

PREPARATORY OPERATIONS

BASIC INFORMATION

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1.	<u>GENERAL</u>	2.2	<u>Column Captions</u>
1.1	<u>Scope of Section</u>	2.21	The following is an explanation of the information that may be found in the various columns of the bulk cable running list:
1.11	This section covers cable running information usually provided in the cable specification; also cable identification information and cable conditions to be reported.	2.2101	<u>"CKT REF" Column</u>
1.12	Cable running and cable identification information referred to in this section applies to Western Electric Company engineered jobs. Similar information for telephone company engineered jobs may not be provided in the same detail.	(a)	Runs of cable or wire not ordered by the SPC computer output, such as reused (R), requisitioned material (RQ), Telephone Company furnished (T), surplus material (W), or factory formed cable (FMD), will be identified by these letters indicated in the "CKT REF" column.
1.13	Refer to Handbook 1 for general information concerning specifications.	(b)	These runs and any material designated in the Cable Running List, will be summarized and listed in the "B" Section, with the material cross-referenced by the appropriate letters R, RQ, T or W in the note column.
2.	<u>INSTALLER'S BULK CABLE RUNNING LIST</u>	(c)	All such R, RQ, T or W notes will be placed under "Summary of Material Notes".
2.1	<u>General</u>	2.2102	<u>"AMT in FT" Column</u>
2.11	Cable running information for cable runs ordered in the bulk cable specification is contained in the INSTALLER'S CABLE RUNNING LIST which is part of Section C of the specification. (Refer to Figure 1.) Some variation in the nature of the information is due to inherent difference between systems and differences in engineering practices.	(a)	When more than one cable constitutes the run, the amount is the sum of all the cable involved and not the length of only one cable.
2.12	A more comprehensive and detailed explanation can be found in Handbook 1.	(b)	In the formed cable running list, when the cable run is ordered in the associated A & E specification and the

stocklist breakdown provides a specific length, this length in feet only is shown.

- (c) The critical overall lengths, shown in feet and inches in the "B" Section for factory formed cable information, will be rounded upward to the next foot and added in this column for the identical unique cable run.

→ 2.2103 "CODE" Column

- (a) The switchboard cable code (A or M), abbreviated piece part number designations, shielded wire piece parts, KS number, RM numbers, etc., applicable to the wiring diagram application is listed in this column.
- (b) Wire by "KS" number, "RM" number, piece part number, or D Specification number in the same manner as switchboard cable is also listed in this column.
- (c) RM numbers appearing in the cable running list serve to identify non-coded cable and wire. At the end of the cable running list prior to the "Total" page in each specification, a note is included, listing the RM numbers with a complete cable or wire description for each number.

↳ 2.2104 "CKT NBG or CA NOS" Column

- (a) In this column, is shown the circuit numbering and/or cable numbers as shown on the job front equipment, relay rack and/or wiring list drawings. Each field of information is separated from the preceding by a comma.

- (b) In those cases where specific leads are combined into a common switchboard cable or piece part number, from a grouping of two or more wiring diagram header lines, for installation information, when applicable, the specific lead or leads associated with each cable run is shown.
- (c) In the factory formed cable running list, as the last field of information in this column, the "UNIQUE NUMBER" is added for each cable. The "Unique Number" will consist of the prefix "CA" and a numeric. For each factory formed cable, starting with the first cable on the first page of the cable running list in this column, a unique numeric in ascending sequence commencing with "1" and up is assigned.
- (d) In those cases where the factory formed cable run consists of two or more cables, formed in with each other the same unique number is retained, for each cable in the formed cable run further identify each cable by adding a lettered suffix A to Z in alphabetical order, at the end of the unique number.
- (e) An identical "Unique Number" will be assigned for the complete factory formed cable run to multiple equipment in switchboard and desks. Examples of this practice are as follows:
- (1) Frame to multiple cable and short multiple cables.
  - (2) Only short multiple cables.
- (f) The "Unique Number" will be the last data shown in this column, preceded by circuit numbering and cable numbers, when required. Each field of data will be separated by a comma.
- (g) For a single run of short multiple cables which are factory formed and connected, regardless of the number of cables required to make the multiple run, the numeric one (1) will be shown for ICE System requirements.
- (h) For a single run of short multiple cables which are factory formed and installer connected, the number of short multiple cables will be shown for ICE System requirements.

