SYNCHRONOUS "DATASPEED*" 40/4

MINI- AND MAXI-CLUSTER STATION ARRANGEMENTS

INSTALLATION

CONTENTS PAGE

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CONTENTS PAGE

1. GENERAL

1.01 This section provides the installation procedures and methods for a DATASPEED 40/4 station. See 3. INSTALLATION on Page 66 for order of procedures.

1.02 This section is reissued to provide information for:

(a) The 410535 circuit card in SCC (EPROM).

(b) The 410534 circuit card in MCC (EPROM).

Note: When ordering replaceable components, unless otherwise specified, prefix each part number with the letters "TP" (ie, TP410055).

1.03 Reference BSP Sections:

Description and Operation	582-200-101
Maintenance Controller Arrangements	582-200-300
Wiring Diagrams	582-200-401
Testing and Troubleshooting	582-200-501
Disassembly/Reassembly and Parts	582-200-701
Routine Maintenance	582-200-751
Keyboard Display Amplifier	582-200-212
KD Security Lock	582-211-210

1.04 Abbreviations used in this section are defined in Section 582-200-101.

1.05 The following warnings are to be used as safety measures for the apparatus and the craftsperson.

Danger 1: Safety glasses must be worn whenever monitor cover is removed or whenever monitor is replaced.

Danger 2: Turn off all the power and signal sources before removing or replacing any component.

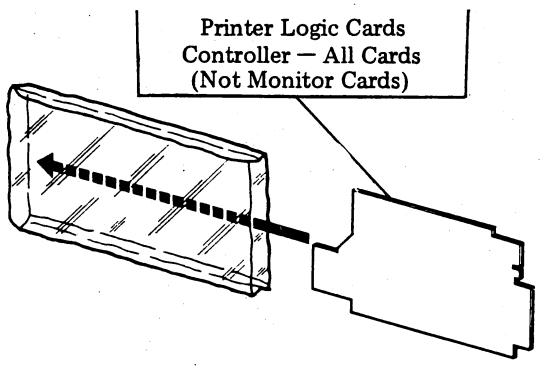
Warning 1: To avoid possible internal damage to circuitry, wear a 346392 static discharge strap connected to ground to allow static discharge before handling circuit cards for removal or replacement. Avoid touching circuit lands or components as much as possible.

Attach static ground strap tightly to wrist.

Attach clip end of static discharge strap to frame ground.

Warning 2: Place listed card in an RM150592 static bag immediately after removal from unit. Do not place any printer paper in the bag with the card. Keep the card in the static bag at all times. Never handle the card outside the bag without wearing a properly grounded 346392 static ground strap.

Cards List



STATION WORKSHEETS

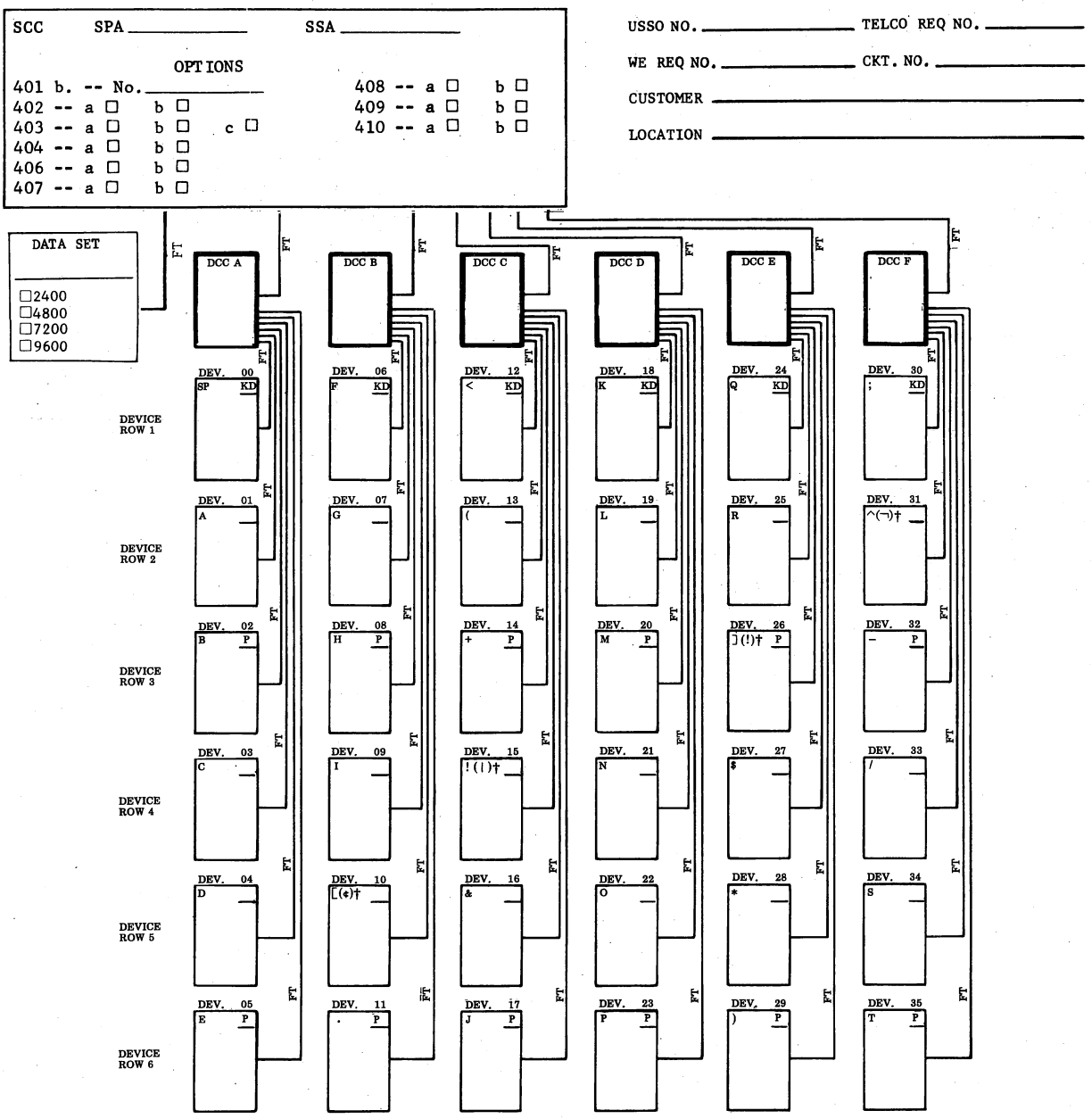
1.06 The Station Configuration Worksheet provides the craftsperson with an understanding of the station configuration prior to installation. Blank samples of the worksheets are given on Pages 3, 4, and 5. When W-4TTOO (SCC/DCC) or W-4TXOO (MCC) is available, their worksheets will be the preferred sheets to use. Paragraph 1.09 provides information on how to fill out the worksheets.

1.07 The worksheet examples (paragraphs 1.15 and 1.16) included in this section provide the required information contained on the worksheets to be used during installation.

1.08 A Station Configuration Worksheet should be included as part of every synchronous DATASPEED 40 station; however, if the worksheet is not included with the station, fill in the appropriate blank samples that follow by using the information included on the USSO (Universal System Service Order), refer to paragraph 1.10.

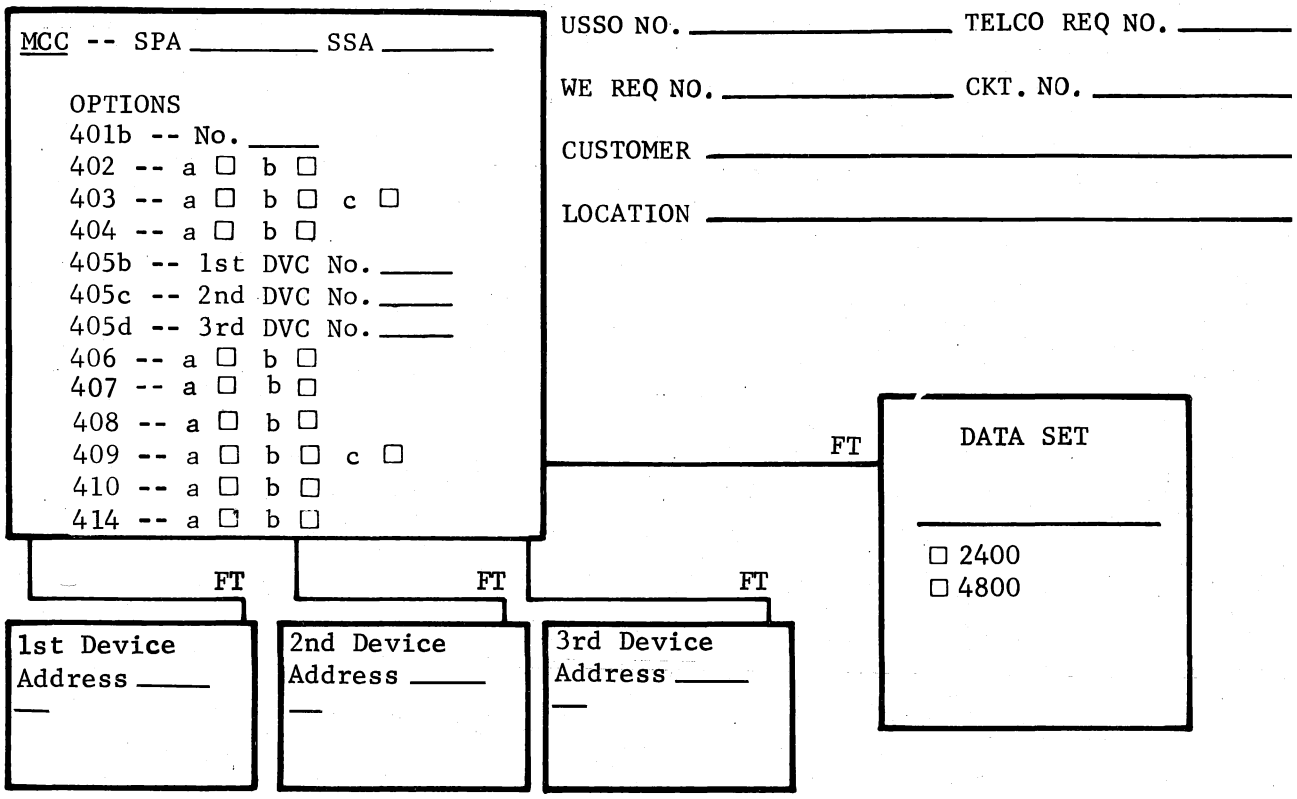
SAMPLE BLANK WORKSHEETS

DATASPEED 40/4 Station Configuration Worksheet — Maxi-Cluster



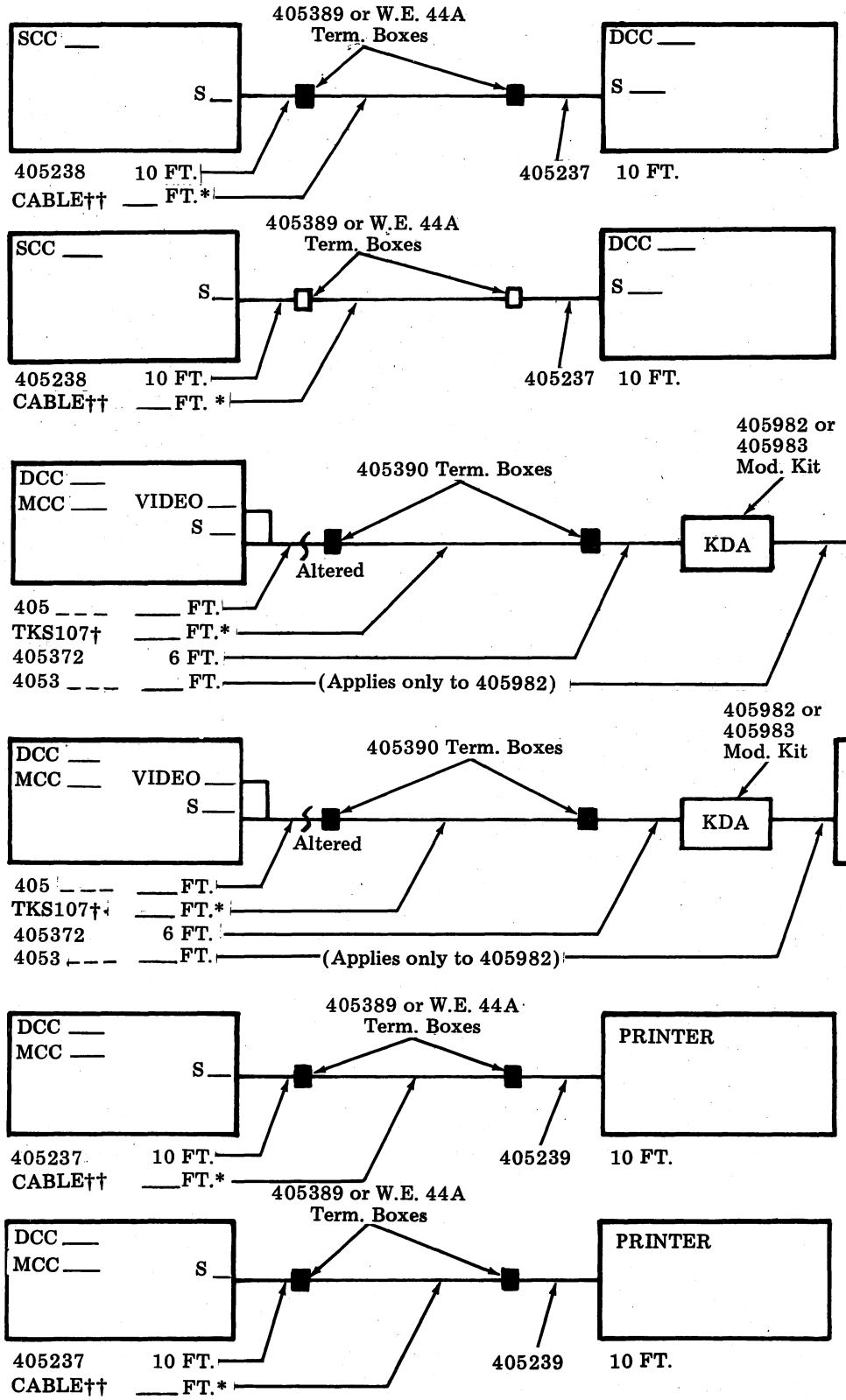
†Characters in parentheses are EBCDIC.

DATASPEED 40/4 Station Configuration Worksheet — Mini-Cluster



Note: 2nd Device is always a printer.
3rd Device is either KD or printer.

DATASPEED 40/4 Cable Worksheet



Caution: Do not attempt connecting wires to terminal boxes unless both wires have terminals or both do not.

(Use additional cable worksheets as required.)

*Approximate length, cables should be cut to proper length at the customer location.

†TKS107 cable can be ordered under COM code 104873419.

††Shielded 4-conductor cable (2 twisted pair) (see 3.31).

PREPARATION OF WORKSHEETS

Note: See "Examples of Worksheet Preparation" if required.

1.09 Instructions for preparing DATASPEED 40/4 Worksheets:

(a) Use a separate worksheet for each station ordered. Select the worksheet(s) to be used.

(b) In the upper right portion of the configuration worksheet, include all information as required (ie, Telco requisition number, customer location, etc).

(c) In the SCC or MCC area of the configuration worksheet, list the SPA (Station Poll Address) and SSA (Station Select Address) graphics. Also, use Xs in the boxes to select controller options. List the USOCs which reflect the material found in the SCC or MCC area.

(d) In the MCC area of the configuration worksheet, list the KD and printer device addresses.

(e) In the applicable DCC and device areas, list the USOCs which reflect the material found in those areas. If the station is a mini-cluster configuration, list the device address in each applicable device area.

(f) For each applicable DCC and device, include the cable length (number of feet) between each DCC and SCC and between each device and the DCC or MCC.

(g) If a KDA is part of the station arrangement, the cable worksheet must also be filled out to specify length of TKS107 cable, whether one or two termination boxes (specify part number) are required, which KDA mounting modification kit is used, the physical location of the KDA and connectors affected at DCC or MCC.

(h) If a DCC is to be connected to an SCC using stub cables, the cable worksheet must also be filled out to indicate the part numbers and length of the stubs, the SCC and DCC identification, the length of cable, part numbers of the termination boxes and connectors affected at SCC and DCC.

(i) If a printer is to be connected to a DCC or MCC using stub cables, the cable worksheet must be filled out to indicate items as in (h) and type of printer used.

(j) Along the left side of each applicable area on all worksheets, include the physical location for that area (ie, post L1, room 205, etc).

EXAMPLES OF WORKSHEET PREPARATION

1.10 If a station worksheet is not included with the station, a worksheet can be prepared from the USSO (Universal System Service Order). An example of the USSO is given below and examples of worksheets prepared from the example USSO are found on Pages 8 and 9.

1.11 Example USSO — Assume that a customer wishes to install one SCC at one location and one MCC at a second location. The SCC will have associated with it one DCC and three KDs. The MCC will have one KD. The Service and Equipment section of the USSO should read as follows.

Note: Necessary details of ordering pedestals, WES codes for cable lengths and data sets have been omitted to make the examples more readily understandable.

CKL 1(City, State)
SN (Service Name)
SA (Service Address)

I STA A CCA 00 LOC RM 500
I 1 4TT
I 1 4TV/REF A
I 3 4TOXG/REF A/ DEV 00, 01, 03

RMKR: EBCDIC DEV 00 at post L1, DEV 01 at post L2, DEV 03 at post L3, etc, for further location information.

CKL 2
SN
SA

I STA B CCA 06/ LOC RM 3005
I 1 4TX
I 2 4TOXG/DEV 01-DA 04/DEV 03-DA 08
I 1 4TSXG/DEV 02-DA 35

RMKR . . . EBCDIC — DEV 01 at post K4, etc.

1.12 Explanation of Example USSO:

STA (Station) A, and B is consistent with current nomenclature for the first station at CKL 1 and the first station at CKL 2.

CCA (Cluster Controller Address) 00 , and 06 provide the addresses for the customers polling and selecting. Note that CCA is used for locations with either a SCC or MCC. Station number corresponds to SPA of SP (space) and SSA of - (minus) in the sample worksheet on the next page.

LOC (Location) RM 500, and RM 3005 provide location information of the station.

REF (Reference) A indicates that the DCC is the first DCC respectively on the SCC. Note that no REF is required with the MCC, since there is no DCC present.

REF A/DEV (Device) 00, 01, 03; indicate with which DCC the KDs are associated and what the device numbers (for the KDs) are for the customers polling and selecting.

RMKR (Retained Remarks) has been used to show additional location information. It can also show the option information.

1.13 Examples of the Station Configuration Worksheets (for both of the stations listed in the example USSO) are included on the following pages. The first worksheet (Station A at CKL 1) on Page 8 is prepared in the following manner:

(a) Room 500, the physical location of Station A, was entered along the left side of the SCC.

(b) 00, the cluster controller address, is entered in the block labeled SCC.

(c) 4TT is a SCC and is also entered in the SCC block.

(d) 4TV is a DCC, and since REF A is listed with it, it is entered in the block labeled DCC A.

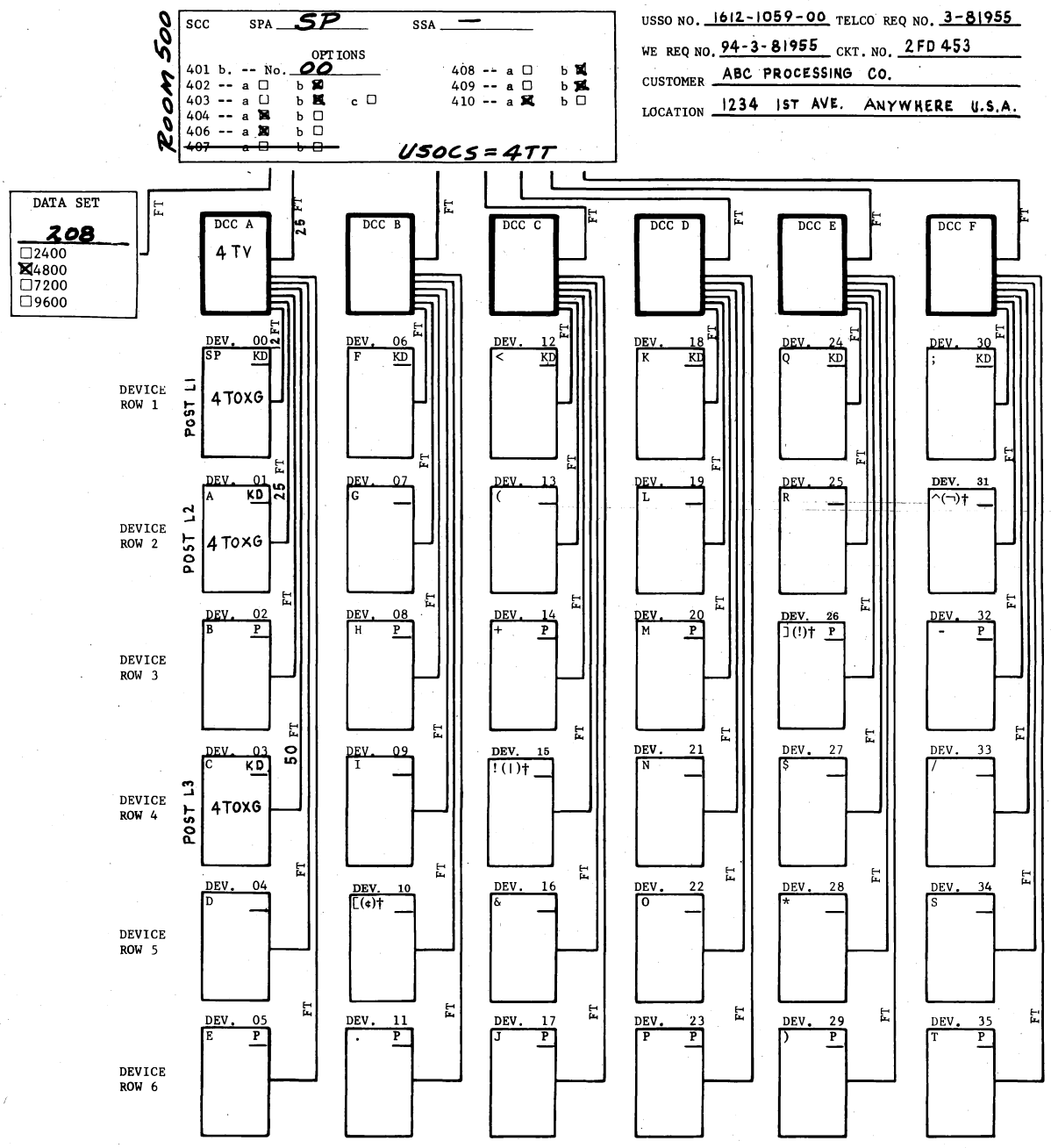
(e) The three 4TOs are attached KDs, and since their IDs are 00, 01 and 03, they are entered into the blocks labeled Device 00, Device 01 and Device 03, respectively. The abbreviation KD is also entered into these blocks.

(f) Locations by post number, as listed under retained remarks, are entered along side of each device block.

1.14 A Station Configuration Worksheet for Station B at CKL 2 (Page 9) is prepared in the same manner as the worksheet for Station A at CKL 1.

1.15 Example 1 (Station A at CKL1 from USSO of 1.10): In Example 1, Option 407 was lined out because it did not apply to the order. Cable lengths (not distance between components) is entered. See paragraphs 1.17 and 1.18 for variations.

