percentage of the total number of TENs required for loop start lines, class A and ground start lines, trunks, and service circuits. These percentages can be applied to the respective listing of each zone by determining the numbers of TENs necessary for each list and marking the different positions with a colored pencil. As an example, let us assume that an office has the following dimensions:

6144 = Total TENs (3 networks).

3500 = Total number of loop start lines at cutover of the office. (Of these, 500 are business and 3000 are residence.)

208 = Total number of class A and ground start lines at cutover of the office.

720 = Total number of trunks and service circuits at the end of the engineering period for the office.

Note: Some test lines require certain terminal equipment numbers. (Include these in the above numbers in the proper category.) Refer to the Translation Guide (TG-2H), Division 4, Preparation of Forms, and to maintenance personnel.

The PNAL lists for all zones provide:

3072 = TENs assignable to loop start lines for all zones (50 percent of the total TENs).

2304 = TENs assignable primarily to trunk and service circuits but also to loop start and ground start lines (37.5 percent of 6144).

768 = TENs assignable primarily to class A and ground start lines but also to loop start lines and trunks and service circuits (12.5 percent of 6144).

Comparing the TEN office requirements to the TENs provided by the lists:

3500 - 3072 = 428 or the number of loop start lines that are in excess of the TENs provided by all loop start lists for every zone. (These excess lines are to be assigned on the trunk and service circuit lists.)

428 ÷ 2304 = 18.6 percent of the trunk and service circuit lists will have loop start lines assigned to them.

500 ÷ 3072 = 16.3 percent of the loop start lists will have business lines assigned.

720 ÷ 2304 = 31.3 percent of the trunk and service circuit lists will have trunks and service circuits assigned to them.

208 ÷ 768 = 27.1 percent of the class A and ground start lists will have class A and ground start lines assigned to them.

Loop Start Lists—Application of the Percentages

4.06 On the loop start lists of the PNAL, take the percent alloted for business lines (the example shows 16.3 percent) and apply the percent to the total number of assignments of each loop start list by zone. If zone 0 has 200 TENs, in the loop start test, then use 16.3 percent of 200 or 32. The PNAL lists are ordered by item numbers. Mark item 32 in a distinctive color on the PNAL. Do not assign lines beyond this point even though more are required to originate from this zone. Assign the business lines from the lowest item number continuing toward the marked assignment. Assign the residence lines from the highest item number on the list continuing toward the marked assignment. In the example, loop start lines exceeded the number of available TENs in the generated loop start lists, therefore loop start residence line assignments continue in the trunk and service circuit lists for each zone, but not beyond the 18.6 percent of the trunk and service circuit assignments. Assign these loop start lines from the highest item number toward the lowest number. If zone 0 has 100 trunk and service circuit TENs, then 18.6 percent of 100 equals 19 that are reserved for loop start lines. The last item will be 100 minus 19 or 81. Mark the stopping point of each ***trunk and service circuit list*** by zone. Hold any remaining line assignments for future assignment to other zones until all zones have been assigned.

4.07 Class A lines cannot exceed the allotted 12.5 percent of total TENs in the class A and ground start generated lists. Apply the percentage (the example shows 27.1 percent) to the total number on each class A and ground start list (starting from item 1). If zone 0 has 50 TENs, then 27.1 percent of 50 equals 14 or item 14, the marked assignment. This will be the allotted number to be assigned. Assign class A lines from the top of the list. Then continue the ground start assignments beginning with the next item above the residence line termination (see 4.06) and continuing toward the lowest item number. If, as in the case of the example, the TEN requirements are less than the total of the class A and ground start list at cutover, allot the remainder as spares for growth (Fig. 3). After cutover, the spares can be used for class A, residence, and business lines; trunks; and/or service circuits.