2.2105 "FROM" and "TO" Column

- (a) To provide installer's cable tags for all cable runs, the SPC System checks to see that data is furnished in the "FROM" and "TO" columns.
- (b) Information shown on the floor plan drawing, the approved frame name abbreviations and numbering data will be used for all cables terminating at distributing frames, relay racks, fuse bays, Step-by-Step frames, i.e., connector, selector, office alarm, etc., Panel frames, i.e., line finder, district selector, floor alarm frames, etc., Crossbar frames, such as office link, marker connector, office and floor alarm, etc., ESS frames, i.e., call processor, line data, trunk relay, etc. When frame consists of multiunits, such as connectors, senders, etc., also indicate this supplementary data, i.e., CONN O SDR 2.
- (c) The floor level will be shown as part of the "FROM" and "TO" data when either frame, rack, etc., are on different floors. The exception to this practice is when the floor level is apparent from the cable running list data, i.e., RR 514.5, RR 331.12, RR 1807.6, etc., utilizing the first and second characters of the lineup number to denote floor level association.
- (d) Cabling to future frames, racks, etc., will be shown by preceding the frame name and number by the designation "FUT", i.e., FUT RR 101.09.

2.106 "CA DES" Column

- (a) Cable identification shown on standard drawings (ED, H, SD, T, etc.) will be added in the "CA DES" columns of the cable running list.
- (b) In those cases where two different cable identifications are required for a cable run, the two different cable identifications shall be shown in the single "CA DES" Column. The sequence of data shall be the "FROM" column cable identification as the first data, followed by the "TO" column cable identification as the second data. Each data shall be separated from each other by a comma (,) symbol.

- (c) Identifying information will be shown, such as "L" for "LINE" and "E" for "EQUIP", or "T" for "TRMTG" and "R" for "RCVG", etc., when two or more cables of the same code are formed together at one end and terminate at different points at other end in this column.

2.2107 "LG SCU CA" Column

- (a) Not used.

2.2108 "DROP" Column

- (a) In the "DROP" Column of the cable running list, or its preprinted equivalent, the drop lengths of all bulk ends of cable runs for installation information is shown. The drop length dimension is the length of the cable or wire from the cable line of the cable rack, or from the lip of the cable rack shield, associated with that particular cable or wire to the farthest equipment terminating location in the frame or rack.
- (b) The drop length dimensions will be specified for the originating and terminating cable or wire ends of the frames involved using the drop lengths shown in cable specification forms, cable detail drawings or cable data sheets for all fixed locations. When drop lengths are not obtainable from the above sources, or the cable racks are installed at a height other than the standard level for each particular system, the drop length dimensions for the particular cable or wire will be manually computed as required.

- (c) Side of Frame Location - In addition to the drop length the following letters are added, as required, to indicate the location of the cable as it comes off the cable rack in relation to the frame and/or bay uprights, as viewed from the front of the frame and/or bay, as covered on the cable detail and/or method of cabling drawings for the equipment involved.

- "L" - left upright
- "R" - right upright
- "C" - center upright
- "M" - multiple or waterfall
- "LC" - left center upright (When there are 4 uprights or 3 bays)

- "RC" - right center upright  
 "MR" - multiple or waterfall to right bay  
 "ML" - multiple or waterfall to left bay  
 "MC" - multiple or waterfall to center bay of  
 3 bay assembly

- (1) The appropriate letter is shown in the "DROP" column of the cable running list, or its preprinted equivalent preceding the drop length information, i.e., L10, R4.
- (2) The appropriate lettered data will also be added in the cable running list for shop formed or formed and connected ends of cable runs.
- (3) When the side of frame location on the Toll System Cable Detail and/or Method of Cabling Drawing is standard, this data will be shown. In all other cases the side of frame location data will not be entered as part of the Toll System Installer's Cable Running List information.

2.2109 "EQPT LOC & FM INF" Column

- (a) Equipment terminating locations applicable to Panel, Step-by-Step, Crossbar and No. 4, A4A and 4A Toll Switching frames, etc., will be expressed in terms of terminal strip, relay, switch, numbers, i.e., TS MISC; REL B; SW A. When used, these abbreviated terms will assume the position of the first data in the column.

- (1) Where one cable terminates at more than one apparatus location (i.e., TS A, B and C), only one (furthest) terminating apparatus location (i.e., TS C) is shown.