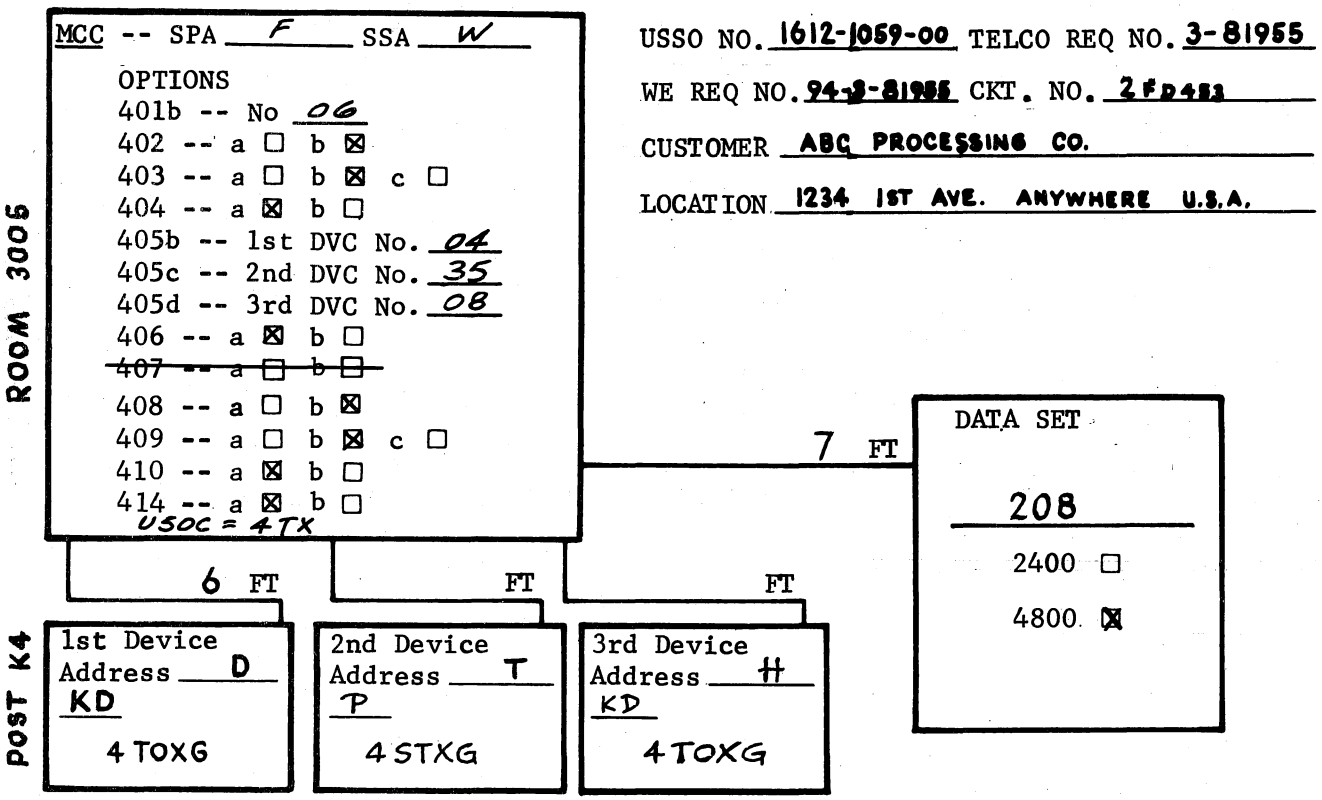
DATASPEED 40/4 Station Configuration Worksheet — Maxi-Cluster



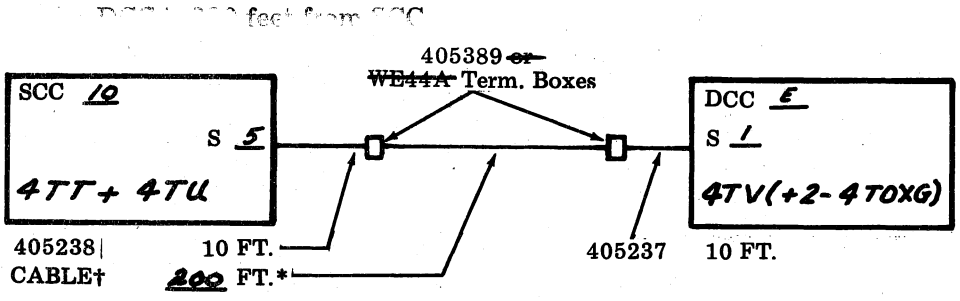
†Characters in parentheses are EBCDIC.

1.16 Example 2 (Station B at CKL2 from USSO of 1.10): In Example 2, Option 407 was lined out because it did not apply to the order. Cable lengths (not distance between components) is entered. See paragraph 1.17 for variations.

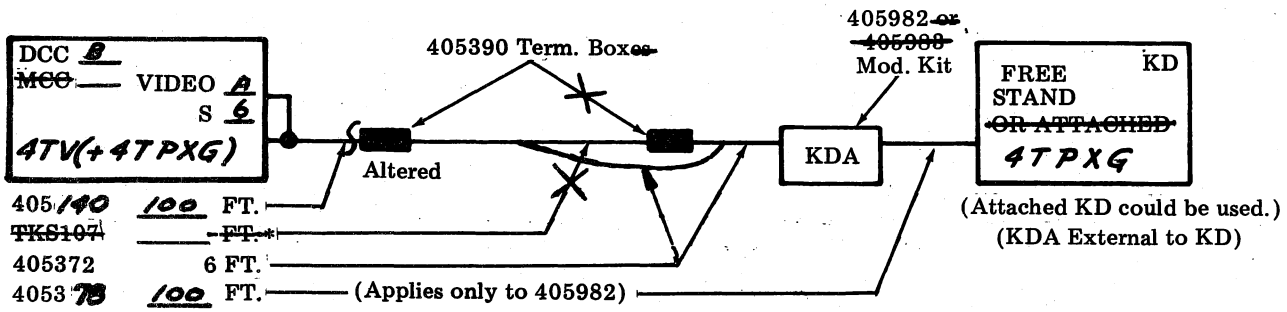
DATASPEED 40/4 Station Configuration Worksheet — Mini-Cluster



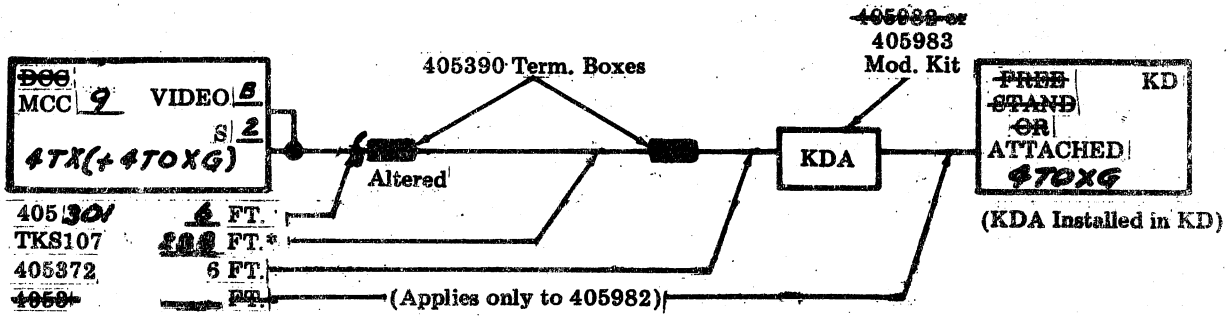
1.17 Example 3 (No relation to USSO of 1.10): Example 3 consists of sample entries on the cable worksheet. The asterisk in the entries refers to approximate cable lengths; such cables should be cut to the proper length at the customer location.



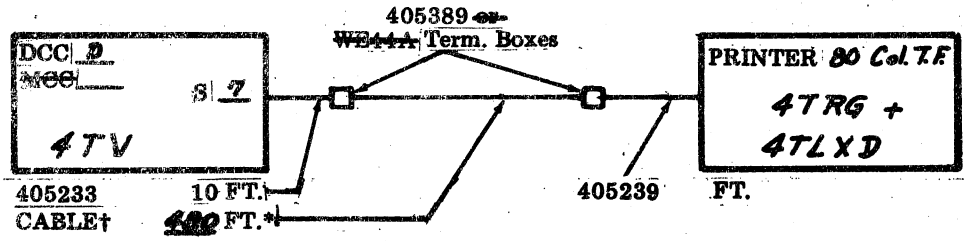
(b) Free-standing KD is 200 feet from SCC, only one termination box is required (two could be used).



(c) Attached KD is 300 feet from MCC. 405982 modification kit could have been used.



(d) Printer is 500 feet from DCC.



†Shielded 4-conductor cable (2 twisted pair) (see 3.31).

2. CONTROLLER ARRANGEMENTS

2.01 Identification of SCC, DCC, and MCC arrangements given in 2. CONTROLLER ARRANGEMENT FORMS are also given and discussed.

2.02 The controller arrangement forms of this part include a duplicate of the form which should be taped to the inside cover of each controller and should be filled out in pencil by the service center and kept current by the installer. A filled-out form is required when performing actions of 3. INSTALLATION. The purpose of the form is to provide:

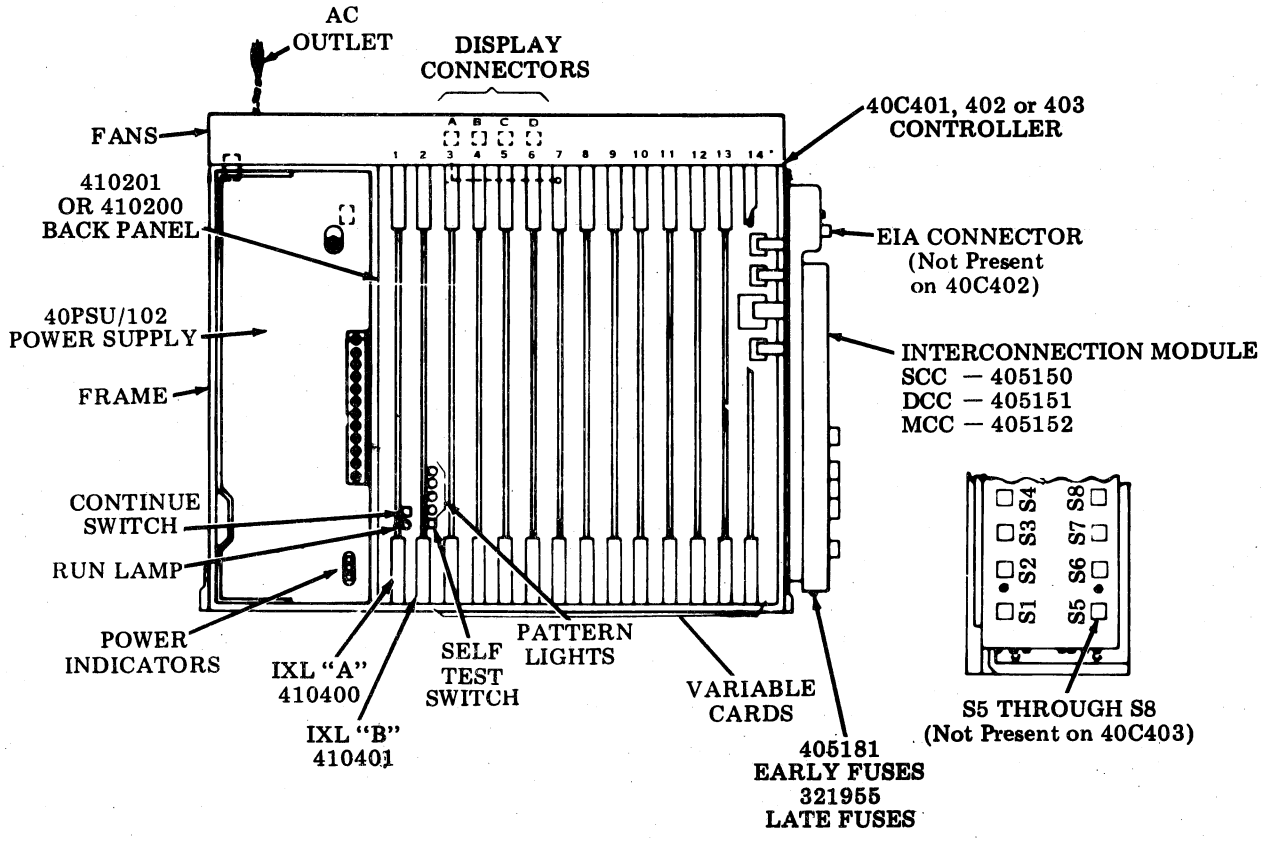
(a) Location and type of circuit cards required

(b) Switch positions (on or off) on circuit cards

(c) Controller and printer options selected

(d) Required cable connections to controller.

CONTROLLER ARRANGEMENTS IDENTIFICATION

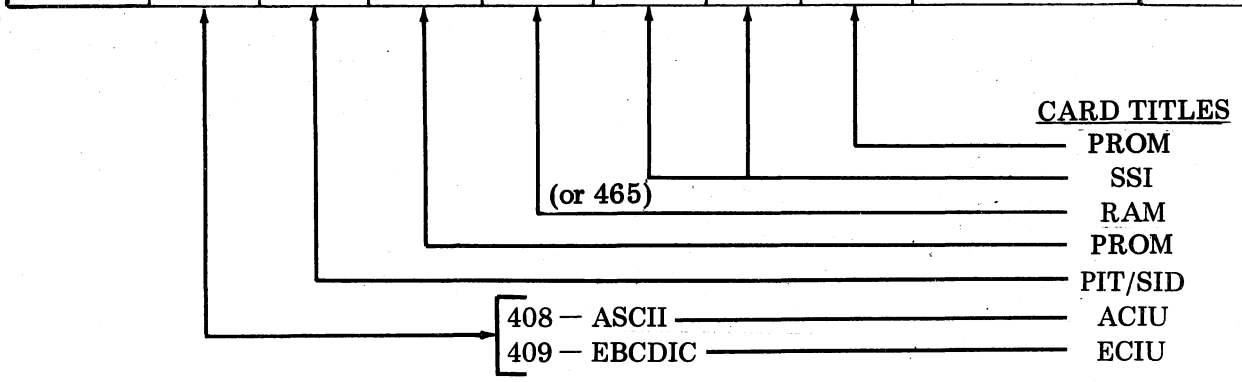


2.03 Station Cluster Controller (SCC) Arrangements — 40C401*

*410400 and 410401 circuit cards are in positions 1 and 2.
All circuit card numbers are preceded by 410.

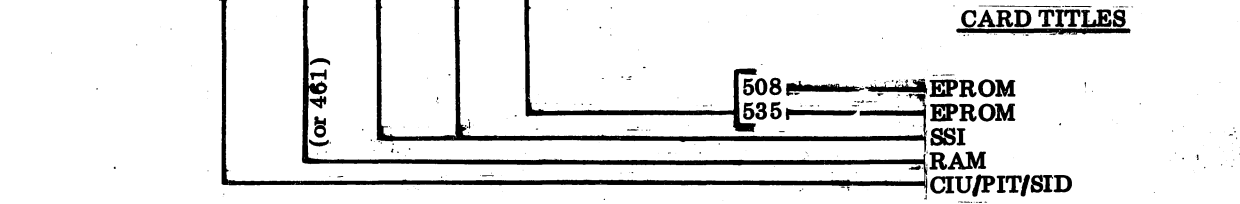
SCCs Equipped With 410804 and 410905 PROM Circuit Cards

HANDLES UP TO	CIRCUIT CARD POSITION								REFERENCE PAGE NO.
	3	4	5	6	7	8	9	10 THRU 14	
4 DCC	40N	403	905	461	406		804	NONE	20
6 DCC	40N	403	905	461	406	406	804	NONE	24



SCCs Equipped with 410508 or 410535 EPROM Circuit Cards (410508 is Manufacture Discontinued)

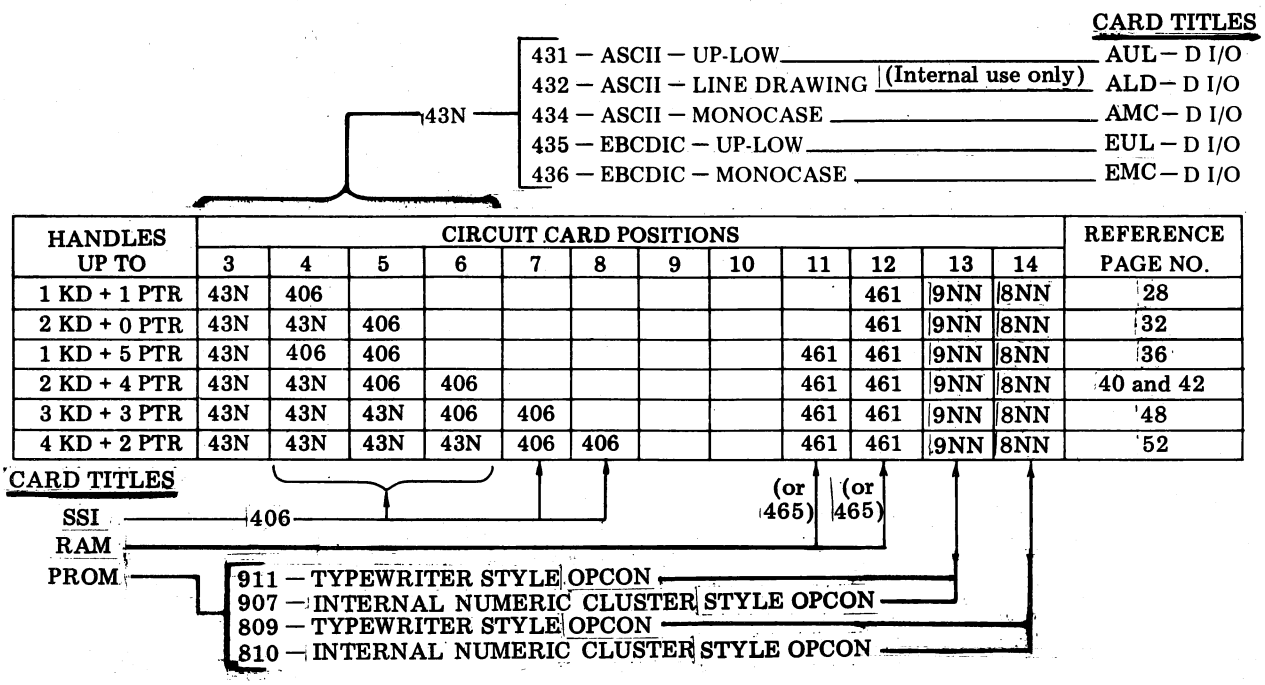
HANDLES UP TO	CIRCUIT CARD POSITION												REFERENCE PAGE NO.
	3	4	5	6	7	8	9	10	11	12	13	14	
4 DCC	411	465	406		508								22
6 DCC	411	465	406	406	508								26



Note: When the 410535 circuit card is used, the switch pack on the 410461 or 410465 card must be re-optioned to 1 and 4 "ON".

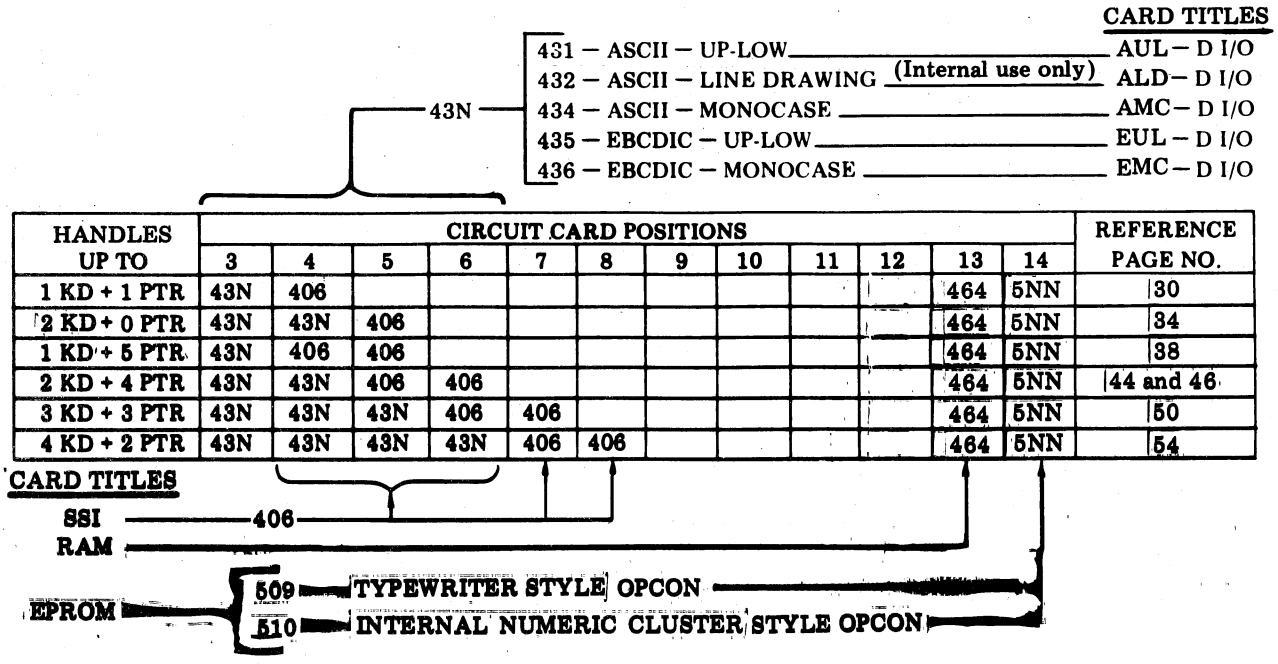
2.04 Device Cluster Controller (DCC) Arrangements — 40C402 (410400 and 410401 circuit cards are in positions 1 and 2. All circuit card numbers are preceded by 410.)