Trunk and Service Circuit Lists

4.08 Increase the trunks and service circuits by a reasonable percent over and above those calculated in 4.05 to allow for any contingency during the period before cutover. (The example shows 31.3 percent required plus say, 2.7 percent spare which equals 34 percent.) The 2.7 percent spare is shown as "spare trunks and service circuits" in Fig. 3. Apply the 31.3 percent and the 34 percent to each trunk and service circuit list (beginning from the lowest item number on the lists), and mark the end of the 31.3 percent and the 34 percent assignment. (If zone 0 has 150 TENs, then 31.3 percent of 150 equals 47, the first marked assignment; 34 percent of 150 equals 51, the second marked assignment.) The portion between the two marks will be spare for trunks and service circuits. (This arrangement assumes that the cables for trunks and service circuits have been properly distributed in the zones.) Assign each trunk group sequentially (trunk groups selected at random) from the lowest member number to the highest item number. In the example, the 31.3 percent mark (47 TENs) will be the last assignment. If there are more trunk and service circuits to be assigned than the (example) 47 circuits, the excess circuits must be assigned to other zones which have fewer than the 47 circuits assigned in order to assure a reasonable office load balance. Reference 4.10 of this section for additional information. The remaining spare TENs can be used after cutover for business, ground start, residence, and trunk and/or service circuits.

4.09 Judgmental values by the network administrator must be employed so that a system balance will be obtained. Although the PNALs are designed to provide a balance, it is recommended that the assignments be analyzed so that:

(a) No more than one trunk or service circuit is assigned to a switch until all switches in the network have been assigned at least one trunk or service circuit

(b) No concentrator shall have assigned to it a quantity of trunks or service circuits which deviates plus or minus one from the average number assigned to all concentrators.

Refer to 4.04 of this section for the suggested tally assignment record which aids in monitoring 4.09 (a) and (b).

B. Load Balance Versus Long Jumpers

4.10 After indicating the theoretical positions in each list to which services can be assigned, the network administrator can begin to assign the services. In some cases the assignments will be fewer than the number allocated in a list, while other similar lists in a different zone will be experiencing a greater number of assignments. When the number of assignments match the marked positions in a list, the results are that the assigned service is numerically balanced over concentrators in that zone and that the jumpers assigned in the zone are short. When the number of assignments exceed the marked positions, the results are that (should assignments in the list continue) an unequal load balance will be experienced. To ensure an equal balance, those excess services should be assigned to similar lists in zones which have fewer assignments than the marked positions even though longer jumpers may result.

4.11 It is recommended that no long jumpers be assigned until all short jumpers are assigned in order that the maximum number of short jumpers be assigned. For example, if long jumpers from zone 1 might fill zone 2 causing zone 2 to be long jumpered to zone 3, it would be better to run long jumpers from zone 1 to zone 3 where there are spare TENs.

C. Growth Addition

4.12 Preferential network assignment lists are generated by WECo for the total office, including growth equipment, in the same fashion per zone as they are for initial offices (Fig. 2). The lists show the currently working TENs plus the added TENs.

4.13 In a growth situation, the network administrator must decide whether any equipment (lines, trunks, or service circuits) should be moved from the old line trunk switch frames to the new. Some of the considerations in this decision are as follows:

(a) Junctor capacity at various stages in the transition (reference DFMP, Division H, Section 10t[2], Transition Management—Switching Network)

(b) Amount of customer line movement within the entity (reference DFMP, Division H, Section 10t[2])

(c) Type of growth expected—area cuts or day-to-day growth

(d) How fast growth is expected

(e) Number of months required to load balance the office (reference DFMP, Division H, Section 10g).

4.14 Again, as in an initial office, the network administrator must determine the percentage of TENs for each of the three types (loop start, class A and ground start, trunks, and service circuits) which should be assigned in each zone.

4.15 The junctor capacity in the old frames may be reduced with the addition. Therefore, the network administrator, after calculating the load and balance minimum requirements as described in DFMP, Division H, Section 10g, should have a meeting with all other involved personnel (maintenance, together with all other involved personnel (maintenance, outside plant, and plant assignment personnel) and propose which of the existing lines, trunks, and service circuits should be moved from the old line trunk networks to the new line trunk networks. It is recommended that the working trunks and service circuits be rebalanced by the time of the final junctor transition.