- (b) On multiconnections of cable end to different combination of TS, REL, SW apparatus, a dash indicator prior to standard data is added, i.e., - TS and SW A; - REL and SW C; - TSC and JK.

- (1) Where one cable terminates at different combinations of apparatus locations (i.e., - TS A, B, C and REL D, E, F), only one furthest terminating location for each different apparatus is shown, (i.e., TS C and REL F).

- (c) Supplementary step-by-step equipment location data is denoted as follows:

- (1) Shelf numbers 1 to 3 for LF units and 1 to 7 for conn shelves is used.
- (2) Design "SH" for sel rept. and misc FR equipment loc using shelf letters is omitted.
- (3) (JKS) for cables to univ shelves and (TS) for cables to nonuniv shelves is specified.
- (4) (INC) or (OG) on all rept. shelf equip is specified (to indicate that cabling enters shelf from left to right sides respectively).

- (d) Equipment locations for distributing frames, relay racks, office alarm frames, floor alarm frames and fuse bays will be in accordance with the following:

- (1) Horizontal side of distributing frames - Shelf and Bay, i.e., "A7".
- (2) Vertical side of distributing frames - Vertical and Terminal Strip Level, i.e., "4P".
- (3) Relay Racks, Floor Alarm Frames and Office Alarm Frames - Mounting Plate Level, i.e., "N".

NOTE: In those cases where cable ends are terminated at TS, REL or SW apparatus, this data is shown prior to the mounting plate level, i.e., TS, HV.

- (4) Fuse Bays - Plate or Row Prefixed by the letters "PLT" or "R", i.e., "PLT 28" or "R3" respectively.

NOTE: For fuse panels mounted on Relay Racks - Mounting Plate Level, e.g. "N".

- (e) Where one cable terminates at more than one terminal strip, mounting plate, or row of fuse, only one equipment location is shown as follows:

- (1) Relay Rack - The bottom mounting plate of the unit, group of units or group of mounting plates.
- (2) Fuse Bay - The lowest fuse row involved.
- (3) Distribution Frame - Vertical Side - The top and bottom terminal strip location served by the cable.
- (4) Distributing Frame - Horizontal Side - The first and last terminal strip location served by the cable.

NOTE: The above sequence of assignments for (1), (2), (3), is based on switchboard cables approaching from overhead cable rack. When cabled from below, the equipment location will be expressed in terms of the plate, fuse row or terminal strip level farthest from the point of entry of the switchboard cable.

- (f) Where one cable is spread over two or more switchboard positions or sections, the first and last position or section numbers served by the cable is shown.
- (g) For a "Wired Only" condition, the indicator FUT will be entered prior to the standard "EQPT LOC" data to denote no connection of the cable end.
- (h) Form Information Data - To aid installation in properly identifying the associated "FROM" and "TO" frame or relay rack and cable end respectively, ends of factory formed cable are identified.
- (i) Factory formed and equipped cable ends are shown by the entry of the apparatus description, i.e., PLUG, CONN, JK, etc.
- (j) In those cases, when the end of the formed cable is terminated to both jack and lamps, or similar type condition, only one apparatus description will be shown, i.e., JK.
- (k) Factory formed and unequipped cable ends are shown by the entry of the form or figure number from the standard drawing, i.e., F 5001; F 2.

- (1) When the form and/or figure number is not shown as part of the standard form drawing information, F is shown for installation information, i.e., F-.
- (m) The above formed cable data will always appear as the last entry in this column and will always be preceded by a slash indicator; i.e., /JK; /F 5001. The "EQPT LOC" data will always precede the "FM INF" data. The slash indicator (/) will be clearly shown from the top to the bottom horizontal lines of the field.

#### 2.2110 "LDS CL SHLD" Column

- (a) The lead designation of "critical leads" is shown only when limitations such as length, size, separation are required and specified on wiring diagram drawings, cable connecting drawings, etc.
- (b) The class or shield designation is shown when limitations applicable to circuit function requires that cables or wires identified by these designations receive special routing, i.e., separation of cables of differing designations, by both the line engineering and the installation organizations.

#### 2.2111 "ROUTE" Column

- (a) Installer's Notes - Any one run or group of runs which require additional information will be referenced by a lettered "Installer's Note" in the "Route" column. Lettering shall be from "A" up, omitting I and O.
- (b) References to Installer's Notes, when required, will be shown in the "Route" column prior to the "Routing" data.
- (c) Notes affecting cabling will be included as part of the cable information and not as part of the equipment specification.
- (d) Cable Routing - The cross sections through which miscellaneous cables are to be routed will be indicated on the Cable Routing List.