DCCs With 4108NN and 4109NN PROM Circuit Cards



HANDLES UP TO	CIRCUIT CARD POSITIONS 3	4	5	6	7	8	9	10	11	12	13	14	REFERENCE PAGE NO.
1 KD + 1 PTR	43N	406								461	9NN	8NN	28
2 KD + 0 PTR	43N	43N	406							461	9NN	8NN	32
1 KD + 5 PTR	43N	406	406						461	461	9NN	8NN	36
2 KD + 4 PTR	43N	43N	406	406					461	461	9NN	8NN	40 and 42
3 KD + 3 PTR	43N	43N	43N	406	406				461	461	9NN	8NN	48
4 KD + 2 PTR	43N	43N	43N	43N	406	406			461	461	9NN	8NN	52

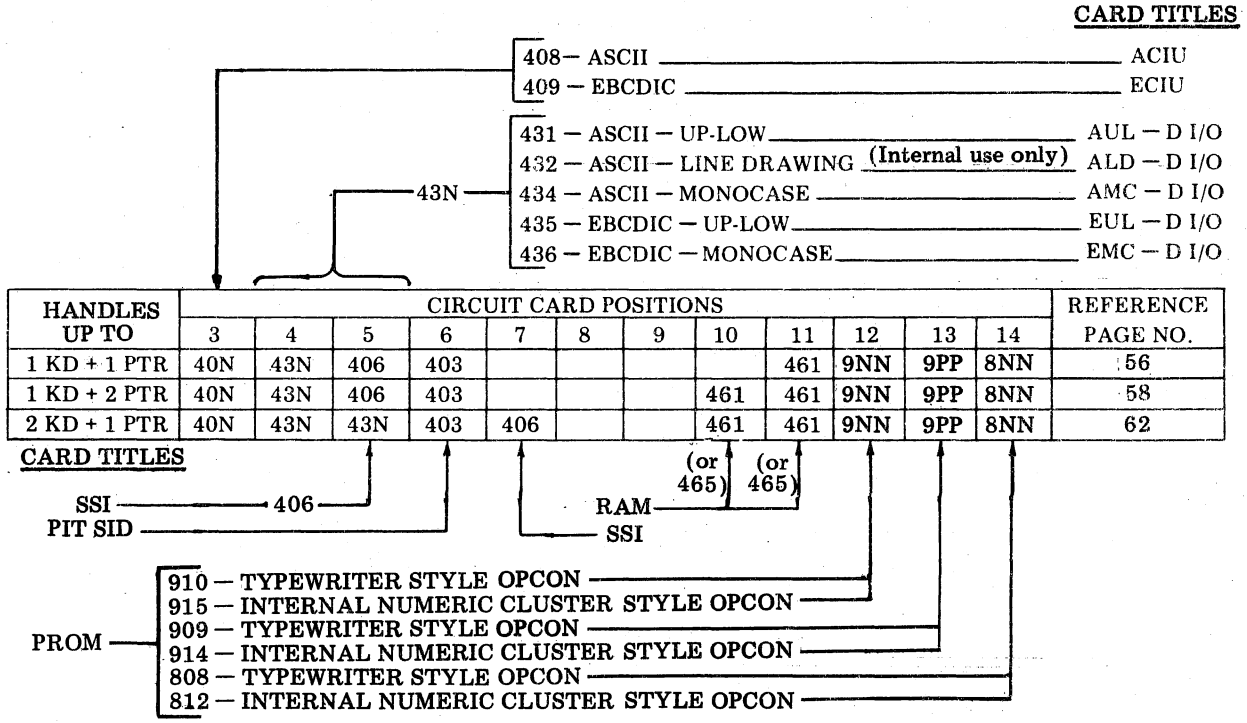
DCCs With 4105NN EPROM Circuit Cards



HANDLES UP TO	CIRCUIT CARD POSITIONS 3	4	5	6	7	8	9	10	11	12	13	14	REFERENCE PAGE NO.
1 KD + 1 PTR	43N	406									464	5NN	30
2 KD + 0 PTR	43N	43N	406								464	5NN	34
1 KD + 5 PTR	43N	406	406								464	5NN	38
2 KD + 4 PTR	43N	43N	406	406							464	5NN	44 and 46
3 KD + 3 PTR	43N	43N	43N	406	406						464	5NN	50
4 KD + 2 PTR	43N	43N	43N	43N	406	406					464	5NN	54

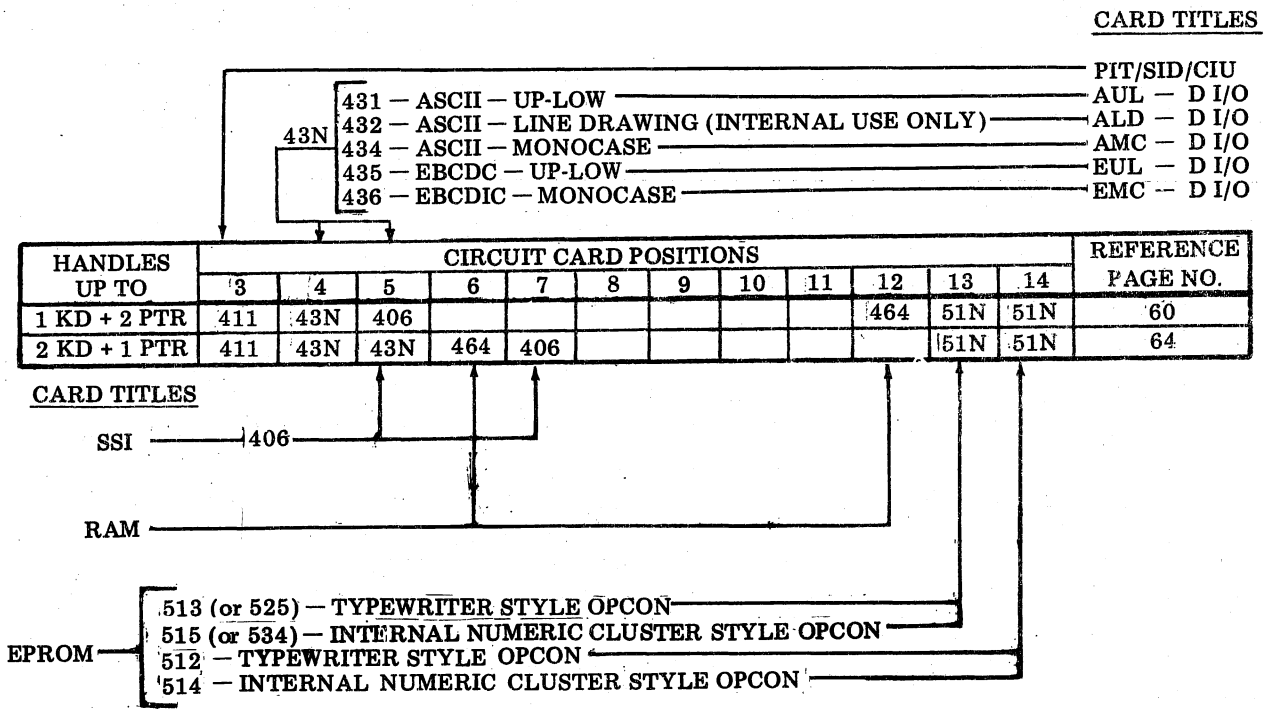
2.05 Mini-Cluster Controller (MCC) Arrangements — 40C403 (410400 and 410401 circuit cards are in positions 1 and 2. All circuit card numbers are preceded by 410.)

MCCs Equipped With 4108NN and 4109NN PROM Circuit Cards



HANDLES UP TO	CIRCUIT CARD POSITIONS												REFERENCE PAGE NO.
	3	4	5	6	7	8	9	10	11	12	13	14	
1 KD + 1 PTR	40N	43N	406	403					461	9NN	9PP	8NN	56
1 KD + 2 PTR	40N	43N	406	403				461	461	9NN	9PP	8NN	58
2 KD + 1 PTR	40N	43N	43N	403	406			461	461	9NN	9PP	8NN	62

MCCs Equipped With 41051N EPROM Circuit Cards

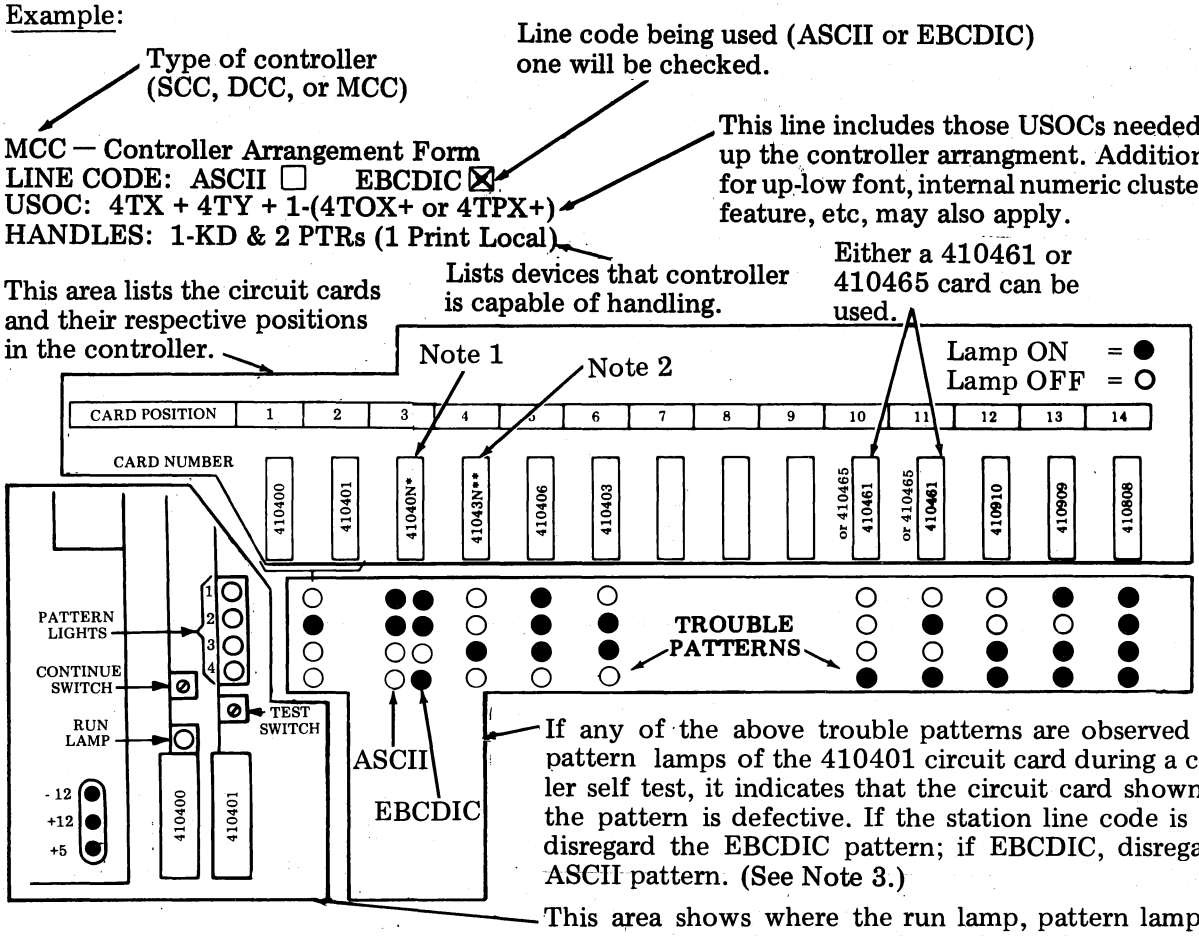


HANDLES UP TO	CIRCUIT CARD POSITIONS												REFERENCE PAGE NO.
	3	4	5	6	7	8	9	10	11	12	13	14	
1 KD + 2 PTR	411	43N	406							464	51N	51N	60
2 KD + 1 PTR	411	43N	43N	464	406						51N	51N	64

INTERPRETATION OF CONTROLLER ARRANGEMENT FORMS

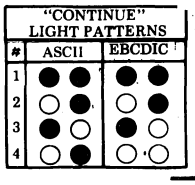
2.06 On this and the following three pages are portions of the controller arrangement forms found on Pages 20 through 65. Various examples are included so that proper interpretation of the forms can be made. The information on the front side of a form includes card positions, trouble patterns, continue patterns, required switch positions, and printer options (if applicable).

Example:



If any of the above trouble patterns are observed on the pattern lamps of the 410401 circuit card during a controller self test, it indicates that the circuit card shown above the pattern is defective. If the station line code is ASCII, disregard the EBCDIC pattern; if EBCDIC, disregard the ASCII pattern. (See Note 3.)

This area shows where the run lamp, pattern lamps, continue switch and test switch are located within the controller. The switches and lamps are used when performing controller self test (see Testing, Section 582-200-501).



"CONTINUE" LIGHT PATTERNS		
#	ASCII	EBCDIC
1	● ●	● ●
2	O ●	O ●
3	● O	● O
4	O ●	O O

This area illustrates those patterns which will appear legitimately during a controller self test. If the line code of the station is ASCII, disregard the EBCDIC portion; if EBCDIC, disregard the ASCII portion. (See Note 3.)

*ASCII — 410408
EBCDIC — 410409

Note 1: In early stations only, if station line code is ASCII, a 410408 circuit card will be found in position 3 of controller; if EBCDIC, a 410409 will be found in position 3. In newer stations, a 410411, which handles ASCII and EBCDIC, will be in position 3.

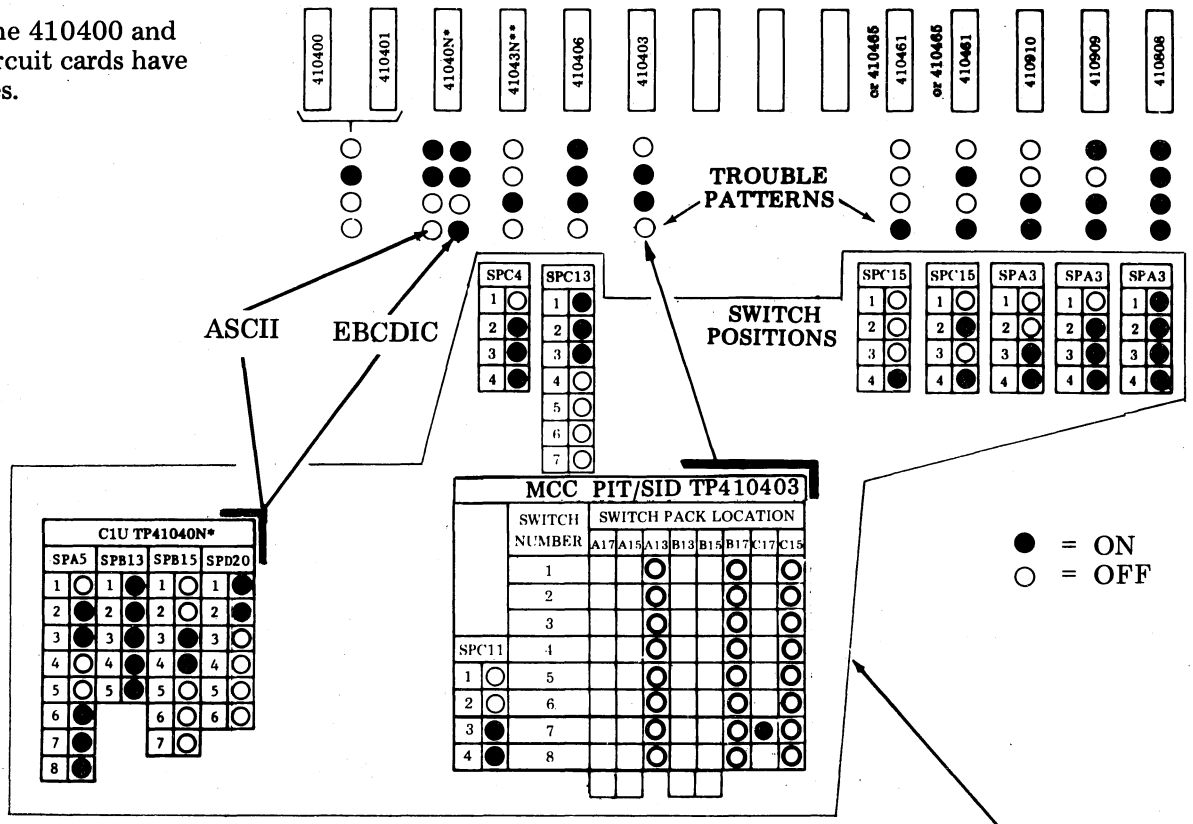
**ANY D I/O CIRCUIT CARD

Note 2: D I/O circuit cards should be of ASCII or EBCDIC types, depending on station line code. (See 2.04 or 2.05 for various D I/O circuit card numbers.)

Note 3: When 410411 circuit card is present, the trouble pattern and continue pattern is the same for both ASCII and EBCDIC.

Example: (Cont)

Note: The 410400 and 410401 circuit cards have no switches.



This area lists the switch packs (SPs and their switch positions) of the circuit cards which are either above them or indicated by arrows.

Those switches which are permanently shown as on or off are required selections.

On those controller arrangement forms for controllers which may have printers connected to them, a printer option record is included.

PRINTER OPTIONS		
PRINTER I/O SOCKET	S3	S4
Friction Feed	X	
Tractor Feed 80 Col		
Tractor Feed 132 Col		X
17. Specify Right Margin	80	132
18.a. No Paper Feed Out		
18.b. Paper FO on "RM" Loss		
18.c. Paper FO on "RM" Loss and ETX	X	X
19.c. No Symbol on V.P. Error		
19.d. 96 Character Set		
19.e. 64 Character Set	X	X
19.f. Ext. ASCII Set		
20.a. Single LF	X	X
20.b. Double LF		
21.a. Lower and Upper Case Print		
21.b. Lower Case Prints as Upper Case	X	X
22.a. Lower Case Prints as Error		
22.b. Lower Case Prints as Upper Case		
39.a. Forms on		X
39.b. Forms off		
48.a. Paper Out Not Gated W/FF		X
48.b. Paper Out Gated W/FF		

Example:

Friction feed printer in socket S3 of controller and 132-column printer in socket S4 of controller.

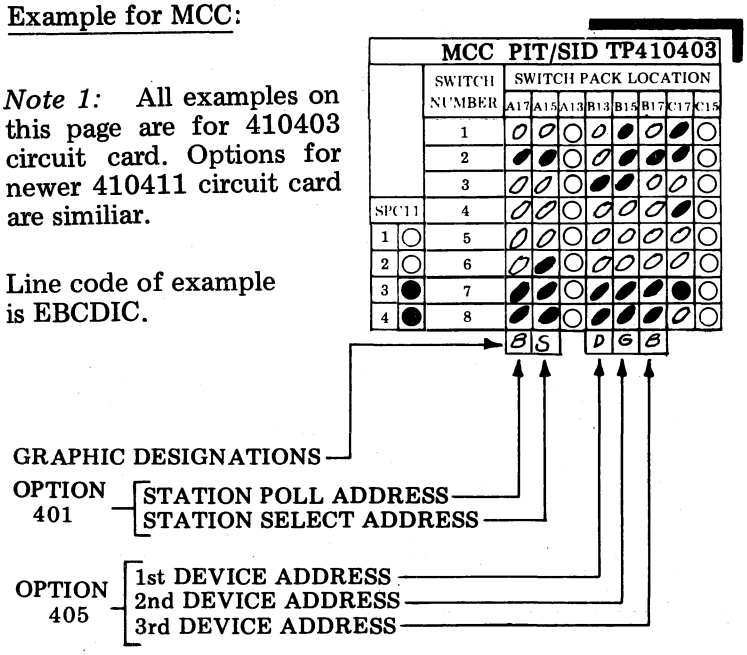
Note: Option selections should be entered in pencil. Option 17. should specify number of columns selected for right-hand margin and, for later printers only, left-hand margin.

2.07 The information on the front side of a form also includes controller option switch positions. All controller options will be entered on the 410403 or 410411 circuit cards. The following examples show a filled-out 410403 switch chart. Also see examples of the various options and how they are entered on the controller arrangement form in 2. CONTROLLER ARRANGEMENT FORMS.

Example for MCC:

Note 1: All examples on this page are for 410403 circuit card. Options for newer 410411 circuit card are similiar.

Line code of example is EBCDIC.



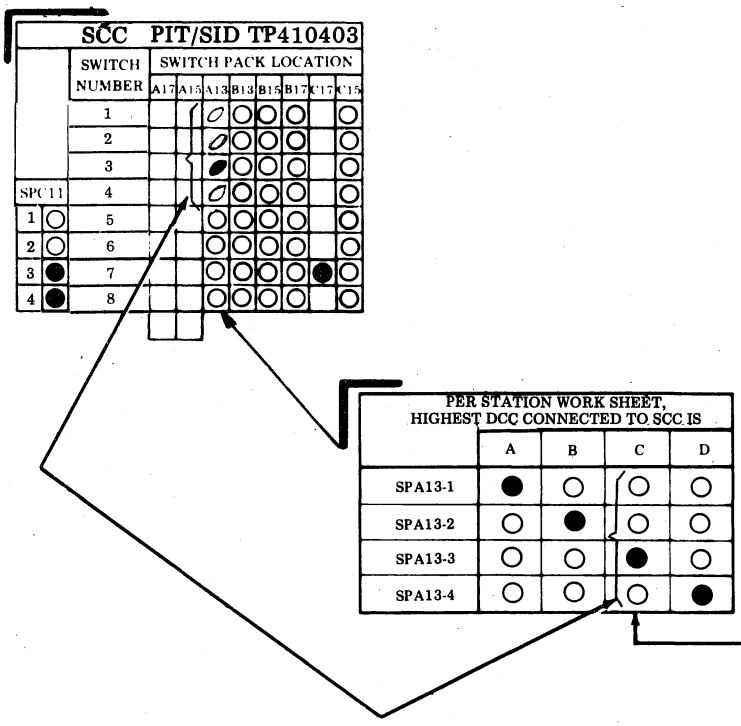
OPTIONS – 410403	
402	SPC17-1
a ☒ Continuous Alarm	●
b ☐ 1-Second Alarm	○
403	SPC17-2-3
a ☐ Intensified Only	○○
b ☒ Blink Only	●○
c ☐ Intensified & Blink	○●
406	SPC17-4
a ☒ Alpha in Num. Fld.	●
b ☐ Alpha Not in Num. Fld.	○
404	SPC17-5
a ☒ Terminate w/ETX	○
b ☐ Terminate w/SUB. ENQ.	●
408	SPC17-6
a ☐ ASCII	●
b ☒ EBCDIC	○
407 (Num Lock S.F.)	SPC17-8
a ☐ Enabled	●
b ☒ Disabled	○

Note 2: Option 405 is used only on an MCC.

Note 3: Option 409 is not an entry; it is determined by the type of D I/O circuit cards present. See 4. OPTIONS.

Note 4: Option 410 is not an entry; it is determined by PROM or EPROM cards and opcon(s) present. See 4. OPTIONS.

Example for SCC:



On a SCC controller arrangement form, the 410403 or 410411 chart will also include a switch pack (A13 for 410403, B3 for 410411) which must show switches selected to reflect the DCC with the highest graphic connected to the SCC.

Example:

If DCC "C" is the highest graphic DCC connected to the SCC then select Column C — (C is a higher graphic than A or B).

2.08 The information on the backside of a form includes connections, associated device addresses and card positions affecting various devices.

Example:

Illustrated below is a DCC. By following the chart we find that a SCC will be connected to I/O socket S5 of the DCC. We also find that the SCC (connected to DCC) will be affected by the circuit card in position 4. Device addresses are also included. For instance, assume the DCC below is DCC B. We then find that the KD connected to DCC B is device address F and the printer is device address G.

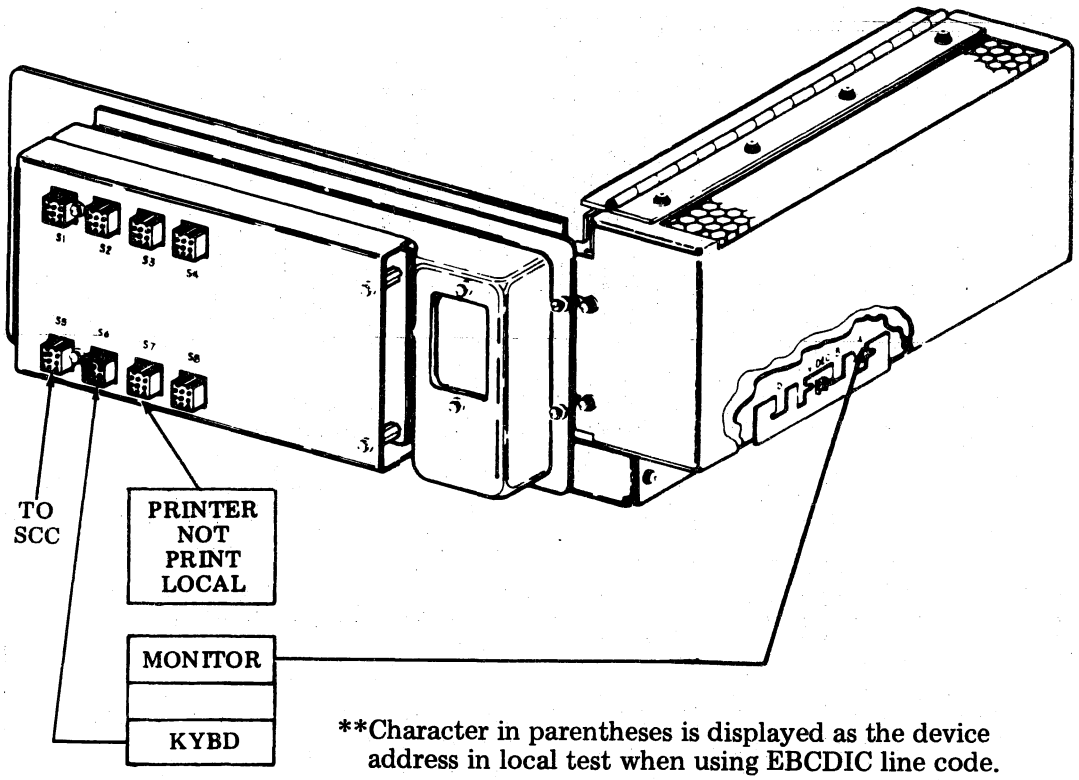
CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
4	S5	STATION C/C (SCC)	DCC ⟶	A	B	C	D	E	F
4 & 3	S6 & A	KEYBOARD/DISPLAY	DEVICE ROW 1	Sp	F	<	K	Q	;
4	S7	PRINTER (N LOC)	DEVICE ROW 2	A	G	(	L	R	^

*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
^	¬ (¢)**

The drawing below illustrates this column.