4.16 The design (traffic) engineer, network administrator, and maintenance personnel will decide on the schedule and the number of junctor assignment transition periods which are necessary to accomplish a smooth transition with the least impact on service. The junctor redistribution, in all probability, will occur over several days to lessen the impact of the reduction of junctors in the old frames. Before each transition period, a planned number of customer lines, trunks, and service circuits should be moved after the next planned junctor transition, etc, until the final junctor pattern for the office is achieved.

4.17 If the ESS 2100R, Directory Number Record, and the ESS 2171R, Terminal Equipment Number Record, are used as office records, it may be necessary to manually reassign the growth network assignments until new post growth 2100R and 2171R records can be obtained.

4.18 The ESS 2100R and the 2171R should be requested at the time of the PNAL output in order to be at the same starting point.

Growth Assignment Objectives

4.19 There are two equally important objectives for which the network administrator should strive:

(1) A balance of working lines, working trunks, nonworking trunks, and service circuit groups over all concentrators at, or soon after, the growth cutover.

(2) Short jumpers; on the combined (or main) distribution frame (CDF) for each zone; or a zoned modular or conventional frame.

Process For Determining Optimum Numerical Circuit Balance After Growth

4.20 The following paragraphs will describe a method of obtaining an optimum numerical circuit balance after growth. An example is given to illustrate the calculation of the number of TENs that are assigned in each zone at growth, cutover, and after cutover. The example also illustrates the TEN objective of assigning lines to TENs while considering jumper lengths. The method also illustrates trunk assignments using the line balance and short jumper objectives.

4.21 The following steps are used to determine the optimum numerical circuit balance after growth.

(1) Calculate the objective working lines, working trunks, and service circuits and nonworking trunks per postgrowth network.

(a) Objective Working Lines Per Network $= \dfrac{\text{Working Lines}}{\text{Postgrowth Networks}}$

(b) Objective Working Trunks and Service Circuits Network $= \dfrac{\text{Working Trunks and Service Circuits}}{\text{Postgrowth Networks}}$

(c) Objective Nonworking Trunks Per Network $= \dfrac{\text{Nonworking Trunks}}{\text{Postgrowth Networks}}$

Example:

(a) Working Lines Per Network Objective $= \dfrac{2850}{3.5} = 814$

(b) Working Trunks and Service Circuits Per Network Objective $= \dfrac{1000}{3.5} = 286$

(c) Nonworking Trunks Per Network Objective $= \dfrac{200}{3.0} = 57$

(2) If the office CDF is not zoned, compare the assigned working lines; working trunks and service circuits; and nonworking trunks per network to the objective numbers. The differences represent the adjustment that should be made in order to achieve a postgrowth network numerical balance.

(3) DFMP, Division H, Section 10t(2) describes the minimum loads which must be distributed from old to new networks to meet the interim junctor capacities. The Program for Administrative Reports On Line (PATROL) may be used to acquire junctor usage data.

(4) When the specific lines, trunks, or service circuits have been identified for transfer into new networks, new TENs for them should be assigned. The new TEN assignments should be made in the same sequence that they appear in the respective PNAL. The new TEN assignments should begin at the starting point that is recommended in the PNAL rules.

(5) When the office CDF is zoned, the administrator should use the method of determining the CDF zone circuit balance that is given in the following paragraph.

Method of Evaluating CDF Zone Circuit Balance

4.22 The following method results in a comparison of a pregrowth TEN CDF zone configuration to a postgrowth arrangement. The comparison enables an administrator to see how and in which networks the line, trunk, or service circuit transfers should be made to achieve a postgrowth TEN balance. Applying this method at the time of the growth, may result in the need for interzone jumpers. These jumpers should be replaced by intrazone jumpers by normal change activity. The philosophy of any zoned distributing frame is that outside plant appearances are randomly distributed by type and load within a zone. Jumper connections from the outside plant to the TENs (which are designed to accept a randomly distributed load) need not go to other zones and can stay within the zones. Each zone size can be designed so that intrazone jumper pileups do not exceed the design capacity of the frame, zoning and proper administration of each zone will allow the frame to grow to any length without congestion. The following method is expressed as an example and shows how an evaluation of a frame can be made.