(1) Routing information may be omitted for all piece part, KS and RM number wire (except shielded wire), which do not run beyond two consecutive floors. Exceptions shall be items listed as critical leads, such as part of the marker multiple requiring separate paths, or conditions where it is considered by the engineering organization a distinct aid to the measurement or installing operation.

(e) Coordinate System - The routing information shown will consist of the designation of the frame line cable rack serving the frame from which the cable originates, the designation of the cross aisle path (transverse rack), and the designation of the frame line cable rack serving the frame on which the cable terminates, i.e., 1B, 2, 1H. When a cable runs between frames served by the same lettered frame line rack, the routing will be limited to the lettered designation, i.e., 1F or 2J.

- (1) When a cable must follow a zigzag route, each frame line rack and cross aisle rack will be indicated in order, i.e., 1B, 1, 1D, 4, 1H.
- (2) Any of the above examples may require the addition of miscellaneous sections when routed through a section not controlled by coordinates. Intersections controlled by coordinates will not be shown in the cable specification routing column.

(f) Limited Routing - In general, the limited routing plan is designed to eliminate routing for only miscellaneous bulk cable runs in Crossbar No. 5, or Toll and Toll Terminal combined with the Crossbar No. 5, offices employing the coordinate cable run system. Routing of miscellaneous bulk type cable runs may not be listed for the above offices if the following conditions prevail:

- (1) The cable run does not pass through a cable hole in floor or partition.
- (2) The cable run is run over the shortest route possible using only one cross aisle cable rack.

(3) The cable run is confined to one frame aisle cable rack.

(4) The cable run does not require controlled routing for engineering purposes.

(g) When "Limited Routing" is used, the following conditions are applicable:

"Cables running between frames located in separate frame lines shall be routed over the cross aisle cable racks so that their distribution over the racks is reasonably equal. Backtracking, which would require longer cable than that shown in the specification, shall be done only with the specific approval of the engineer. Cables terminated on the Distributing Frame shall be run on the cross aisle rack nearest the Distributing Frame termination so as to avoid congestion of the cable rack over the Distributing Frame."

"The frame aisle cable rack serving the number group frames shall be used as a distributing rack feeding the spur cross aisle racks."

"The separation of cables terminating at odd and even markers and transverters is covered in the notes on the cabling plans in the standard manner."

"When specific routing is required due to engineering control, this routing is shown in the cable running list to be included on the cable tags and complied with by the installer."

(h) Complete routing is specified for:

- (1) Factory formed cable runs.
- (2) Major bulk cable runs.
- (3) Miscellaneous bulk cable runs which do not meet the specified restrictions.

(i) Cable or Wire Runs in Excess of Three Floors - Where power or switchboard cable or wire runs exceed three floors (4 or more), the total number of floors involved will be indicated in the "Route" column. A cable or wire run, from the 2nd floor to the 7th floor, would be shown after the routing information as "#6".