Does not apply when DCC is connected to EPROM SCC.

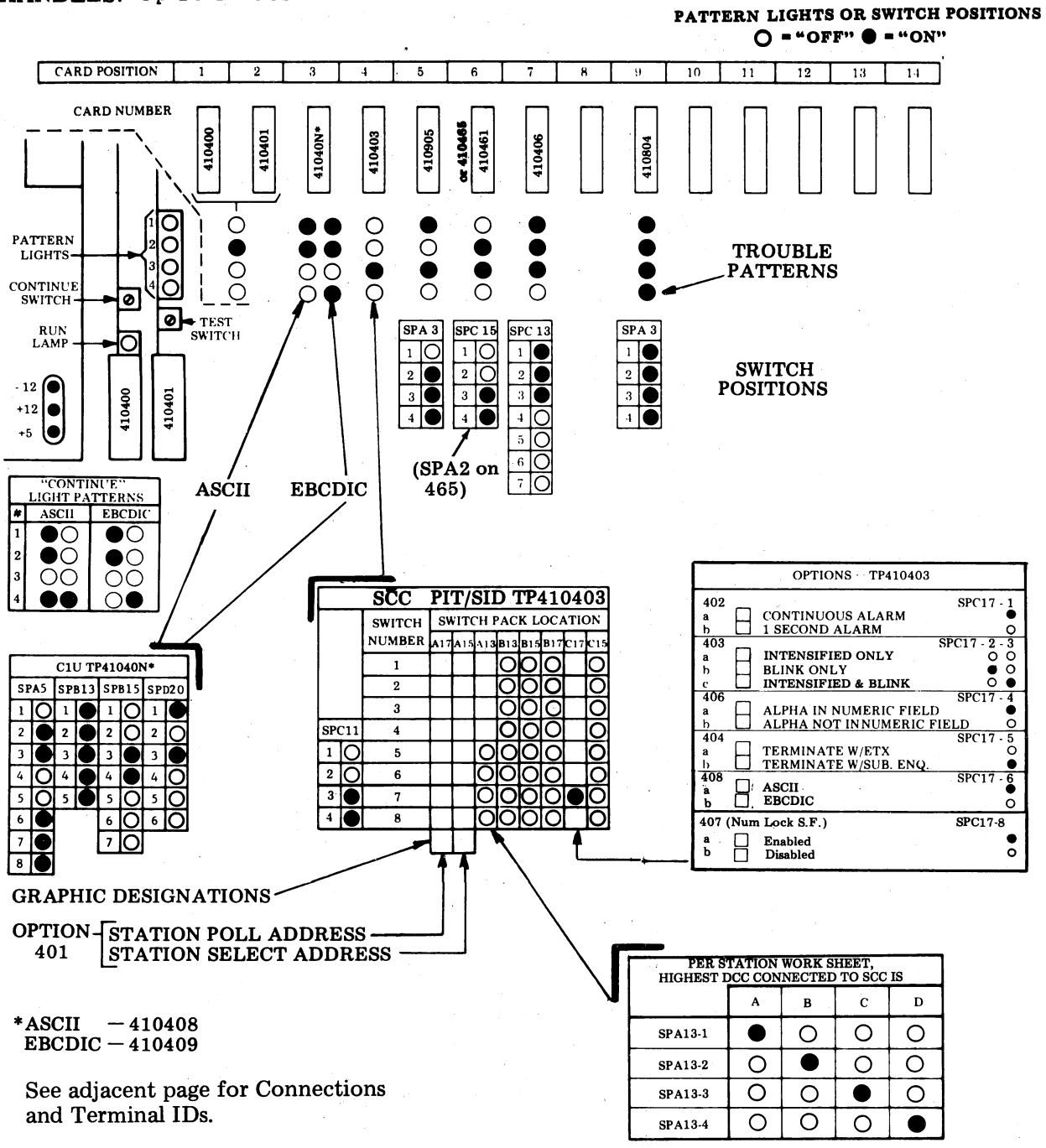


**Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

CONTROLLER ARRANGEMENT FORMS

A. SCC — Station Cluster Controller Arrrangement Forms

SCC (PROM Version) — Controller Arrangement Form
LINE CODE: ASCII ☐ EBCDIC ☐
USOC: 4TT
HANDLES: Up To 4-DCCs



*ASCII — 410408
EBCDIC — 410409

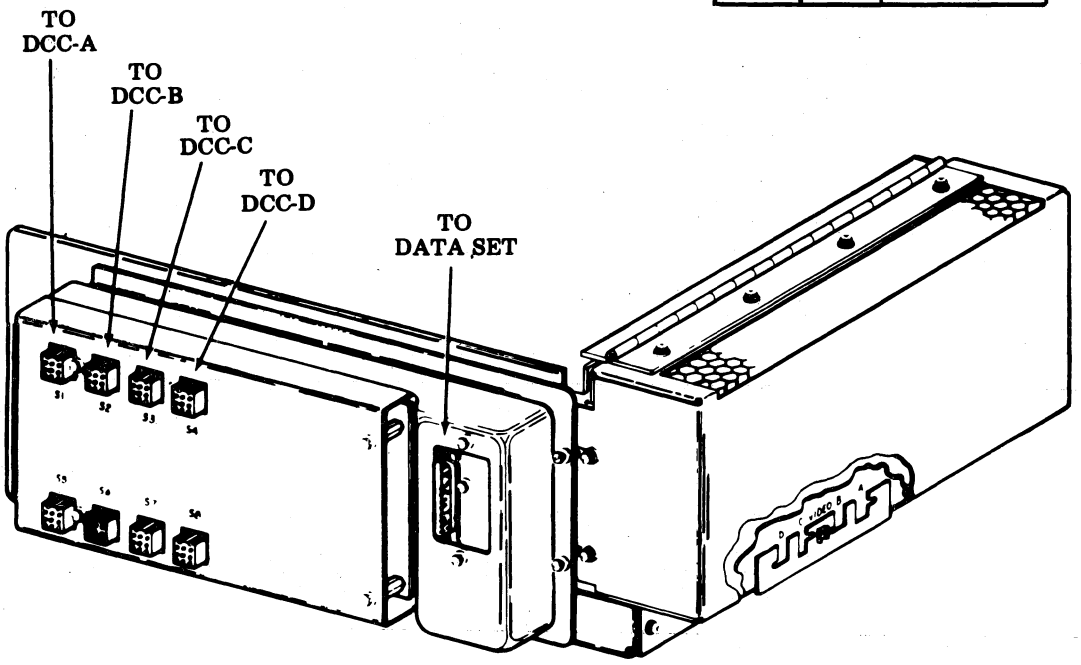
See adjacent page for Connections and Terminal IDs.

SCC (PROM Version) — Controller Arrangement Form
USOC: 4TT
HANDLES: Up To 4-DCCs

CARD POSITION	I/O SOCKET	STATION WORK SHEET	DEVICE ADDRESS *
7	S1	DCC-A	SP A B C D E
7	S2	DCC-B	F G H I [•
7	S3	DCC-C	< (+ ! & J
7	S4	DCC-D	K L M N O P
3	DS	DATA SET	

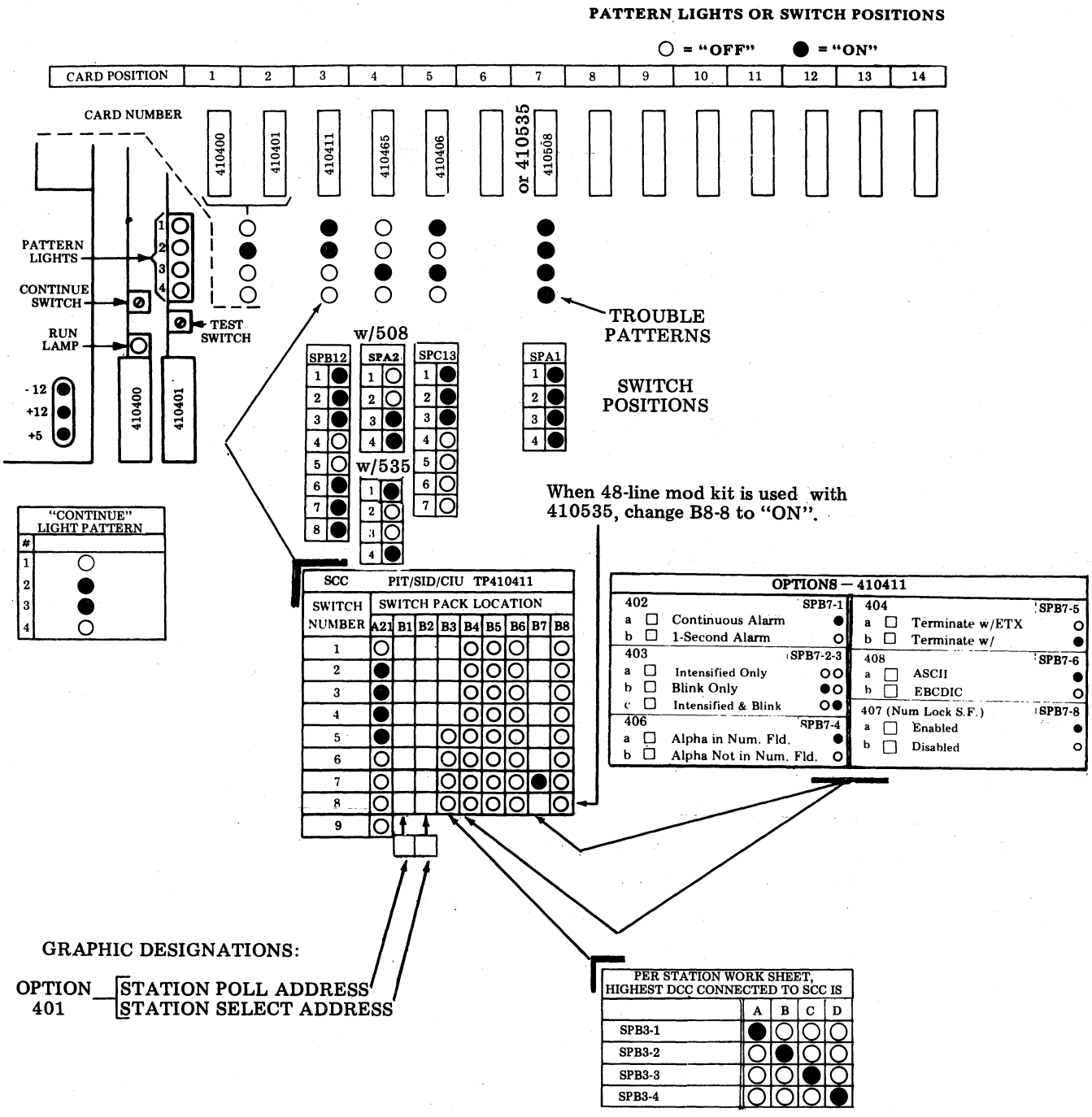
*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
[	¢ (¬) **
¦	¦ (!)



**Characters in parentheses are displayed as the device addresses in local test when using EBCDIC line code.

SCC (EPROM Version) — Controller Arrangement Form
LINE CODE: ASCII ☐ EBCDIC ☐
USOC: 4TT + XX10
HANDLES: Up to 4-DCCs



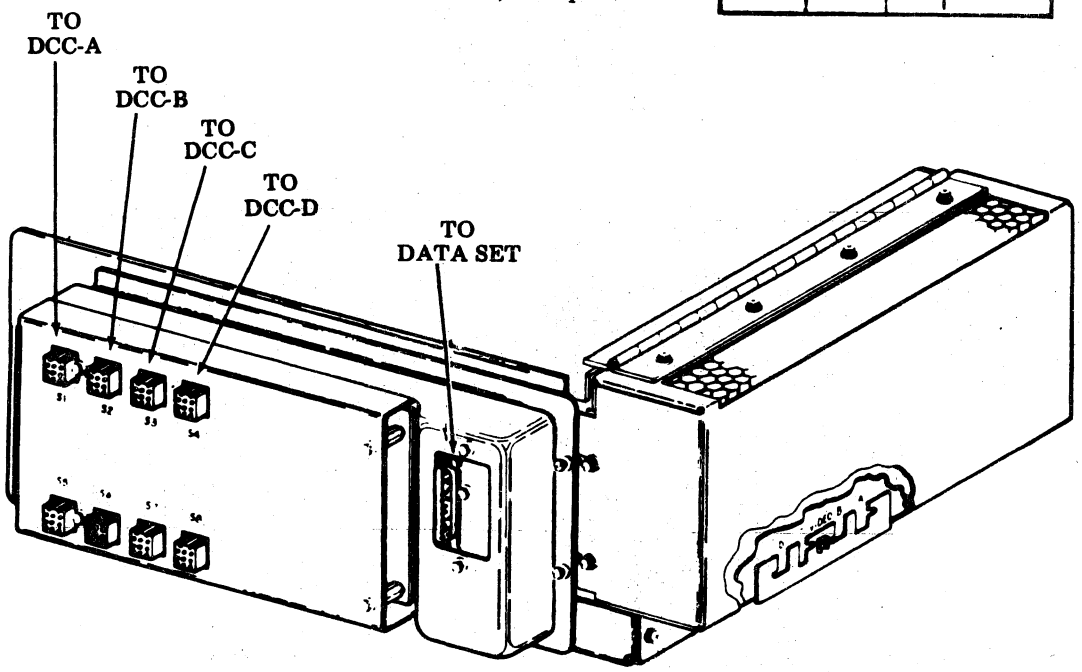
See adjacent page for Connections.

SCC (EPROM Version) — Controller Arrangement Form
USOC: 4TT + XX10
HANDLES: Up To 4-DCCs

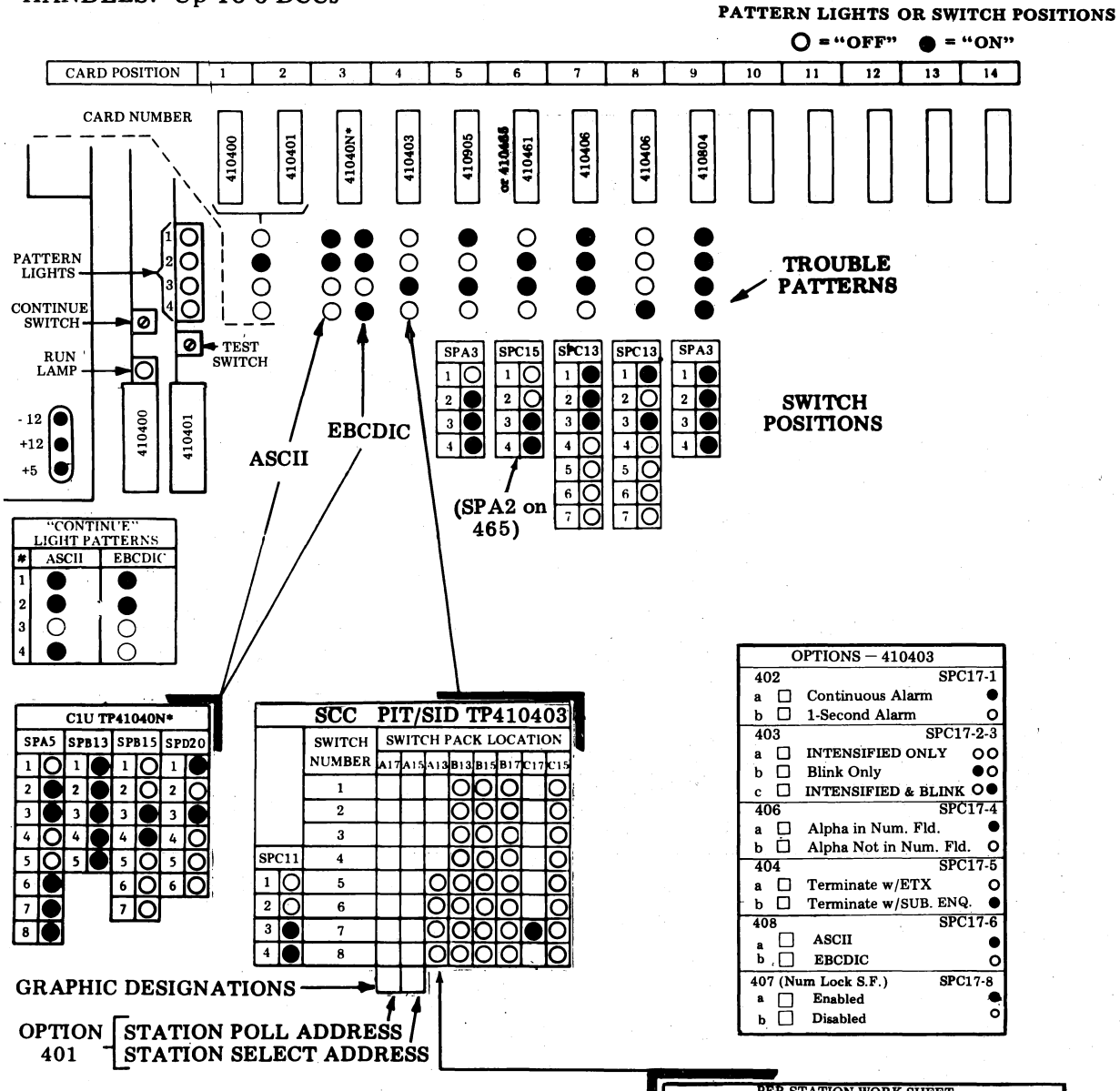
CARD POSITION	I/O SOCKET	STATION WORK SHEET	DEVICE ADDRESS *
5	S1	DCC-A	SP A B C D E
5	S2	DCC-B	F G H I [•
5	S3	DCC-C	< (+ ! & J
5	S4	DCC-D	K L M N O P
3	DS	DATA SET	

*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
[	¢
¦	¦



SCC (PROM Version) — Controller Arrangement Form
LINE CODE: ASCII ☐ EBCDIC ☐
USOC: 4TT + 4TU
HANDLES: Up To 6-DCCs



OPTIONS — 410403	
402	SPC17-1
a ☐ Continuous Alarm	●
b ☐ 1-Second Alarm	○
403	SPC17-2-3
a ☐ INTENSIFIED ONLY	○○
b ☐ Blink Only	●○
c ☐ INTENSIFIED & BLINK	○●
406	SPC17-4
a ☐ Alpha in Num. Fld.	●
b ☐ Alpha Not in Num. Fld.	○
404	SPC17-5
a ☐ Terminate w/ETX	○
b ☐ Terminate w/SUB. ENQ.	●
408	SPC17-6
a ☐ ASCII	●
b ☐ EBCDIC	○
407 (Num Lock S.F.)	SPC17-8
a ☐ Enabled	●
b ☐ Disabled	○

PER STATION WORK SHEET, HIGHEST DCC CONNECTED TO SCC IS	A	B	C	D	E	F
SPA13-1	●	○	○	○	○	○
SPA13-2	○	●	○	○	○	○
SPA13-3	○	○	●	○	○	○
SPA13-4	○	○	○	●	○	○
SPA13-5	○	○	○	○	●	○
SPA13-6	○	○	○	○	○	●

*ASCII — 410408
EBCDIC — 410409

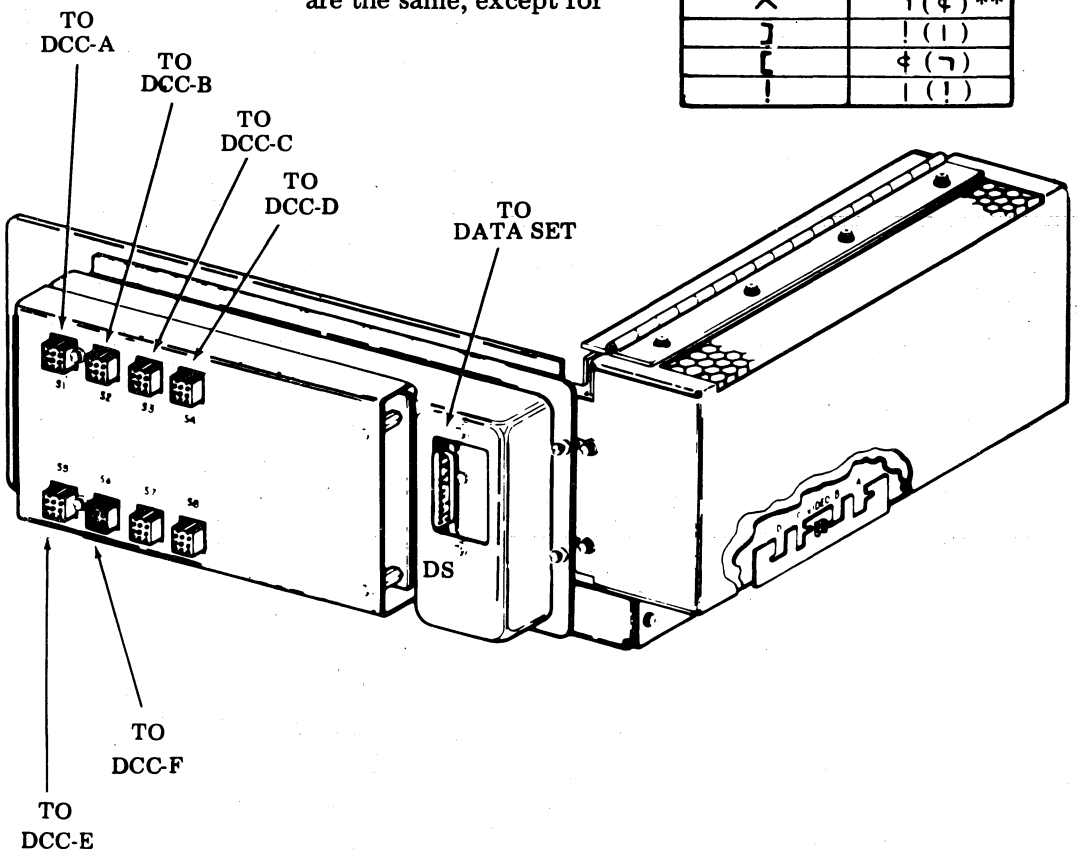
See adjacent page for Connections and Terminal IDs.