Example: Office Configuration

(a) Pregrowth TENs = 4096 (2 LTNs)

(b) Postgrowth TENs = 4096 + 3072 = 7168 (3-1/2 LTNs)

(c) Working lines at growth cutover = 2850

(d) Pregrowth working trunks and service circuits = 800

(e) Pregrowth nonworking trunks = 100

(f) Postgrowth working trunks and service circuits = 1000

(g) Postgrowth nonworking trunks = 200

(h) Pregrowth zones = 4

(j) Postgrowth zones = 5

(k) Pregrowth PNAL by zone (given below)

(l) Postgrowth PNAL by zone (given below)

Pregrowth Zone TENs (k)	2048	1024	512	512	
Zone (j)	1	2	3	4	5
Postgrowth Added Zone (l)		1024	1024	512	512
Total Postgrowth Zone TENs (k)+(l) = (m)	2048	2048	1536	1024	512

(m) Total postgrowth zone TENs [(k) plus (l) equals (m) given below].

(1) Calculate the number of working lines assignable per zone for the postgrowth configuration.

$$\text{Working Lines Per Zone} = \frac{\text{Lines (c)}}{\text{TENs (b)}} \times \text{Total TENs Per Zone (m)}$$

Example:

$$\text{For Zone 1 and 2} = \frac{2850}{7168} \times 2048 = 814$$

$$\text{For Zone 3} = \frac{2850}{7168} \times 1536 = 609$$

(2) Calculate the number of working trunks and service circuits per zone (1000 total).

$$\text{Working Trunks and Service Circuits Per Zone} = \frac{\left[\text{Working Trunks and Service Circuits (f)}\right]\left[\text{Total TENs Per Zone (m)}\right]}{\text{Postgrowth TENs (b)}}$$

Example:

$$\text{For Zone 1 and 2} = \frac{(1000)\,(2048)}{7168} = 286$$

$$\text{For Zone 3} = \frac{(1000)\,(1536)}{7168} = 214$$

(3) Calculate the number of nonworking trunks per zone.

$$\text{Nonworking Trunks Per Zone} = \frac{\left[\text{Nonworking Trunks (g)}\right]\left[\text{Total TENs Per Zone (m)}\right]}{\text{Postgrowth TENs (b)}}$$

Example:

$$\text{For Zone 1 and 2} = \frac{(200)\,(2048)}{7168} = 57$$

$$\text{For Zone 3} = \frac{(200)\,(1536)}{7168} = 43$$

Summarize as follows:

	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	
(1) Objective Working Lines	815	815	609	407	204	
Actual Working Lines	1400	720	360	370	→	Obtain from PNAL
(2) Objective Trunks and Service Circuit	286	286	214	143	71	
Actual Trunk and Service Circuit	400	200	100	100	→	Obtain from PNAL and office records
(3) Objective Nonworking Trunks	57	57	43	29	14	
Actual Nonworking Trunks	50	25	13	12	→	Obtain from PNAL and office records

Using the summarization information, a comparison of the objective against the actual lines, trunks, or circuits indicates the number of TENs which should be added or removed from each zone in order to achieve a numerical balance of the various services in each zone. An administrator can then select, by balance and zone analysis, the best TEN selections. It is possible that a numerical zone balance will not be necessary. When new LTNs are added to a balanced zone, it will be necessary to rebalance the networks within the zone to achieve the goals of 4.19.

(4) After selecting a line or trunk to be rebalanced, enter the PNAL for the "Assigned To" line or trunk zone and assign the line or trunk to the first appropriate new network TEN in the list.