- (1) When this condition exists, a note is added under "General Notes to the Installer" as follows:
- "In the cable running list, under the "Route" column for cable or wire runs which exceed three floors, the number of floors involved are shown after the routing information, with the "number of floors" preceded by a "#" designation."
- 2.2112 "UNUSED" Columns
- (a) In those columns of the cable running list where specific data is not required, a dash symbol (-) is added as an ICE indicator.
- 2.3 Symbols and Lettered Notes
- 2.31 The symbol \* preceding an item number indicates that a special selection of cable lengths has been made for that and associated \* runs of that code of cable. The lengths of cable on the reels shipped for the \* items are long enough for one run or a combination of the runs of that code of cable designated by an \*. The cable on the reels identified as containing these particular cables should therefore be used only for the runs indicated.
- 2.32 Lettered note references are used in the running list when required and associated reference notes appear as installer's notes in Section A or as summary notes in Section B of the specification as required.
- 2.4 Wire Information
- 2.41 All wire (except power wire) required to be run on cable racks, will be ordered in the bulk cabling specification. Type 1A fire detection wire, 14 gauge wire per KS-5482-01 and 20BH (red) wire used in emergency alarm systems will be ordered in the -92 specification, except that on No. 4 toll switching jobs it may be ordered in the 912 specification and on small additions it may be ordered in the -68 or -05 specification. In any case, wire for emergency alarm systems will be designated in the summary as a means for identifying these circuits.
- 2.42 Type BH wire is used on runs in place of switchboard cable where not more than four wires are required between equipments. In such cases the connecting colors are not shown on wiring drawings when this type BH wire is specified. Refer to Handbook 9 for information on the assignment of colors for type BH wire.
- 2.43 Running information for wire runs is shown in the same manner as cable runs except as follows:
- (a) Routing information in the ROUTE column is omitted for all runs (except shielded wire) which do not run between two consecutive floors unless it is considered a distinct aid to the installer and unless the runs are classified as critical leads in which case special routing is required.
- (b) Abbreviations S16, P16, T16, Q16, S20, P20, T20, Q20, S22, P22, T22, Q22, S24, P24, T24, and Q24 are used in the code column instead of the corresponding piece part numbers of BH wire. Page one of the "C" section of the bulk cable specification lists the abbreviations and the corresponding piece part numbers.
- (c) For some systems, the FEET column is left blank for the S20, P20, etc., wire runs. For these cases, the total quantity of wire per item number is computed by suitable formulae.
- 2.44 When requisitioning wire, list the gauge, type and color and indicate whether single, pair, triple or quadruple wire is required. The P- number need not be shown on the requisition. For example: "100 feet 20 BH black red single" or "50 feet 20 BH yellow, yellow-green, red and red-green quadruple".
- NOTE: Where a special length of wire is required, indicate on the requisition that this item is to be shipped in one continuous length.

### 3. INSTALLER'S FORMED CABLE RUNNING INFORMATION

#### 3.1 General

3.11 The B Section of the formed cable specification orders the formed cable and provides running information for each item (as shown in Figure 2).

3.12 Summary Information - The first 150 items in the "B" Section will contain such information as total footage, code of cables, number of runs, number of cables and total conductor ends including spare conductors, of each cable or wire item.

3.13 Additional types or amounts of miscellaneous wire or cable needed shall be listed in the "B" Section with their proper identification number, description and footage required.

3.14 Wire in the job cable specification will be listed by piece part numbers, RM numbers (specific) or KS numbers providing the description of the wire as to gauge, type, number of conductors and color.

#### 3.2 Running Information

3.21 The formed cable running information is generally furnished in terms of the:

- (a) Item number which permits the identification of the run.
- (b) Ca No. which permits the identification of the individual cable in the run.
- (c) From and To terminations which identify the originating and terminating frames and the equipment locations on them.
- (d) Notes to the Installer which furnish the cable rack routes.

### 4. CABLE IDENTIFICATION INFORMATION

#### 4.1 Shipping Summary

4.11 Included in the shipping summary is the following information:

- (a) Code of cable.
- (b) Symbols indicating whether cables are unusual length cables (\*) as previously defined in this section.
- (c) All cables of the same code grouped together and arranged numerically by item numbers. The number of cable runs specified are indicated in ( ) following the cable code number.
- (d) Whether cable is shipped on reels or in boxes.

NOTE: Bulk cable may be shipped in coils if the weight does not exceed 100 pounds. Otherwise the cable is shipped on reels.

#### 4.2 Factory Cable Tagging

4.21 Cable reels are tagged to show the code number, and total footage of cable, as well as the individual cable lengths on the reel. The reel tag lists the cable lengths in consecutive order beginning with the first cable placed on the reel. In addition to the reel tag, each individual cable is tagged to indicate the code and length. The cable reel tag and packing slips are placed under a mat, or tag cover. These covers should be removed before unwinding cable from the reels.

4.22 Defective Cables are tagged in the shop to indicate which conductors are affected, in order that spares or type BH wire (where cables do not contain sufficient spares) may be used in their place. This information is also placed on the reel tag. Keep tags attached to the cable to which they apply. Information in greater detail regarding defective conductor can be found in Section 200 of this handbook.

4.23 Formed cable is supplied in shop cut lengths, usually in coils. Sometimes, the formed end is connected to apparatus, such as terminal strips or jack and lamp strips. Each cable is tagged for identification in the shop.

**5. CABLE CONDITIONS TO BE REPORTED****5.1 Blocked Cable Runs**

5.11 When blocked cable runs are encountered, mark the affected job cabling plan drawings to indicate the location on the cable run when the run is blocked. Forward the marked drawings with a J.I.M. as covered in CI 47.242.