SCC (PROM Version) — Controller Arrangement Form
USOC: 4TT + 4TU
HANDLES: Up To 6-DCCs

CARD POSITION	I/O SOCKET	STATION WORK SHEET	DEVICE ADDRESS*
3	DS	DATA SET	
7	S1	DCC-A	SP A B C D E
7	S2	DCC-B	F G H I [.
7	S3	DCC-C	< (+ ! & J
7	S4	DCC-D	K L M N O P
8	S5	DCC-E	Q R] $ *)
8	S6	DCC-F	; ^ - / S T

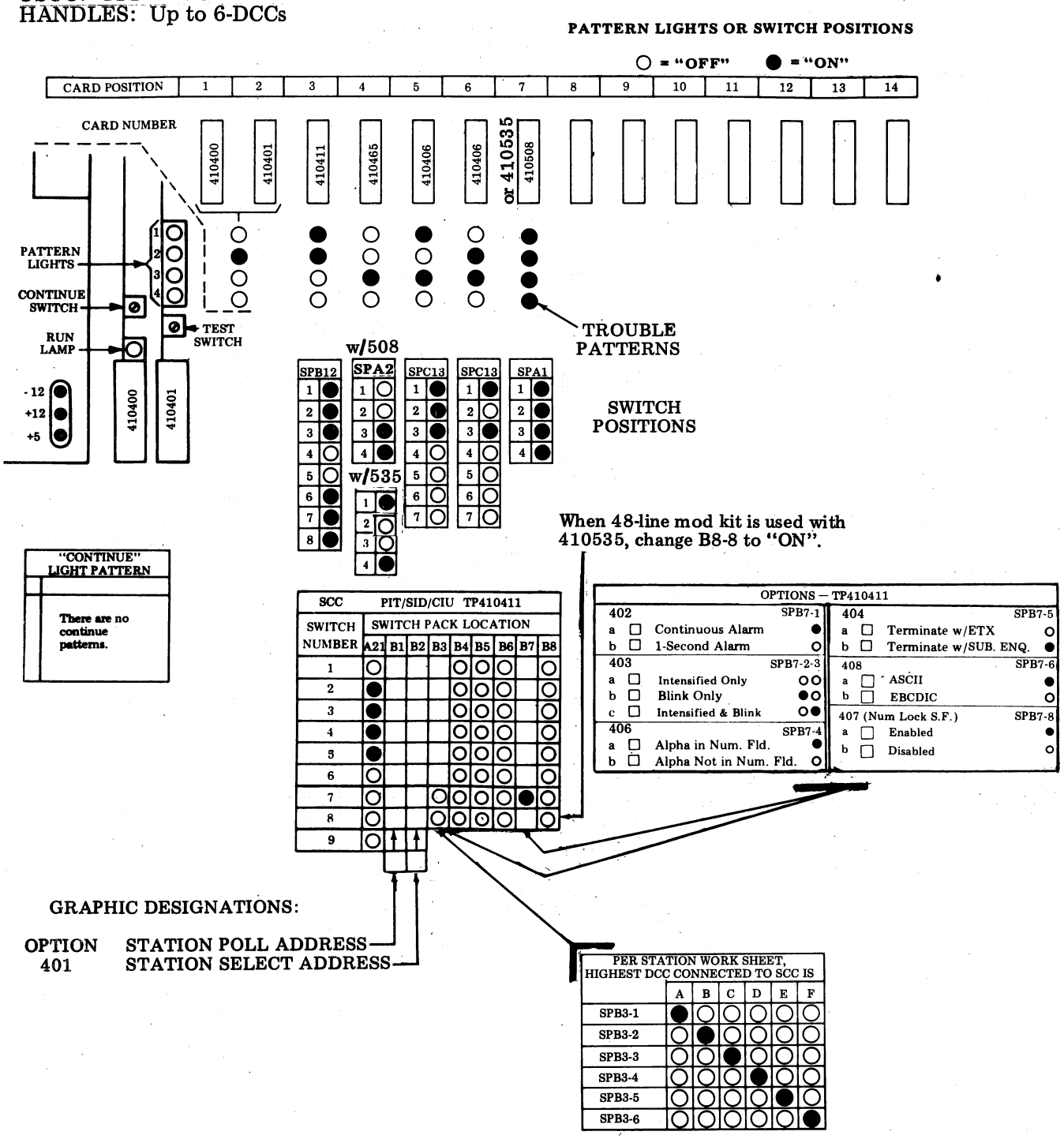
*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
^	¬ (¢)**
]	! (|)
[	¢ (¬)
!	| (!)



**Characters in parentheses are displayed as the device addresses in local test when using EBCDIC line code.

SCC (EPROM Version) — Controller Arrangement Form
LINE CODE: ASCII ☐ EBCDIC ☐
USOC: 4TT + 4TU + XX10
HANDLES: Up to 6-DCCs



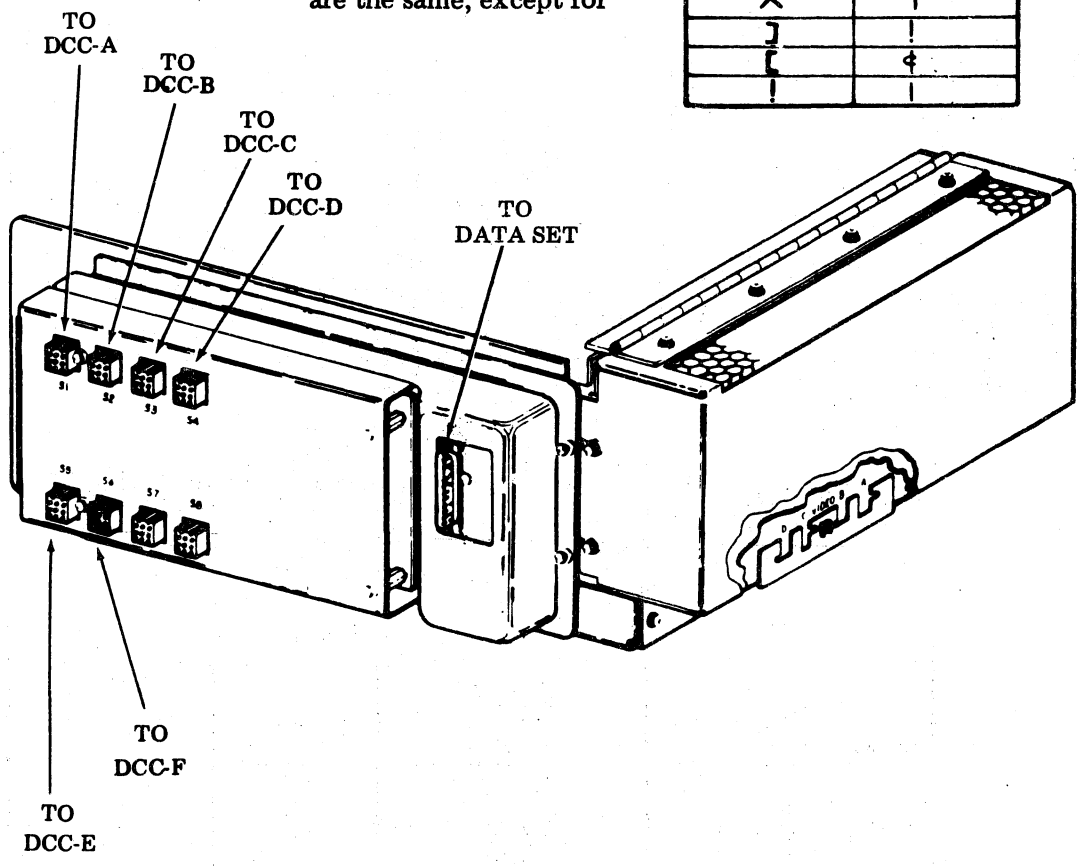
See adjacent page for Connections.

SCC (EPROM Version) — Controller Arrangement Form
USOC: 4TT + 4TU (OR 4TT + 4TU + WES 7E) + XX10
HANDLES: Up to 6-DCCs

CARD POSITION	I/O SOCKET	STATION WORK SHEET	DEVICE ADDRESS *
3	DS	DATA SET	
5	S1	DCC-A	SP A B C D E
5	S2	DCC-B	F G H I [.
5	S3	DCC-C	< (+ ! & J
5	S4	DCC-D	K L M N O P
6	S5	DCC-E	Q R] $ *)
6	S6	DCC-F	; ^ - / S T

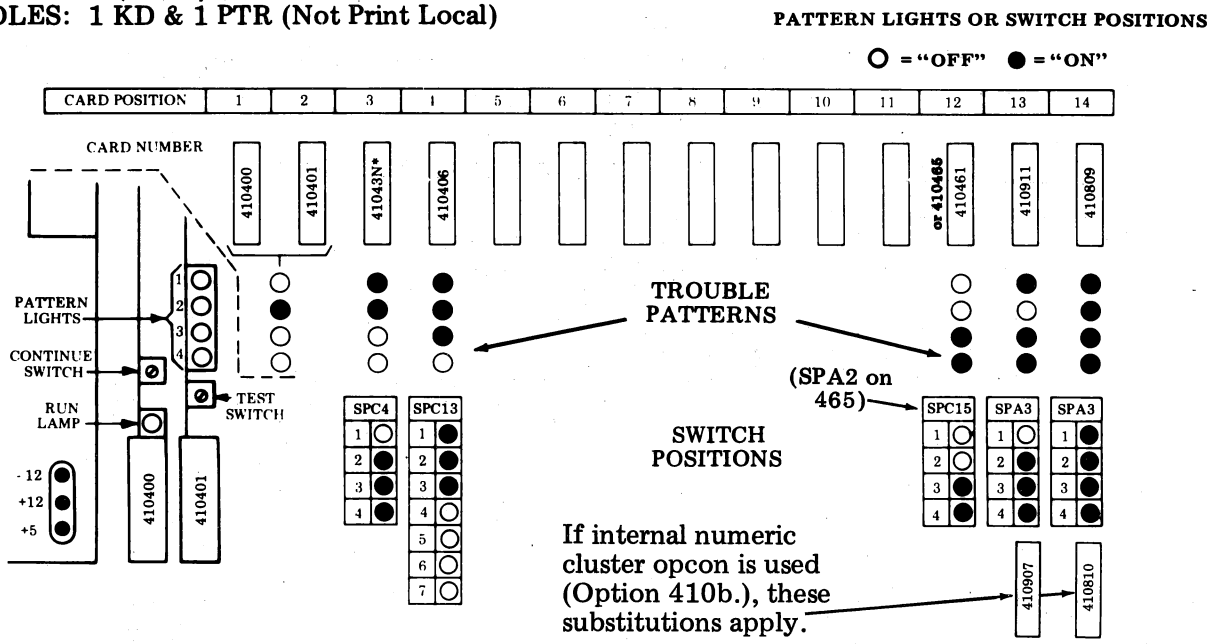
*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
^	¬
]	!
[	¢
!	|



B. DCC — Device Cluster Controller Arrangement Forms

DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + (4TOX+ OR 4TPX+)
HANDLES: 1 KD & 1 PTR (Not Print Local)



"CONTINUE" LIGHT PATTERNS					
1	○	●	○	○	●
2	○	○	●	○	●
3	●	●	●	○	○
4	○	○	○	●	●

*41043N — ANY D I/O CIRCUIT CARD

See adjacent page for Connections and Device Addresses.

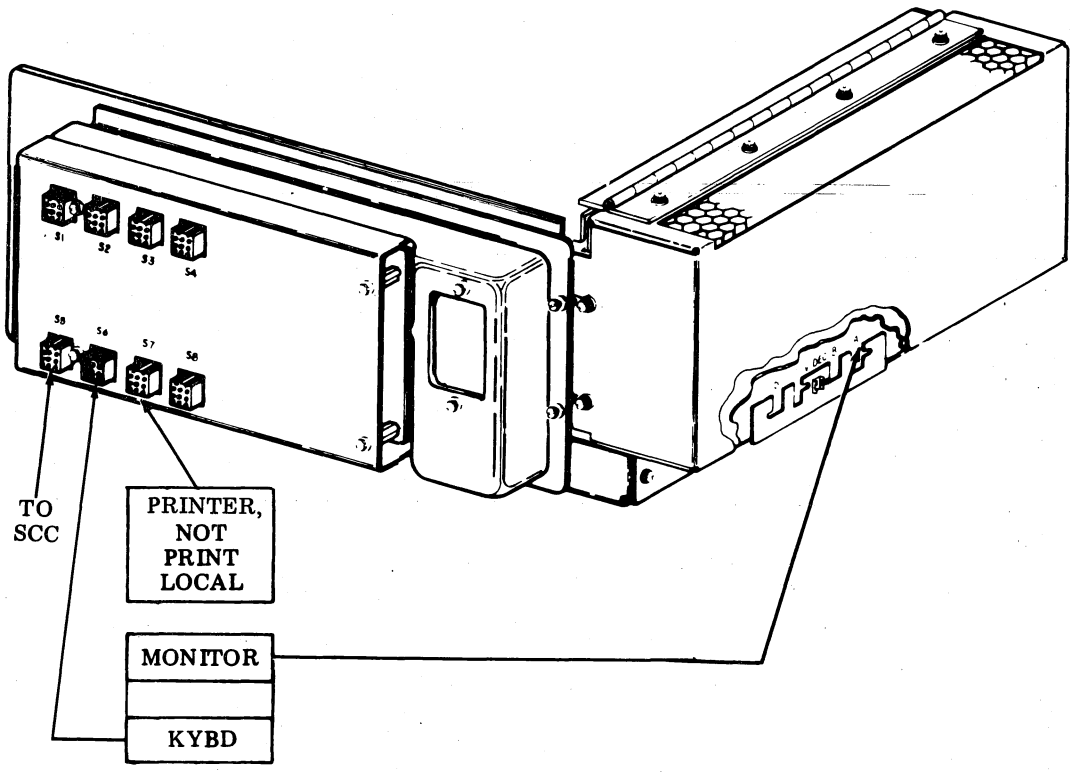
PRINTER OPTIONS	
PRINTER I/O SOCKET	S7
Friction Feed	
Tractor Feed 80 Col	
Tractor Feed 132 Col	
17. Specify Right Margin	
Specify Left Margin	
18.a. No Paper Feed Out	
18.b. Paper FO on "RM" Loss	
18.c. Paper FO on "RM" Loss and ETX	
19.d. 96 Character Set	
19.e. 64 Character Set	
19.f. Ext. ASCII Set	
20.a. Single LF	
20.b. Double LF	
21.a. Lower and Upper Case Print	
21.b. Lower Case Prints as Upper Case	
22.a. Lower Case Prints as Error	
22.b. Lower Case Prints as Upper Case	
39.a. Forms on	
39.b. Forms off	
48.a. Paper Out Not Gated W/FF	
48.b. Paper Out Gated W/FF	

DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + (4TOX+ OR 4TPX+)
HANDLES: 1-KD & 1-PTR (Not Print Local)

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
4	S5	STATION C/C (SCC)	DCC ⟶	A	B	C	D	E	F
4 & 3	S6 & A	KEYBOARD/DISPLAY	DEVICE ROW 1	Sp	F	<	K	Q	;
4	S7	PRINTER (N LOC)	DEVICE ROW 2	A	G	(	L	R	^

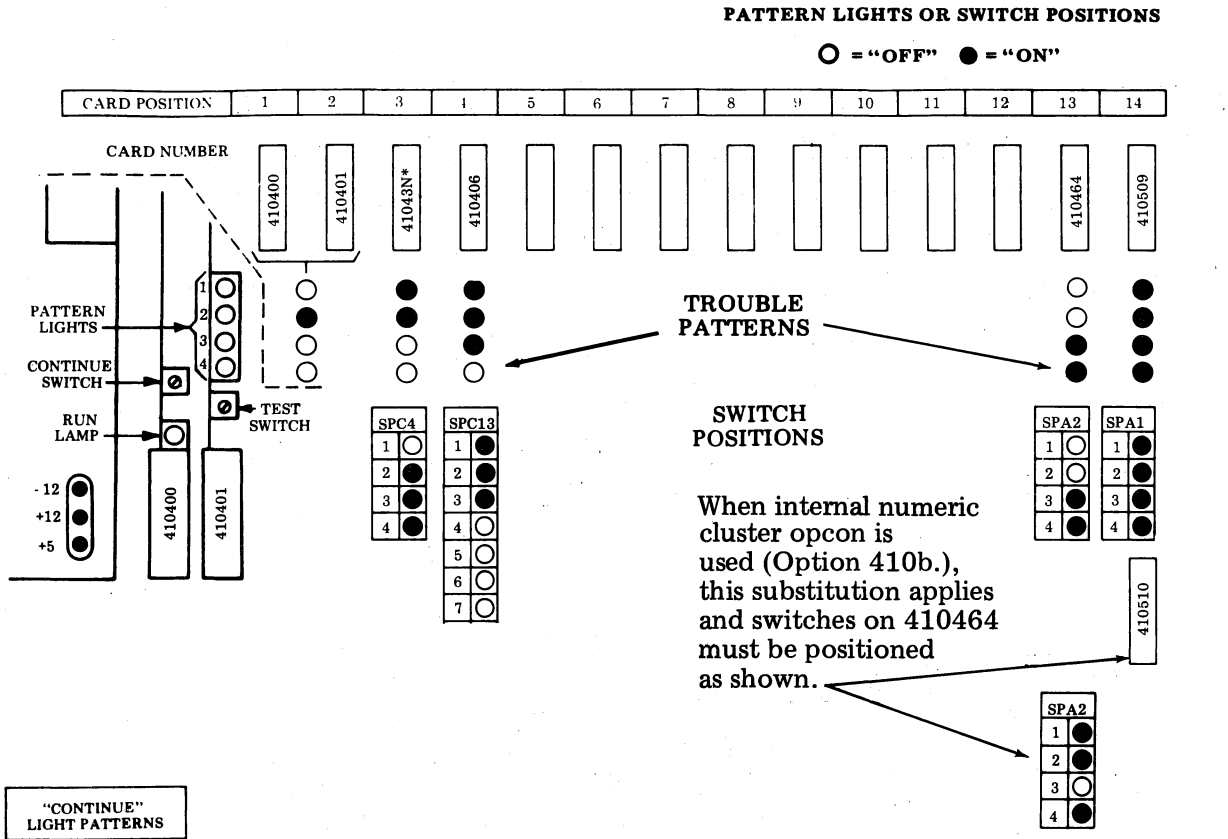
*ASCII and EBCDIC graphics are the same, except for

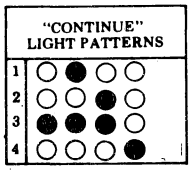
ASCII	EBCDIC
^	¬ (¢)**



**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + (4TOX+ OR 4TPX+)
HANDLES: 1-KD & Up To 1-PTR (1 Print Local))





*41043N — ANY D I/O CIRCUIT CARD

See adjacent page for Connections and Device Addresses.

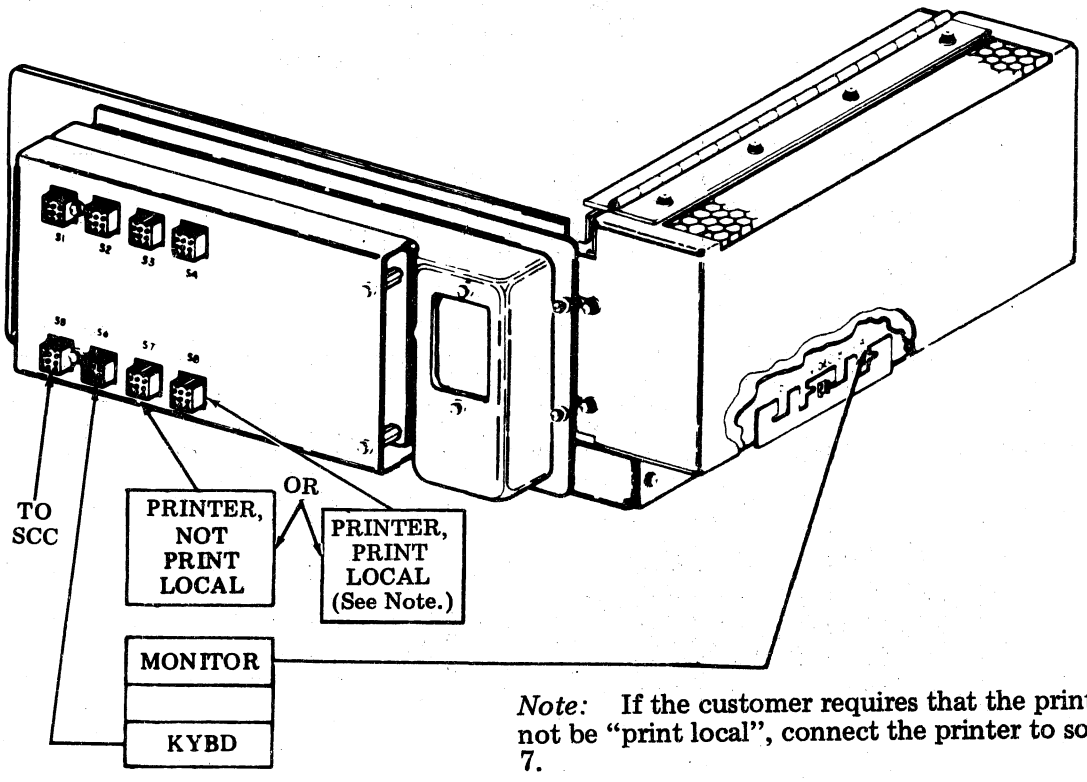
PRINTER OPTIONS	OR S7	OR S8
PRINTER I/O SOCKET		
Friction Feed		
Tractor Feed 80 Col		
Tractor Feed 132 Col		
17. Specify Right Margin		
Specify Left Margin		
18.a. No Paper Feed Out		
18.b. Paper FO on "RM" Loss		
18.c. Paper FO on "RM" Loss and ETX		
19.d. 96 Character Set		
19.e. 64 Character Set		
19.f. Ext. ASCII Set		
20.a. Single LF		
20.b. Double LF		
21.a. Lower and Upper Case Print		
21.b. Lower Case Prints as Upper Case		
22.a. Lower Case Prints as Error		
22.b. Lower Case Prints as Upper Case		
39.a. Forms on		
39.b. Forms off		
48.a. Paper Out Not Gated W/FF		
48.b. Paper Out Gated W/FF		

DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + (4TOX+ OR 4TPX+)
HANDLES: 1-KD & Up To 1-PTR (1 Print Local)

	CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
	4	S5	STATION C/C (SCC)	DCC ⟶	A	B	C	D	E	F
	4 & 3	S6 & A	KEYBOARD/DISPLAY	DEVICE ROW 1	Sp	F	<	K	Q	;
OR	4	S7	PRINTER (N LOC)	DEVICE ROW 2	A	G	(	L	R	^
	4	S8	PRINTER (LOC)	DEVICE ROW 3	B	H	+	M	]	–

*ASCII and EBCDIC graphics are the same, except for

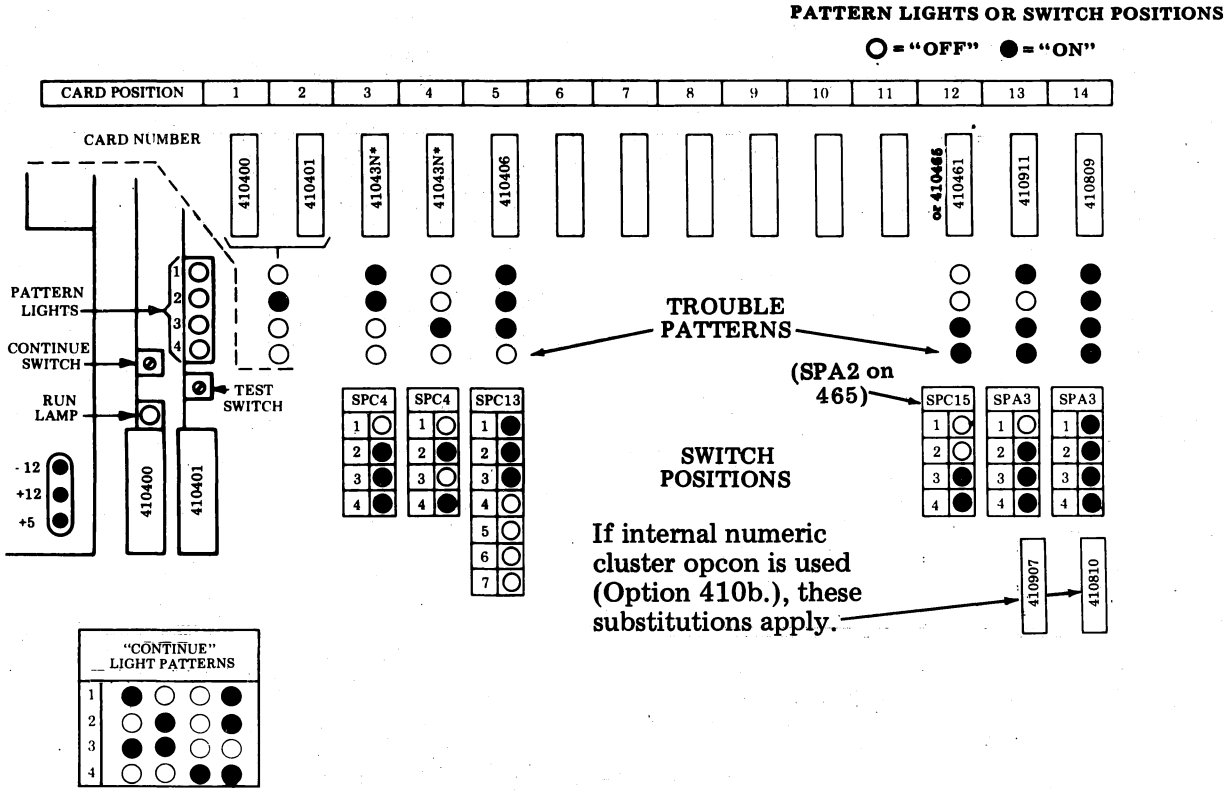
ASCII	EBCDIC
^	¬ (¢)**
]	! (|)



Note: If the customer requires that the printer not be "print local", connect the printer to socket 7.