(5) After the rebalancing, the nonworking trunk circuits are added to the appropriate PNAL. These techniques should aid the network administrator in using the preferential network assignment lists to obtain properly balanced CDFs.

PREFERENTIAL NETWORK ASSIGNMENT LIST
FOR
LOOP START LINES

BRIGHTON 227, 229
NO 2 ESS

NETWORK ON VERTICAL 001R
RIGHT TO LEFT GROWTH

PAGE 003

*** TERMINAL EQUIPMENT NUMBER ***

ITEM	NETWORK	CONC GRP	CONC	SWITCH	LEVEL	ASSIGNED	NOTE	CABLE PAIR
00001	100	1	0	0	3			
00002	101	0	0	0	3			
00003	102	0	0	0	3			
00004	100	2	0	0	3		004	
00005	101	1	0	0	3			
00006	102	1	0	0	3			
00007	100	3	0	0	3			
00008	101	2	0	0	3			
00009	101	3	0	0	3			
00010	100	1	0	2	3			
00011	101	0	0	2	3			
00012	102	0	0	2	3			
00013	100	2	0	2	3			
00014	101	1	0	2	3			
00015	102	1	0	2	3			
00016	100	3	0	2	3			
00017	101	2	0	2	3			
00018	101	3	0	2	3			
00019	100	1	0	4	3			
00020	101	0	0	4	3			

ITEM	NETWORK	CONC GRP	CONC	SWITCH	LEVEL	ASSIGNED	NOTE	CABLE PAIR
100021	102	0	0	4	3			
100022	100	2	0	4	3			
100023	101	1	0	4	3			
100024	102	1	0	4	3			
100025	100	3	0	4	3			
100026	101	2	0	4	3			
100027	101	3	0	4	3			
100028	100	1	0	6	3			
100029	101	0	0	6	3			
100030	102	0	0	6	3			
100031	100	2	0	6	3			
100032	101	1	0	6	3			
100033	102	1	0	6	3			
100034	100	3	0	6	3			
100035	101	2	0	6	3			
100036	101	3	0	6	3			
100037	100	1	0	0	1		003	
100038	101	0	0	0	1		002	
100039	102	0	0	0	1		002	
100040	100	2	0	0	1		003	

ITEM	NETWORK	CONC GRP	CONC	SWITCH	LEVEL	ASSIGNED	NOTE	CABLE PAIR
100041	101	1	0	0	1		003	
100042	102	1	0	0	1		003	
100043	100	3	0	0	1		002	
100044	101	2	0	0	1		003	
100045	101	3	0	0	1		002	
100046	100	1	0	2	1			
100047	101	0	0	2	1			
100048	102	0	0	2	1			
100049	100	2	0	2	1			
100050	101	1	0	2	1			
100051	102	1	0	2	1			
100052	100	3	0	2	1			
100053	101	2	0	2	1			
100054	101	3	0	2	1			
100055	100	1	0	4	1			
100056	101	0	0	4	1			
100057	102	0	0	4	1			
100058	100	2	0	4	1			
100059	101	1	0	4	1			
100060	102	1	0	4	1			

ITEM	NETWORK	CONC GRP	CONC	SWITCH	LEVEL	ASSIGNED	NOTE	CABLE PAIR
100061	100	3	0	4	1			
100062	101	2	0	4	1			
100063	101	3	0	4	1			
100064	100	1	0	6	1			
100065	101	0	0	6	1			
100066	102	0	0	6	1			
100067	100	2	0	6	1			
100068	101	1	0	6	1			
100069	102	1	0	6	1			
100070	100	3	0	6	1			
100071	101	2	0	6	1			
100072	101	3	0	6	1			
100073	100	1	0	1	3			
100074	101	0	0	1	3			
100075	102	0	0	1	3			
100076	100	2	0	1	3			
100077	101	1	0	1	3			
100078	102	1	0	1	3			
100079	100	3	0	1	3			
100080	101	2	0	1	3			

Fig. 1—Preferential Network Assignment List—Growth Addition (1.01)