**5.2 Height of Cable Pileup**

5.21 Prepare marked job cable plan drawings showing the height of the cable pileup at the two highest points of designated

cable paths, when a note in the job bulk cable specifications requests them. In addition to the height, if there are any overhead obstructions, show the clearance between the top of the pile-up and the obstruction. Forward marked drawings with a J.I.M. as covered in CI 47.242.

**NOTE:** Compliance with Paragraphs 5.11 and 5.21 above will result in minimizing costly engineering conditions and job delays on future installations.

→ Indicates new or changed information.

Engineering Planning Manager  
Common Installation and Services

**ATTACHMENT**

Figures 1 and 2 on Pages 10 and 11.

Reason for Reissue:  
To update RM number information.

# INSTALLERS CABLE RUNNING LIST SECTION C

SYSTEMS EQUIPMENT ENGINEERING

ORDER NO.		SPEC NO.	APPX NO.	REFER ENGR QUES TO			DEPT NO.	A & E SPEC NO.	REFER SPEC QUES TO			DEPT NO.	PAGE	LP	
76004AF		003		GL RIPPE			708220	730	EE TOCHIHARA			708212	20		
RUN NO.	CKT. REF.	FT.	NO. CAB.	CODE	CKT NBG. CA NO. UNIQ CA NO.	FROM	CA. DES	SF LOC. DROP	EQPT LOC & FM INF	TO	LG SCU CA	SF LOC. DROP	EQPT LOC & FM INF	LDS. CLASS. SHLD	ROUTE
7	A			T32523-11		FIG 3 (MOD)	JK	ACCESS							
7	001		1	S22		ACTT-1		12	PLT 27	RR 102.1		R12	R-22		SEE INST NOTE A
7	002		1	S20		ACTT-1		12	PLT 27	RR 102.1		R12	R-22		SEE INST NOTE A
8	A			T32523-11		FIG HA (MOD)	JK	ACCESS (ALM F LEAD MULT)							
8	001		1	S22		ACTT-1		12	PLT 27	RR 120.1		R10	PLT 35		
9	A			T32523-11		FIG 8 (MOD)	9 (MOD)								
9	001	205	1	74A		SEL 303	L19		SH MN	RR ACTT-1		12	PLT 27		NOTE B, G3, G1, J3, V1, CA HL 2A, C1
10	A			T31653-15		FIG 13 (MOD)	CONN TST	LINE (T1, R1, S1 LEADS)							
10	001	155	1	97A	1-3	RR 202.8	R10		PLT 41	RR ACTT-1		15	PLT 3		NOTE C, L1, L2, IC3, CA HL 2E, IC3

FIGURE 1

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ORDER NO.	SPEC NO.	APPX NO.	REFER ENGR QUES TO			DEPT NO.	A & E SPEC NO.	REFER SPEC QUES TO			DEPT NO.	PAGE	
76004AF	003		GL RIPPE			708220	730	EE TOCHIHARA			708212	20	

SECTION B

ORDER&SPEC.-- 58483 AN 0J5 PAGE 7

SN		SUMMARY OF MATERIAL NOTES	
ITEM	LN	NOTE	DESCRIPTION.....
1	1	51	DRAWING ED-60686-30 ORDS EQPT 10-6
	2		FRWK DMG H-242-289 G-5 MODIFIES
	3		ABOVE EQPT TO 9-0 FRWK
2	1	NH	NO DRAWING LIST
3		C	DESIGNATES A FORMATTED LINE OF INFORMATION.

SM		SUMMARY OF MATERIAL			
MAIN PT	LN	NOTE	QTY...	IDENTIFICATION...	DESCRIPTION...ISS
1	1		87	182M	FT 1051
2	1		180	P46A785	FT
	2			BK, R-BK 22BH PAIR	
3	1		35	273M	FT 1051
4	1		100	P46A780	FT
	2			R-BK 22BH SINGLE	
5	1		100	P46A791	FT
	2			Y, Y-G, R-G 22BH TRIPLE	
6	1		675	P46B050	FT
	2			Y, Y-G,R, R-G 22BH QUAD	
7	1		66	266M	FT 1051
8	1		66	265M	FT 1051
9	1		262	252A	FT 1051
10	1		97	257A	FT 1051
11	1		32	255A	FT 1051
12	1		35	66M	FT 1051
13	1		35	24M	FT 1051
14	1		32	269A	FT 1051
15	1		78	479M	FT 1051

FIGURE 2