**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KD & 0-PTR



*41043N — ANY D I/O CIRCUIT CARD

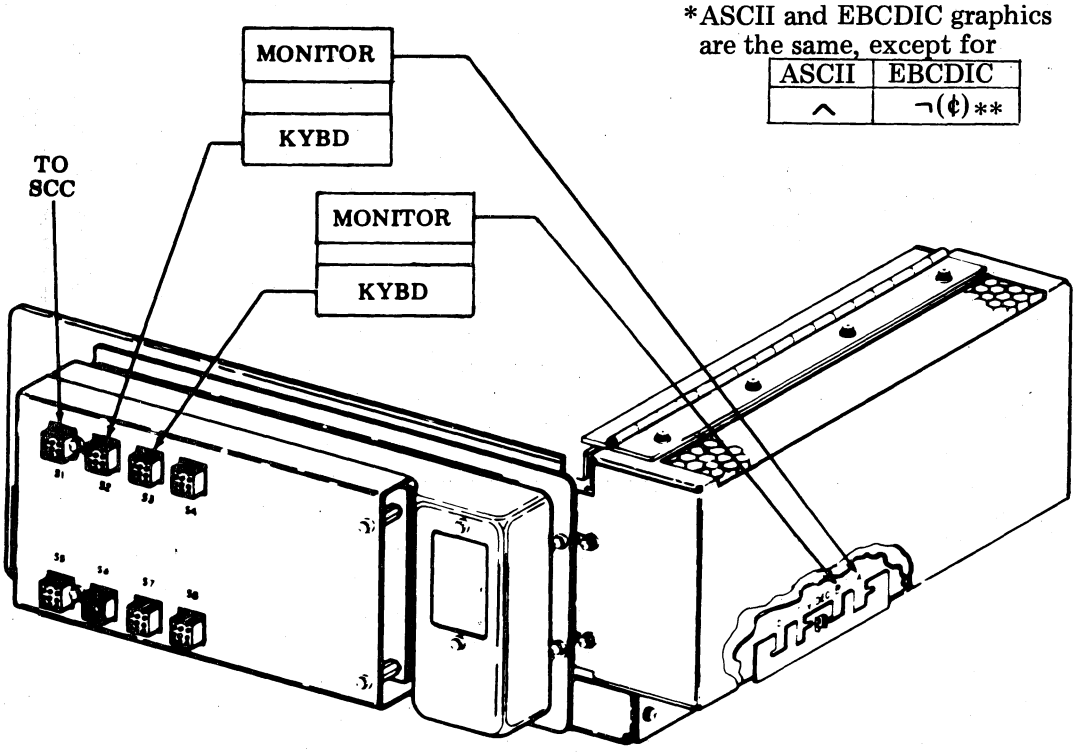
See adjacent page for Connections and Device Addresses.

DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KD & 0-PTR

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
5	S1	STATION C/C (SCC)	DCC ⟶	A	B	C	D	E	F
5 & 3	S2 & A	KEYBOARD/DISPLAY(1)	DEVICE ROW 1	SP	F	<	K	Q	;
5 & 4	S3 & B	KEYBOARD/DISPLAY(2)	DEVICE ROW 2	A	G	(	L	R	^

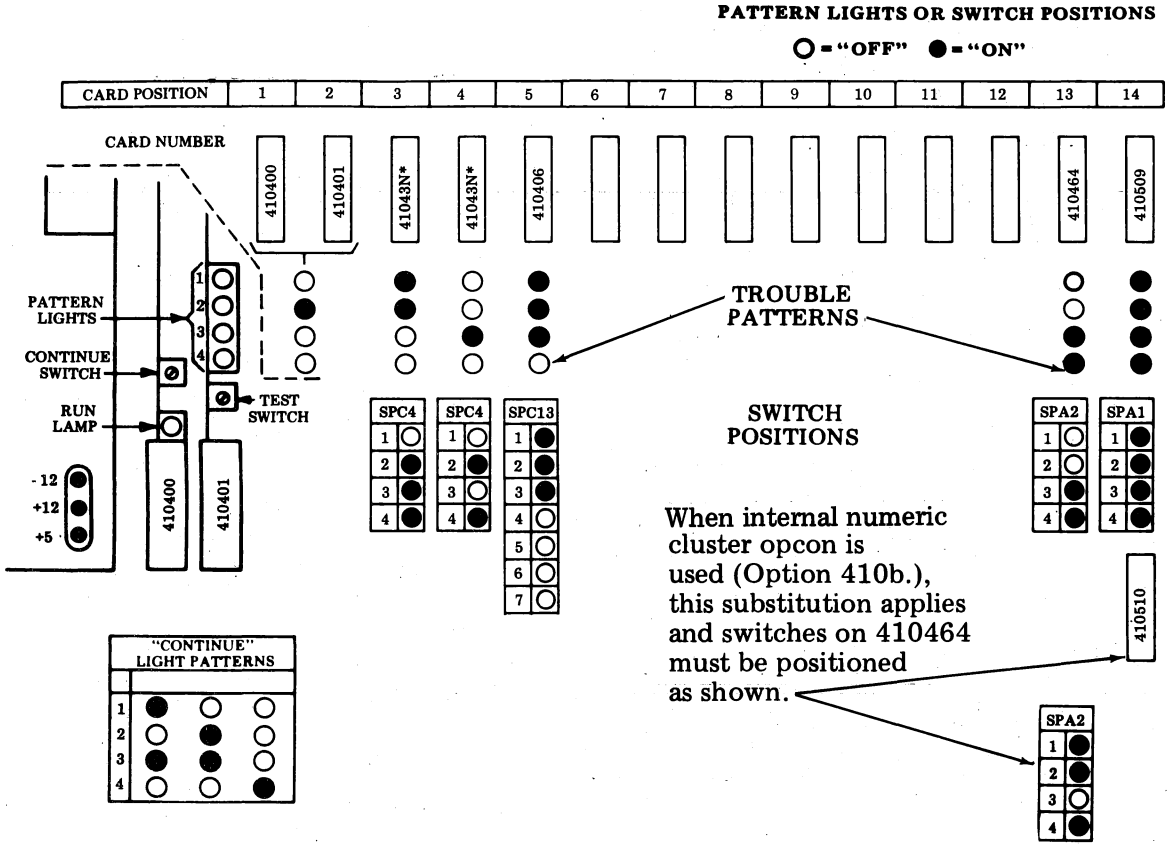
*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
^	¬(¢)**



**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KD



*41043N — ANY D I/O CIRCUIT CARD

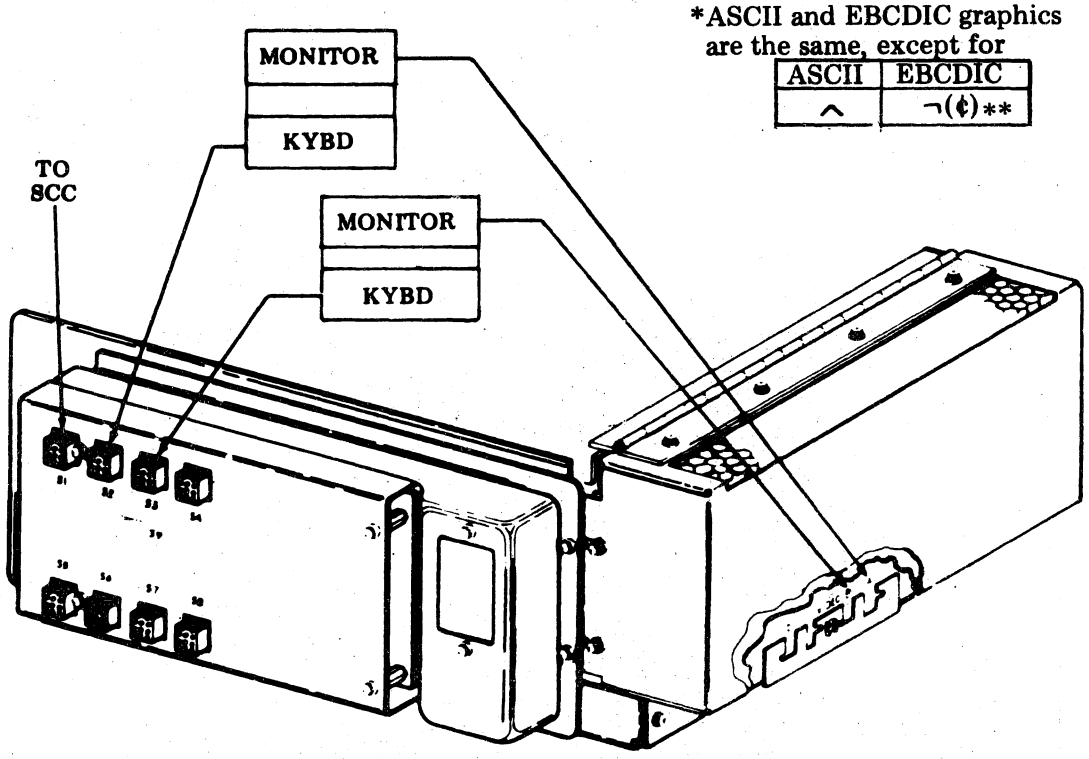
See adjacent page for Connections and Device Addresses.

DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KD

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
5	S1	STATION C/C (SCC)	DCC ——→	A	B	C	D	E	F
5 & 3	S2 & A	KEYBOARD/DISPLAY(1)	DEVICE ROW 1	Sp	F	<	K	Q	;
5 & 4	S3 & B	KEYBOARD/DISPLAY(2)	DEVICE ROW 2	A	G	(	L	R	^

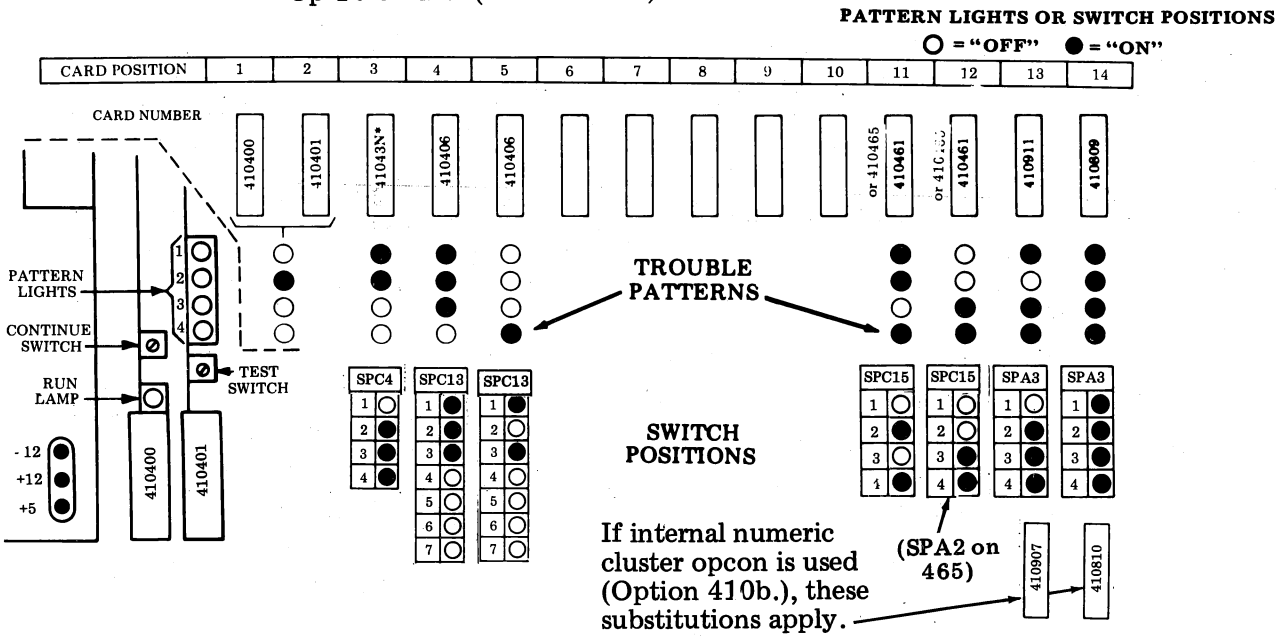
*ASCII and EBCDIC graphics are the same, except for

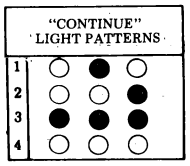
ASCII	EBCDIC
^	¬(¢)**



**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TW + (4TOX+ OR 4TPX+)
HANDLES: 1-KD & Up To 5-PTRs (1 Print Local)





*41043N — ANY D I/O CIRCUIT CARD

PRINTER OPTIONS					
PRINTER I/O SOCKET	S7	S8	S1	S2	S3
Friction Feed					
Tractor Feed 80 Col					
Tractor Feed 132 Col					
17. Specify Right Margin					
Specify Left Margin					
18.a. No Paper Feed Out					
18.b. Paper FO on "RM" Loss					
18.c. Paper FO on "RM" Loss and ETX					
19.d. 96 Character Set					
19.e. 64 Character Set					
19.f. Ext. ASCII Set					
20.a. Single LF					
20.b. Double LF					
21.a. Lower and Upper Case Print					
21.b. Lower Case Prints as Upper Case					
22.a. Lower Case Prints as Error					
22.b. Lower Case Prints as Upper Case					
39.a. Forms on					
39.b. Forms off					
48.a. Paper Out Not Gated W/FF					
48.b. Paper Out Gated W/FF					

See adjacent page for Connections and Device Addresses.

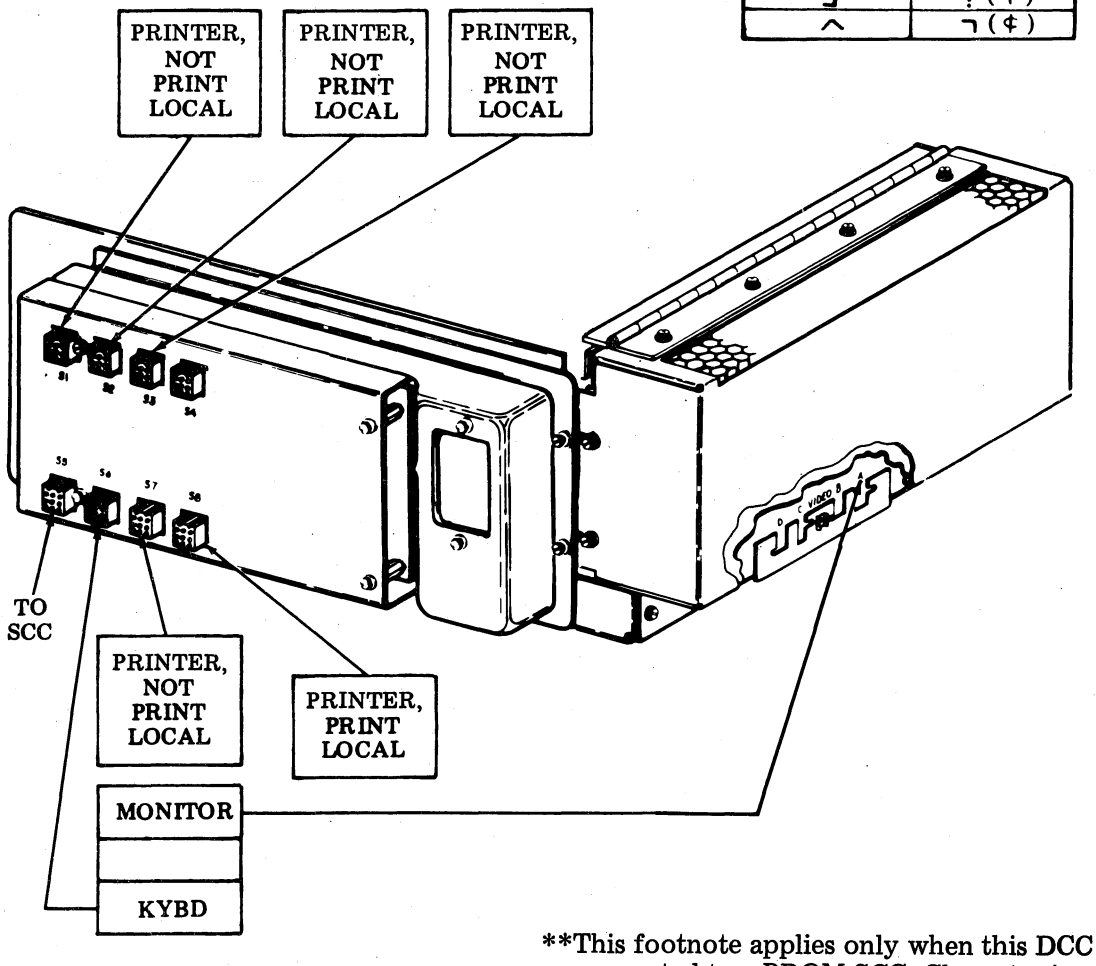
DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TW + (4TOX+ OR 4TPX+)
HANDLES: 1-KD & Up To 5-PTRs (1 Print Local)

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
4	S5	STATION C/C (SCC)	DCC ⟶	A	B	C	D	E	F
4 & 3	S6 & A	KEYBOARD/DISPLAY	DEVICE ROW 1	Sp	F	<	K	Q	;
4	S7	PRINTER (N LOC)	DEVICE ROW 2	A	G	(	L	R	^
4	S8	PRINTER (LOC)	DEVICE ROW 3	B	H	+	M	]	—
5	S1	PRINTER (N LOC)	DEVICE ROW 4	C	I	|	N	$	/
5	S2	PRINTER (N LOC)	DEVICE ROW 5	D	[	&	O	*	S
5	S3	PRINTER (N LOC)	DEVICE ROW 6	E	.	J	P	)	T

Note: If the customer requires that no printer be "print local", place a 340701 blocking key-top over the PRINT LOCAL position of the KD opcon.

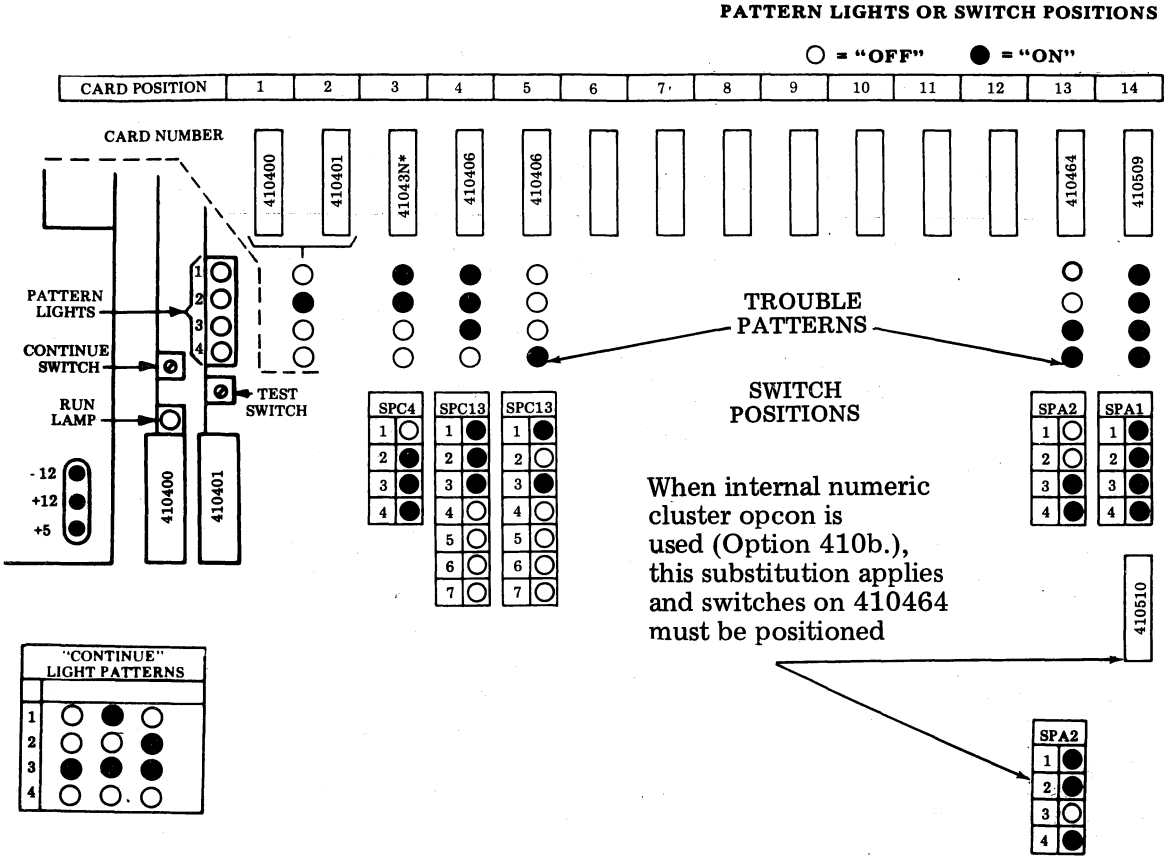
*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
[	¢ (¬) **
!	| (!)
]	! (|)
^	¬ (¢)



**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TU + (4TOX+ OR 4TPX+)
HANDLES: 1-KD & Up To 5-PTRs (1 Print Local)



*41043N — ANY D I/O CIRCUIT CARD

PRINTER OPTIONS					
PRINTER I/O SOCKET	S7	S8	S1	S2	S3
Friction Feed					
Tractor Feed 80 Col					
Tractor Feed 132 Col					
17. Specify Right Margin					
Specify Left Margin					
18.a. No Paper Feed Out					
18.b. Paper FO on "RM" Loss					
18.c. Paper FO on "RM" Loss and ETX					
19.d. 96 Character Set					
19.e. 64 Character Set					
19.f. Ext. ASCII Set					
20.a. Single LF					
20.b. Double LF					
21.a. Lower and Upper Case Print					
21.b. Lower Case Prints as Upper Case					
22.a. Lower Case Prints as Error					
22.b. Lower Case Prints as Upper Case					
39.a. Forms on					
39.b. Forms off					
48.a. Paper Out Not Gated W/FF					
48.b. Paper Out Gated W/FF					

See adjacent page for Connections and Device Addresses.