PREFERENTIAL NETWORK ASSIGNMENT LIST
FOR
LOOP START LINES

BRIGHTON 227, 229
NO 2 ESS

NETWORK ON VERTICAL 017R
RIGHT TO LEFT GROWTH

*** TERMINAL EQUIPMENT NUMBER ***

ITEM	NETWORK	CONC GRP	CONC	SWITCH	LEVEL	ASSIGNED	NOTE	CABLE PAIR	ITEM	NETWORK	CONC GRP	CONC	SWITCH	LEVEL	ASSIGNED	NOTE	CABLE PAIR	ITEM	NETWORK	CONC GRP	CONC	SWITCH	LEVEL	ASSIGNED	NOTE	CABLE PAIR	ITEM	NETWORK	CONC GRP	CONC	SWITCH	LEVEL	ASSIGNED	NOTE	CABLE PAIR
00001	100	4	5	0	3	L			100021	100	4	5	4	3	L			100041	100	4	5	0	1				100061	100	4	5	4	1	L		
00002	101	4	6	0	3	L			100022	101	4	6	4	3	L			100042	101	4	6	0	1	L			100062	101	4	6	4	1	L		
00003	103	0	6	0	3				100023	103	0	6	4	3				100043	103	0	6	0	1				100063	103	0	6	4	1			
00004	104	0	5	0	3				100024	104	0	5	4	3				100044	104	0	5	0	1	L			100064	104	0	5	4	1			
00005	100	5	5	0	3	L			100025	100	5	5	4	3	L			100045	100	5	5	0	1	L			100065	100	5	5	4	1	L		
00006	101	5	5	0	3	L			100026	101	5	5	4	3	L			100046	101	5	5	0	1	L			100066	101	5	5	4	1	L		
00007	103	1	6	0	3				100027	103	1	6	4	3				100047	103	1	6	0	1				100067	103	1	6	4	1			
00008	104	1	5	0	3				100028	104	1	5	4	3				100048	104	1	5	0	1				100068	104	1	5	4	1			
00009	100	7	6	0	3	L			100029	100	7	6	4	3	L			100049	100	7	6	0	1	L			100069	100	7	6	4	1	L		
00010	101	6	5	0	3	L			100030	101	6	5	4	3	L			100050	101	6	5	0	1	L			100070	101	6	5	4	1	L		
00011	100	4	5	2	3	L			100031	100	4	5	6	3	L			100051	100	4	5	2	1	L			100071	100	4	5	6	1	L		
00012	101	4	6	2	3	L			100032	101	4	6	6	3	L			100052	101	4	6	2	1	L			100072	101	4	6	6	1	L	003	
00013	103	0	6	2	3				100033	103	0	6	6	3				100053	103	0	6	2	1				100073	103	0	6	6	1		003	
00014	104	0	5	2	3				100034	104	0	5	6	3				100054	104	0	5	2	1				100074	104	0	5	6	1			
00015	100	5	5	2	3	L			100035	100	5	5	6	3				100055	100	5	5	2	1	L			100075	100	5	5	6	1	L		
00016	101	5	5	2	3	L			100036	101	5	5	6	3	L			100056	101	5	5	2	1	L			100076	101	5	5	6	1	L		
00017	103	1	6	2	3				100037	103	1	6	6	3				100057	103	1	6	2	1				100077	103	1	6	6	1		002	
00018	104	1	5	2	3				100038	104	1	5	6	3				100058	104	1	5	2	1				100078	104	1	5	6	1			
00019	100	7	6	2	3	L			100039	100	7	6	6	3				100059	100	7	6	2	1	L			100079	100	7	6	6	1	L	003	
00020	101	6	5	2	3	L			100040	101	6	5	6	3	L			100060	101	6	5	2	1	L			100080	101	6	5	6	1	L		

Fig. 2—Preferential Network Assignment List—Initial Office (1.01, 4.12)