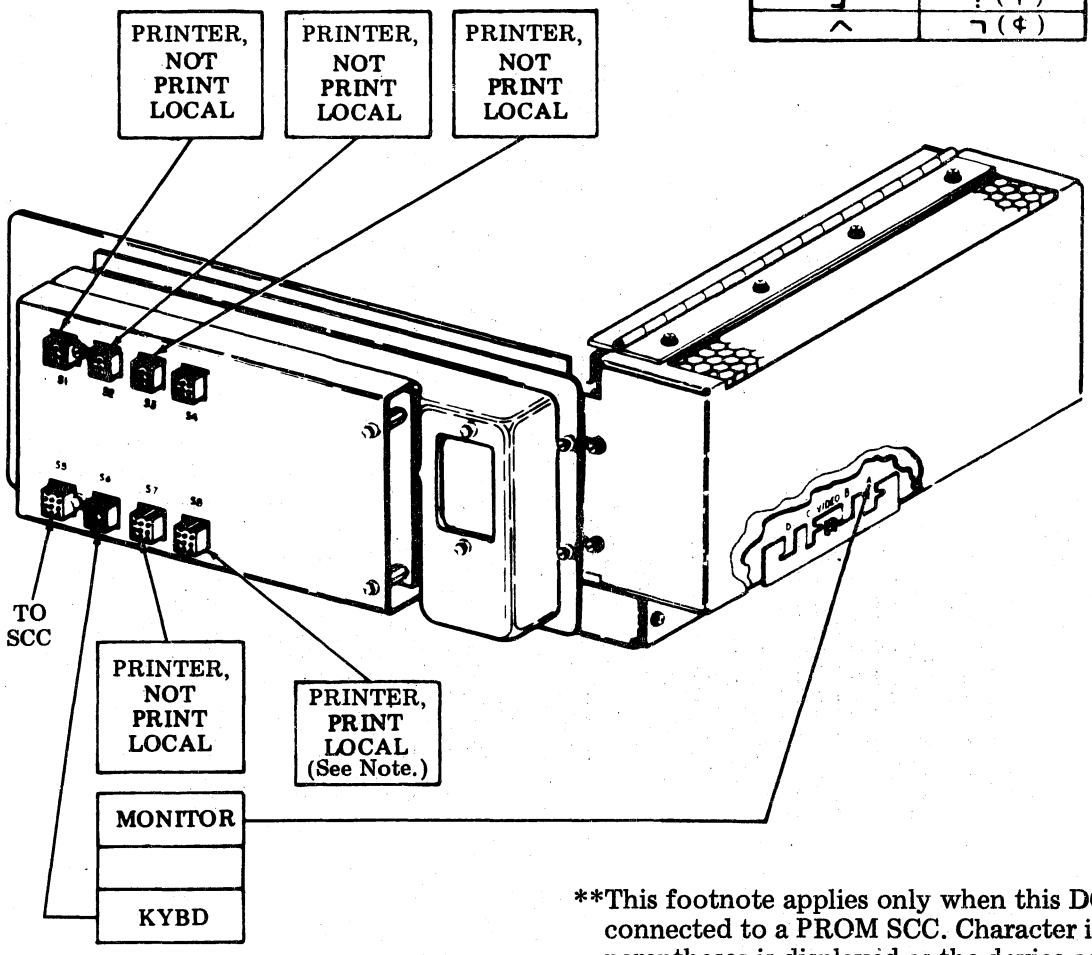
DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TU + (4TOX+ OR 4TPX+)
HANDLES: 1-KD & Up To 5-PTRs (1 Print Local)

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
4	S5	STATION C/C (SCC)	DCC ⟶	A	B	C	D	E	F
4 & 3	S6 & A	KEYBOARD/DISPLAY	DEVICE ROW 1	Sp	F	<	K	Q	;
4	S7	PRINTER (N LOC)	DEVICE ROW 2	A	G	(	L	R	^
4	S8	PRINTER (LOC)	DEVICE ROW 3	B	H	+	M	]	—
5	S1	PRINTER (N LOC)	DEVICE ROW 4	C	I	!	N	$	/
5	S2	PRINTER (N LOC)	DEVICE ROW 5	D	[	&	O	*	S
5	S3	PRINTER (N LOC)	DEVICE ROW 6	E	.	J	P	)	T

Note: If the customer requires that no printer be "print local", place a 340701 blocking key-top over the PRINT LOCAL position of the KD opcon.

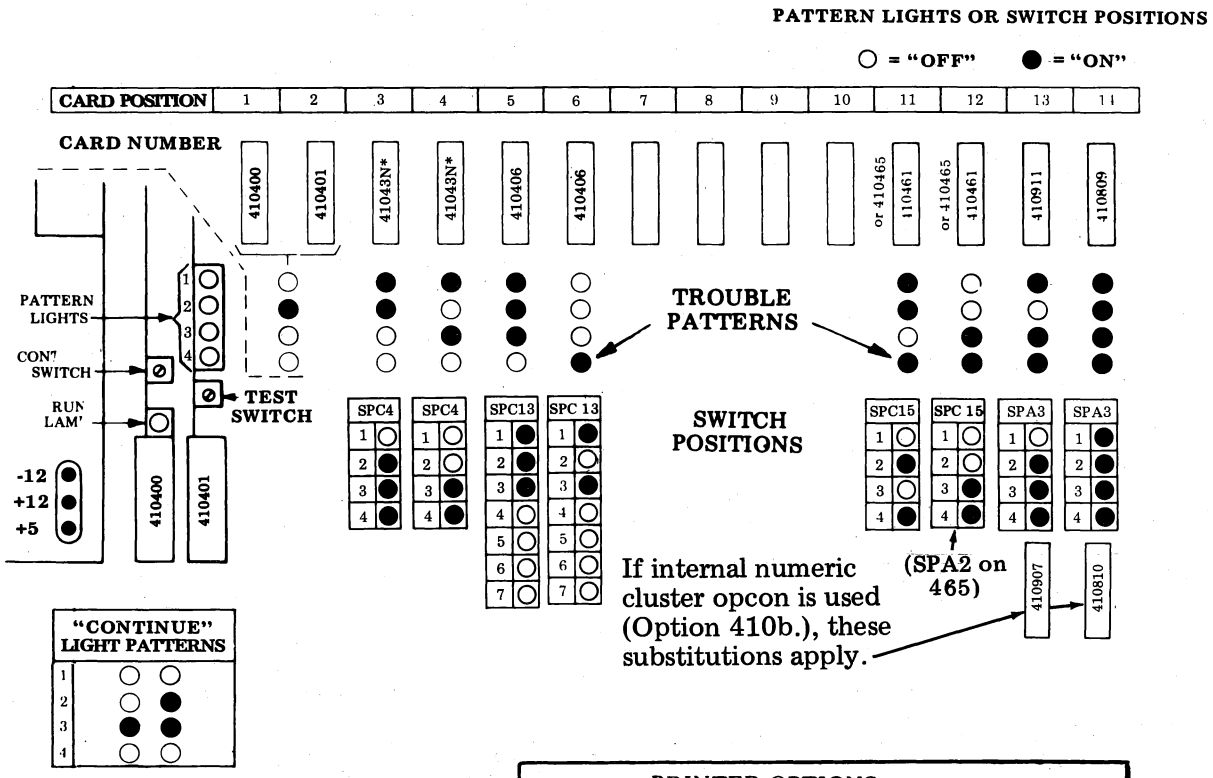
*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
[	¢ (¬)**
!	| (!)
]	! (|)
^	¬ (¢)



**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TW + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KDs & Up To 4-PTRs (2 Print Local)



*41043N — ANY D I/O CIRCUIT CARD

Note 1: Printer associated with I/O socket S4 will be print local for KD in I/O socket S2 & A. Printer in I/O socket S7 is print local to KD in I/O socket S5 & B. If no printer is in I/O socket S7, the printer in I/O socket S4 will be print local to both KDs. See Note 2.

PRINTER OPTIONS				
PRINTER I/O SOCKET	S3	S4	S6	S7
Friction Feed				
Tractor Feed 80 Col				
Tractor Feed 132 Col				
17. Specify Right Margin				
Specify Left Margin				
18.a. No Paper Feed Out				
18.b. Paper FO on "RM" Loss				
18.c. Paper FO on "RM" Loss and ETX				
19.d. 96 Character Set				
19.e. 64 Character Set				
19.f. Ext. ASCII Set				
20.a. Single LF				
20.b. Double LF				
21.a. Lower and Upper Case Print				
21.b. Lower Case Prints as Upper Case				
22.a. Lower Case Prints as Error				
22.b. Lower Case Prints as Upper Case				
39.a. Forms on				
39.b. Forms off				
48.a. Paper Out Not Gated W/FF				
48.b. Paper Out Gated W/FF				

See adjacent page for Connections and Device Addresses.

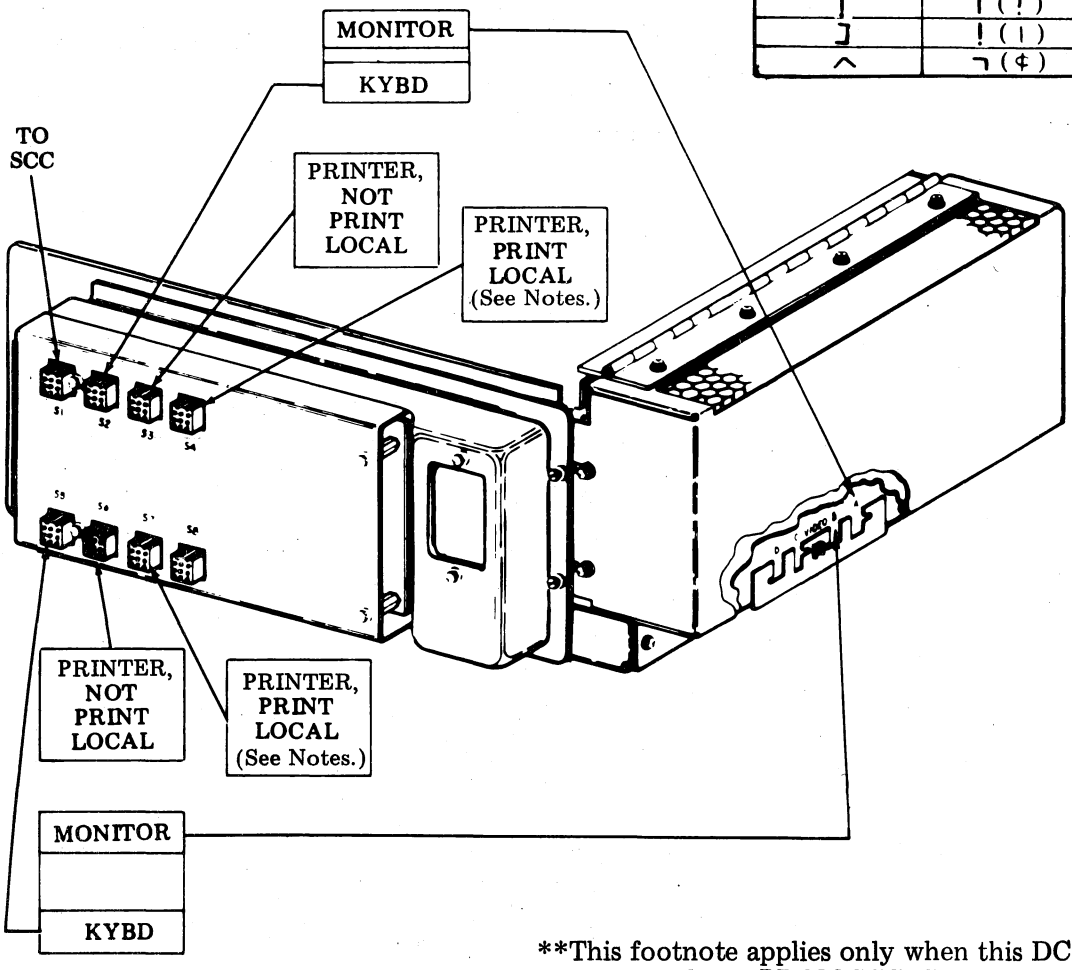
DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TW +2-(4TOX+ OR 4TPX+)
HANDLES: 2-KDs & Up To 4-PTRs (2 Print Local)

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
5	S1	STATION C/C (SCC)	DCC ⟶	A	B	C	D	E	F
5 & 3	S2 & A	KEYBOARD/DISPLAY	DEVICE ROW 1	SP	F	<	K	Q	;
5	S3	PRINTER (N LOC)	DEVICE ROW 2	A	G	(	L	R	^
5	S4	PRINTER (NOTES)	DEVICE ROW 3	B	H	+	M	]	—
6 & 4	S5 & B	KEYBOARD/DISPLAY	DEVICE ROW 4	C	I	!	N	$	/
6	S6	PRINTER (N LOC)	DEVICE ROW 5	D	[	&	O	*	S
6	S7	PRINTER(NOTES)	DEVICE ROW 6	E	.	J	P	)	T

Note 2: If the customer requires that print local operation be prohibited from both KDs or just one KD, place a 340701 blocking keytop over the PRINT LOCAL position of the appropriate KD opcon(s).

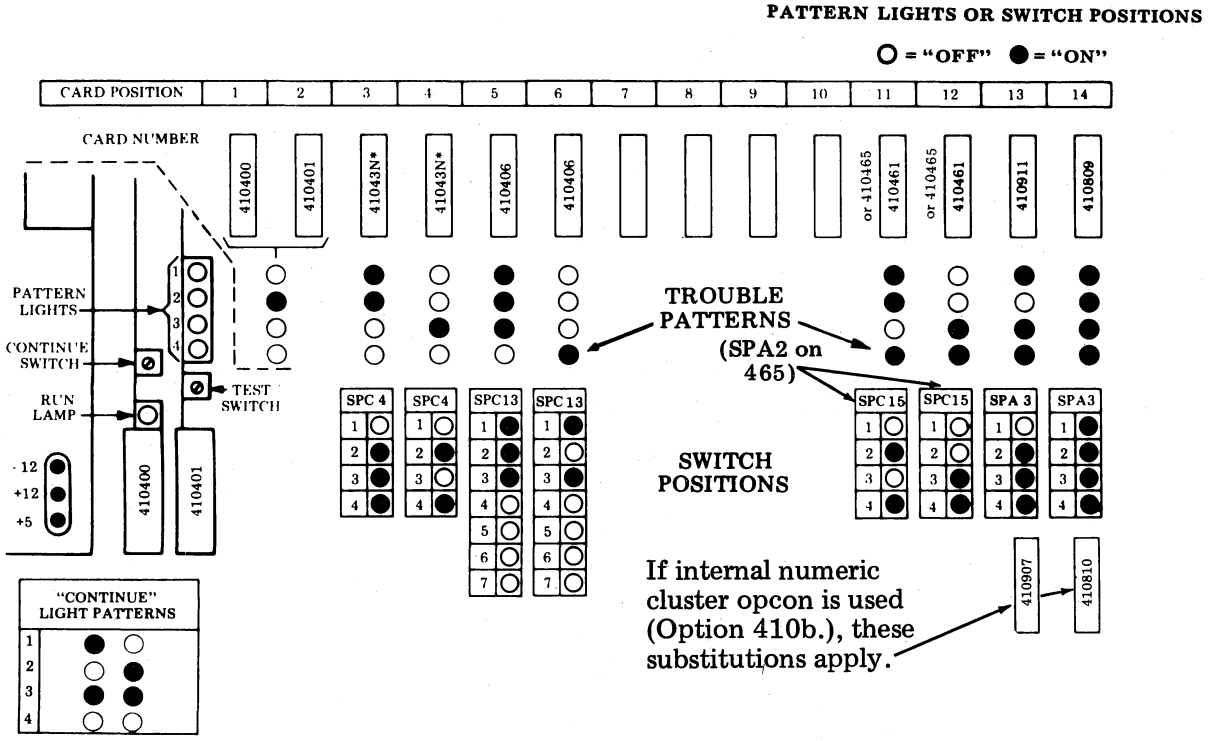
*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
[	¢ (¬)**
]	! (!)
]	! (|)
^	¬ (¢)



**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TW + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KDs + Up To 4-PTRs (1 Print Local)



*41043N — ANY D I/O CIRCUIT CARD

PRINTER OPTIONS				
PRINTER I/O SOCKET	S4	S5	S6	S7
Friction Feed				
Tractor Feed 80 Col				
Tractor Feed 132 Col				
17. Specify Right Margin				
Specify Left Margin				
18.a. No Paper Feed Out				
18.b. Paper FO on "RM" Loss				
18.c. Paper FO on "RM" Loss and ETX				
19.d. 96 Character Set				
19.e. 64 Character Set				
19.f. Ext. ASCII Set				
20.a. Single LF				
20.b. Double LF				
21.a. Lower and Upper Case Print				
21.b. Lower Case Prints as Upper Case				
22.a. Lower Case Prints as Error				
22.b. Lower Case Prints as Upper Case				
39.a. Forms on				
39.b. Forms off				
48.a. Paper Out Not Gated W/FF				
48.b. Paper Out Gated W/FF				

Note 1: Printer associated with I/O socket S4 will be print local for KD in I/O socket S2 & A and S3 & B. See Note 2.

See adjacent page for Connections and Device Addresses.

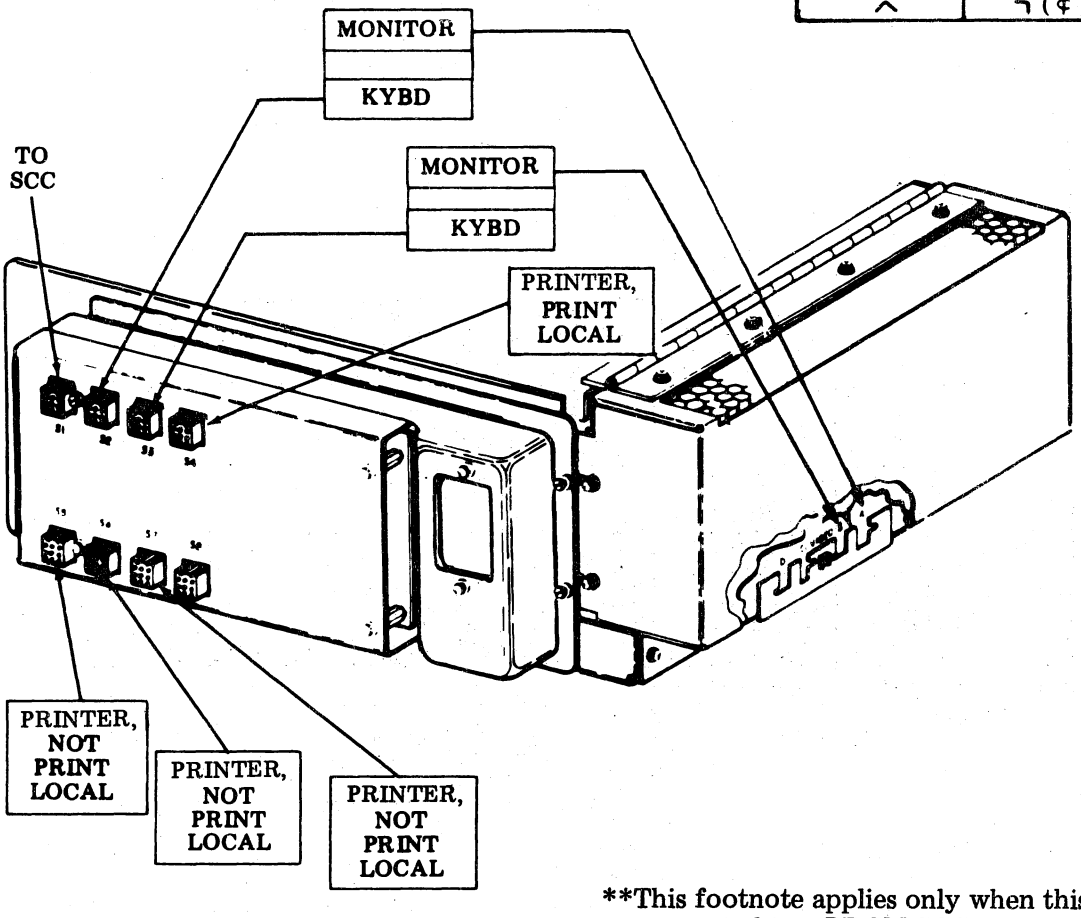
DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TW + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KDs & Up To 4-PTRs (1 Print Local)

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
5	S1	STATION C/C (SCC)	DCC→	A	B	C	D	E	F
5 & 3	S2 & A	KEYBOARD/DISPLAY	DEVICE ROW 1	SP	F	<	K	Q	;
5 & 4	S3 & B	KEYBOARD/DISPLAY	DEVICE ROW 2	A	G	(	L	R	^
5	S4	PRINTER (NOTES)	DEVICE ROW 3	B	H	+	M	]	–
6	S5	PRINTER (N LOC)	DEVICE ROW 4	C	I	!	N	$	/
6	S6	PRINTER (N LOC)	DEVICE ROW 5	D	[	&	O	*	S
6	S7	PRINTER (N LOC)	DEVICE ROW 6	E	.	J	P	)	T

Note 2: If the customer requires that print local operation be prohibited from both KDs or just one KD, place a 340701 blocking keytop over the PRINT LOCAL position of the appropriate KD opcon(s).

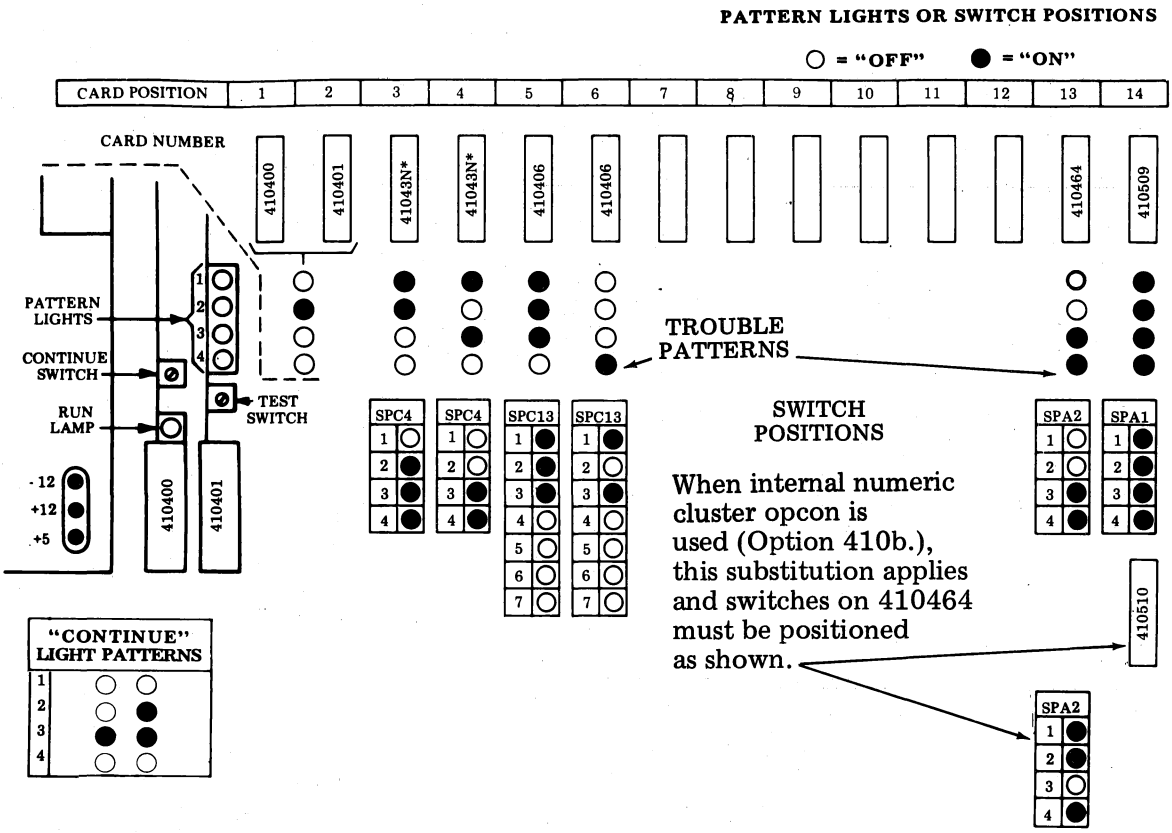
*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
[	¢ (¬)**
|	! (!)
]	! (|)
^	¬ (¢)



**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TU + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KDs & Up To 4-PTRs (2 Print Local)



*41043N — ANY D I/O CIRCUIT CARD

Note 1: Printer associated with I/O socket S4 will be print local for KD in I/O socket S2 & A. Printer in I/O socket S7 is print local to KD in I/O socket S5 & B. If no printer is in I/O socket S7, the printer in I/O socket S4 will be print local to both KDs. See Note 2 on adjacent page.