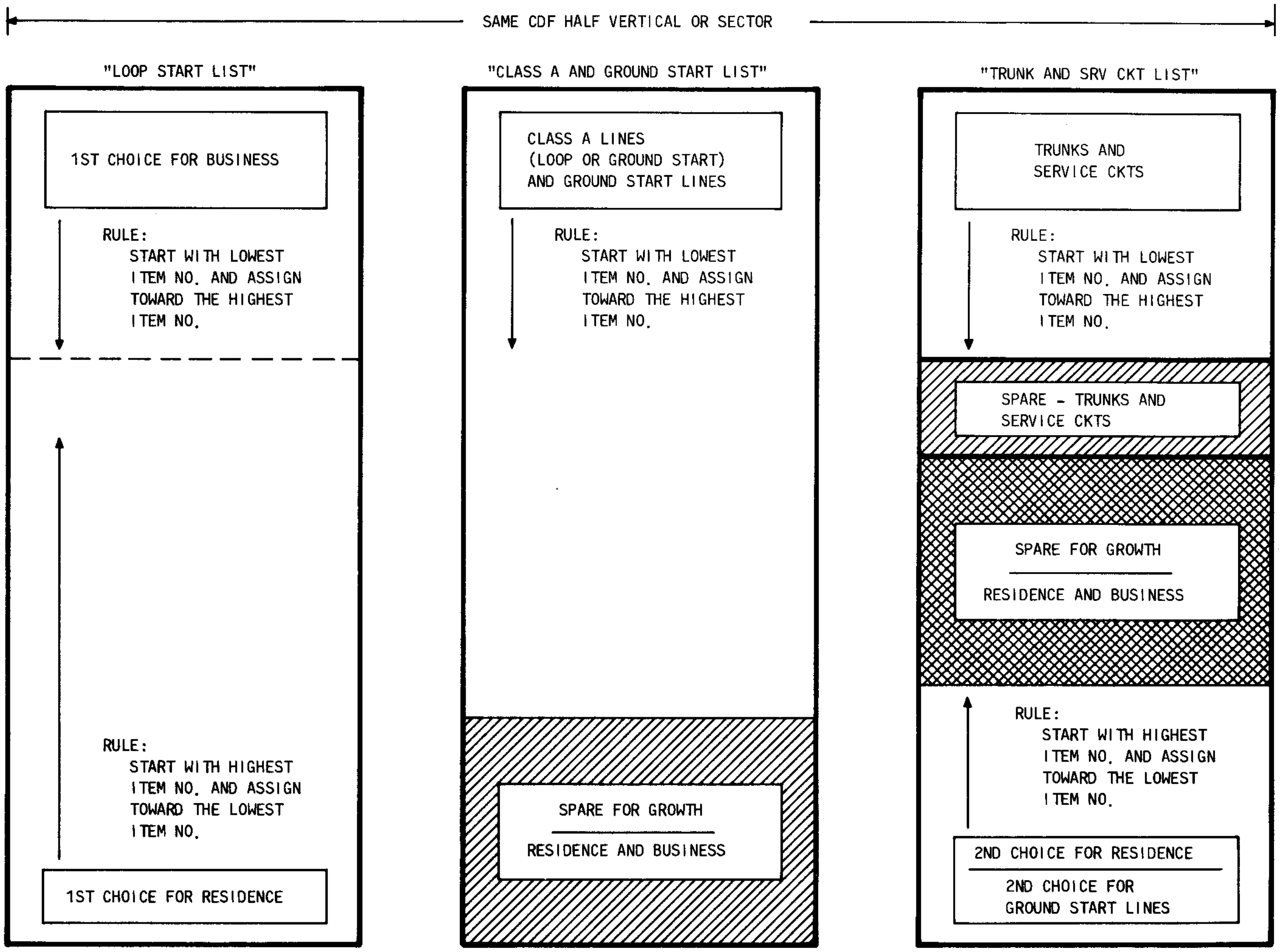

Fig. 3—Line and Trunk Assignment Rules Using the Preferential Network Assignment Lists (4.02, 4.07, 4.08)