See adjacent page for Connections and Device Addresses.

PRINTER OPTIONS				
PRINTER I/O SOCKET	S3	S4	S6	S7
Friction Feed				
Tractor Feed 80 Col				
Tractor Feed 132 Col				
17. Specify Right Margin				
Specify Left Margin				
18.a. No Paper Feed Out				
18.b. Paper FO on "RM" Loss				
18.c. Paper FO on "RM" Loss and ETX				
19.d. 96 Character Set				
19.e. 64 Character Set				
19.f. Ext. ASCII Set				
20.a. Single LF				
20.b. Double LF				
21.a. Lower and Upper Case Print				
21.b. Lower Case Prints as Upper Case				
22.a. Lower Case Prints as Error				
22.b. Lower Case Prints as Upper Case				
39.a. Forms on				
39.b. Forms off				
48.a. Paper Out Not Gated W/FF				
48.b. Paper Out Gated W/FF				

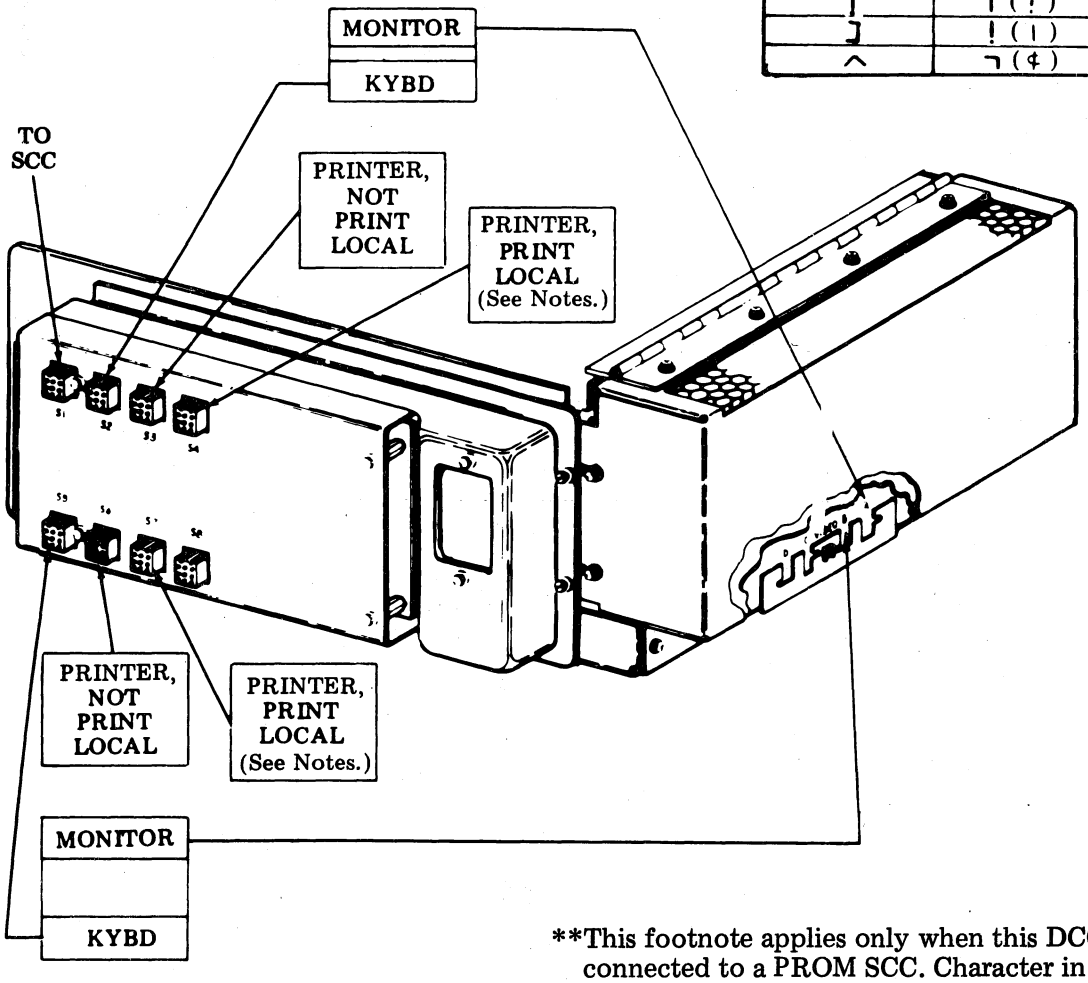
DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TU +2-(4TOX+ OR 4TPX+)
HANDLES: 2-KDs & Up To 4-PTRs (2 Print Local)

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
5	S1	STATION C/C (SCC)	DCC ⟶	A	B	C	D	E	F
5 & 3	S2 & A	KEYBOARD/DISPLAY	DEVICE ROW 1	Sp	F	<	K	Q	;
5	S3	PRINTER (N LOC)	DEVICE ROW 2	A	G	(	L	R	^
5	S4	PRINTER (NOTES)	DEVICE ROW 3	B	H	+	M	]	—
6 & 4	S5 & B	KEYBOARD/DISPLAY	DEVICE ROW 4	C	I	!	N	$	/
6	S6	PRINTER (N LOC)	DEVICE ROW 5	D	[	&	O	*	S
6	S7	PRINTER(NOTES)	DEVICE ROW 6	E	.	J	P	)	T

Note 2: If the customer requires that print local operation be prohibited from both KDs or just one KD, place a 340701 blocking keytop over the PRINT LOCAL position of the appropriate KD opcon(s).

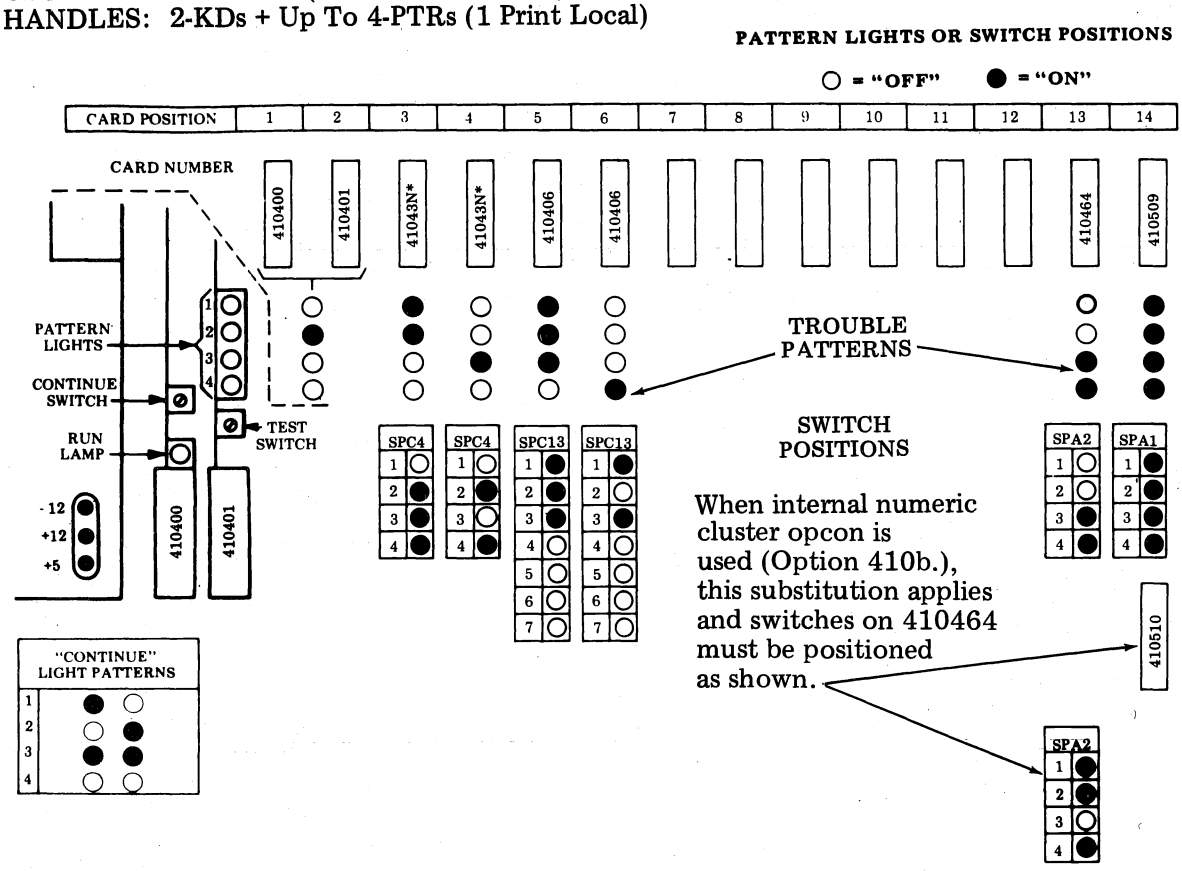
*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
[	¢ (¬)**
]	! (!)
]	! (|)
^	¬ (¢)



**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TU + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KDs + Up To 4-PTRs (1 Print Local)



*41043N — ANY D I/O CIRCUIT CARD

Note 1: Printer associated with I/O socket S4 will be print local for KD in I/O socket S2 & A and S3 & B. See Note 2 on adjacent page.

See adjacent page for Connections and Device Addresses.

PRINTER OPTIONS				
PRINTER I/O SOCKET	S4	S5	S6	S7
Friction Feed				
Tractor Feed 80 Col				
Tractor Feed 132 Col				
17. Specify Right Margin				
Specify Left Margin				
18.a. No Paper Feed Out				
18.b. Paper FO on "RM" Loss				
18.c. Paper FO on "RM" Loss and ETX				
19.d. 96 Character Set				
19.e. 64 Character Set				
19.f. Ext. ASCII Set				
20.a. Single LF				
20.b. Double LF				
21.a. Lower and Upper Case Print				
21.b. Lower Case Prints as Upper Case				
22.a. Lower Case Prints as Error				
22.b. Lower Case Prints as Upper Case				
39.a. Forms on				
39.b. Forms off				
48.a. Paper Out Not Gated W/FF				
48.b. Paper Out Gated W/FF				

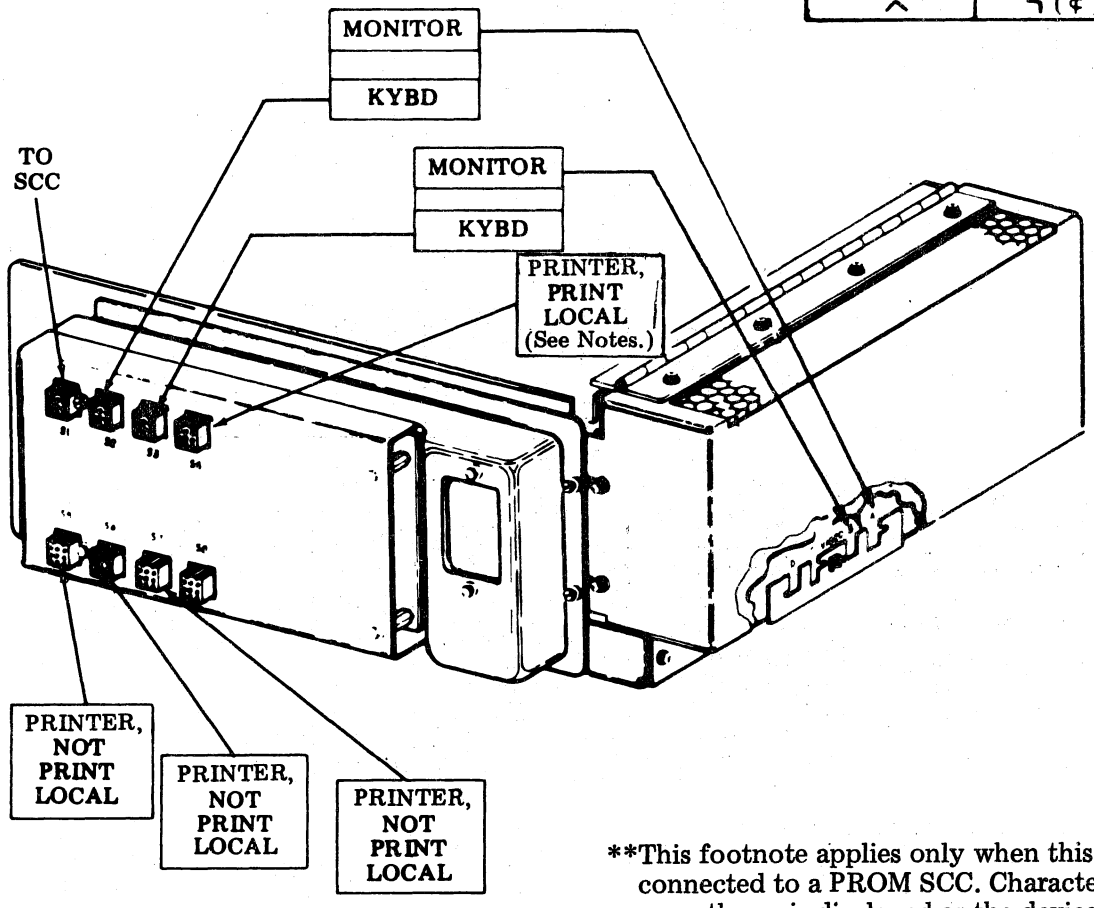
DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TU + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KDs & Up To 4-PTRs (1 Print Local)

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
5	S1	STATION C/C (SCC)	DCC→	A	B	C	D	E	F
5 & 3	S2 & A	KEYBOARD/DISPLAY	DEVICE ROW 1	SP	F	<	K	Q	;
5 & 4	S3 & B	KEYBOARD/DISPLAY	DEVICE ROW 2	A	G	(	L	R	^
5	S4	PRINTER (NOTES)	DEVICE ROW 3	B	H	+	M	]	–
6	S5	PRINTER (N LOC)	DEVICE ROW 4	C	I	!	N	$	/
6	S6	PRINTER (N LOC)	DEVICE ROW 5	D	[	&	O	*	S
6	S7	PRINTER (N LOC)	DEVICE ROW 6	E	.	J	P	)	T

Note 2: If the customer requires that print local operation be prohibited from both KDs or just one KD, place a 340701 blocking keytop over the PRINT LOCAL position of the appropriate KD opcon(s).

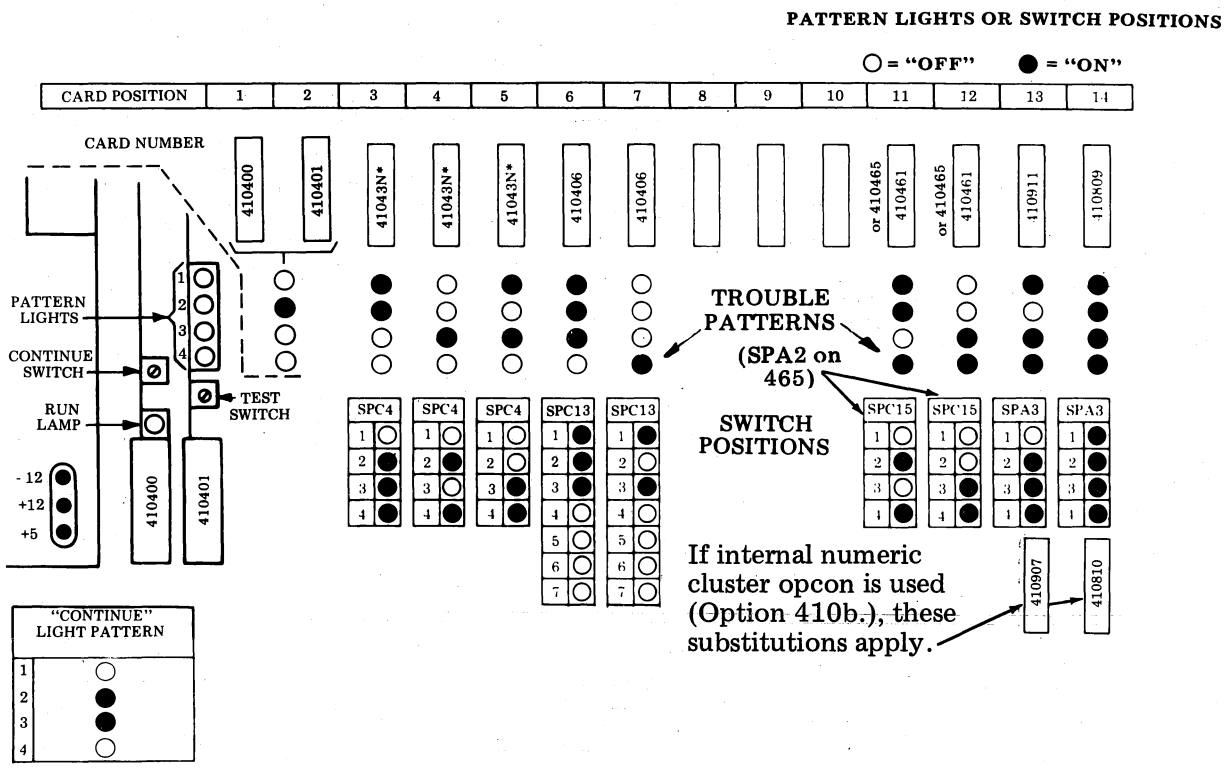
*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
[	¢ (¬) **
|	| (!)
]	! (|)
^	¬ (¢)



**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TW + 3-(4TOX+ OR 4TPX+)
HANDLES: 3-KDs & Up To 3-PTRs (2 Print Local)



*41043N — ANY D I/O CIRCUIT CARD

Note 1: Printer in I/O socket S8 is print local to KDs in I/O socket S6 & A and S7 & B. Printer in I/O socket S3 is print local to KD in I/O socket S1 & C. If no printer is in I/O socket S3, printer in I/O socket S8 will be print local to all KDs. See Note 2 on adjacent page.

See adjacent page for Connections and Device Addresses.

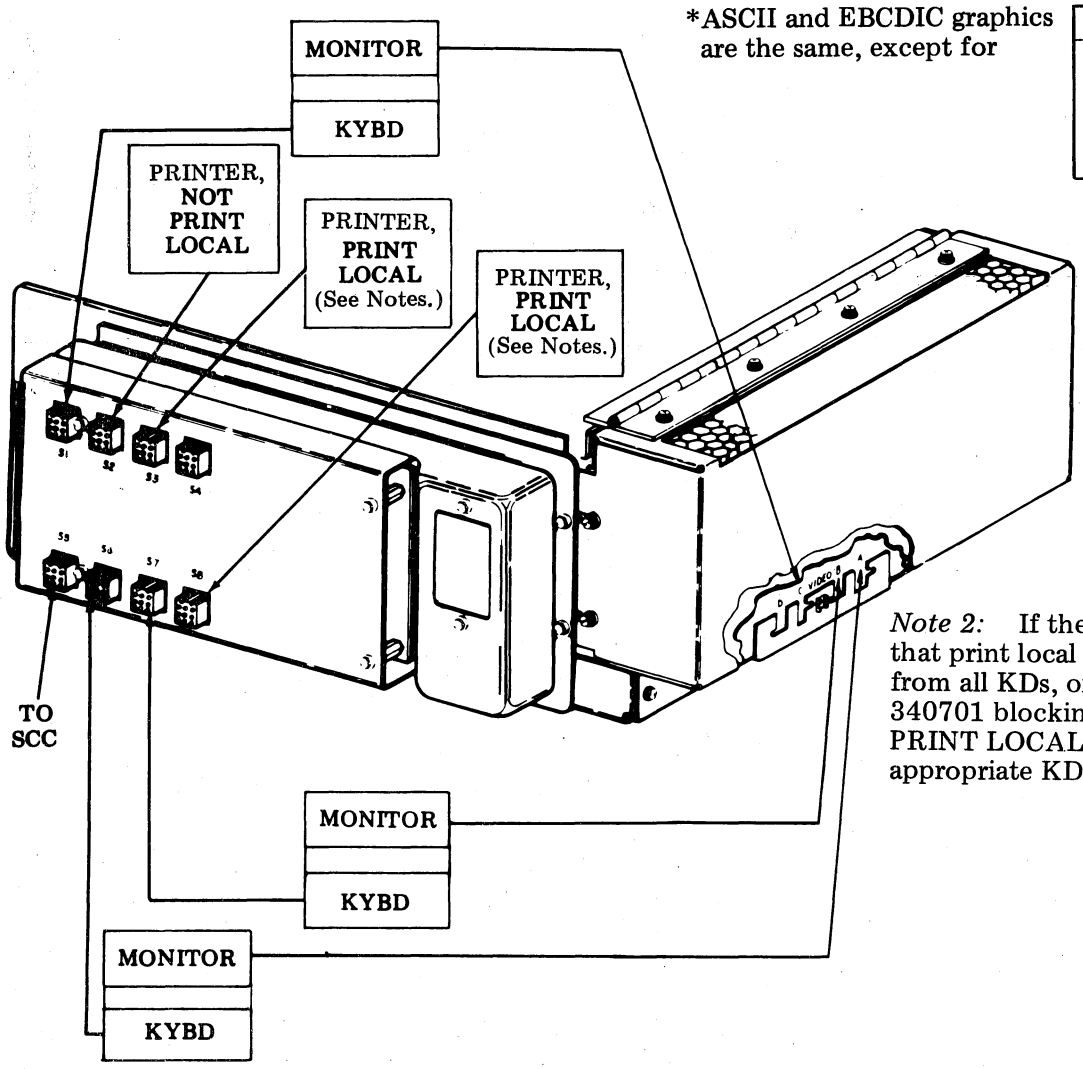
PRINTER OPTIONS			
PRINTER I/O SOCKET	S8	S3	S2
Friction Feed			
Tractor Feed 80 Col			
Tractor Feed 132 Col			
17. Specify Right Margin			
Specify Left Margin			
18.a. No Paper Feed Out			
18.b. Paper FO on "RM" Loss			
18.c. Paper FO on "RM" Loss and ETX			
19.d. 96 Character Set			
19.e. 64 Character Set			
19.f. Ext. ASCII Set			
20.a. Single LF			
20.b. Double LF			
21.a. Lower and Upper Case Print			
21.b. Lower Case Prints as Upper Case			
22.a. Lower Case Prints as Error			
22.b. Lower Case Prints as Upper Case			
39.a. Forms on			
39.b. Forms off			
48.a. Paper Out Not Gated W/FF			
48.b. Paper Out Gated W/FF			

DCC (PROM Version) — Controller Arrangement Form
DCC: A ☐ B ☐ C ☐ D ☐ E ☐ F ☐
USOC: 4TV + 4TW + 3-(4TOX+ OR 4TPX+)
HANDLES: 3-KDs & Up To 3-PTRs (2 Print Local)

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
6	S5	STATION C/C (SCC)	DCC →	A	B	C	D	E	F
6 & 3	S6 & A	KEYBOARD DISPLAY	DEVICE ROW 1	Sp	F	<	K	Q	;
6 & 4	S7 & B	KEYBOARD DISPLAY	DEVICE ROW 2	A	G	(	L	R	^
6	S8	PRINTER (NOTES)	DEVICE ROW 3	B	H	+	M	]	—
7 & 5	S1 & C	KEYBOARD DISPLAY	DEVICE ROW 4	C	I	!	N	$	/
7	S2	PRINTER (N LOC)	DEVICE ROW 5	D	[	&	O	*	S
7	S3	PRINTER (NOTES)	DEVICE ROW 6	E	.	J	P	)	T

*ASCII and EBCDIC graphics are the same, except for

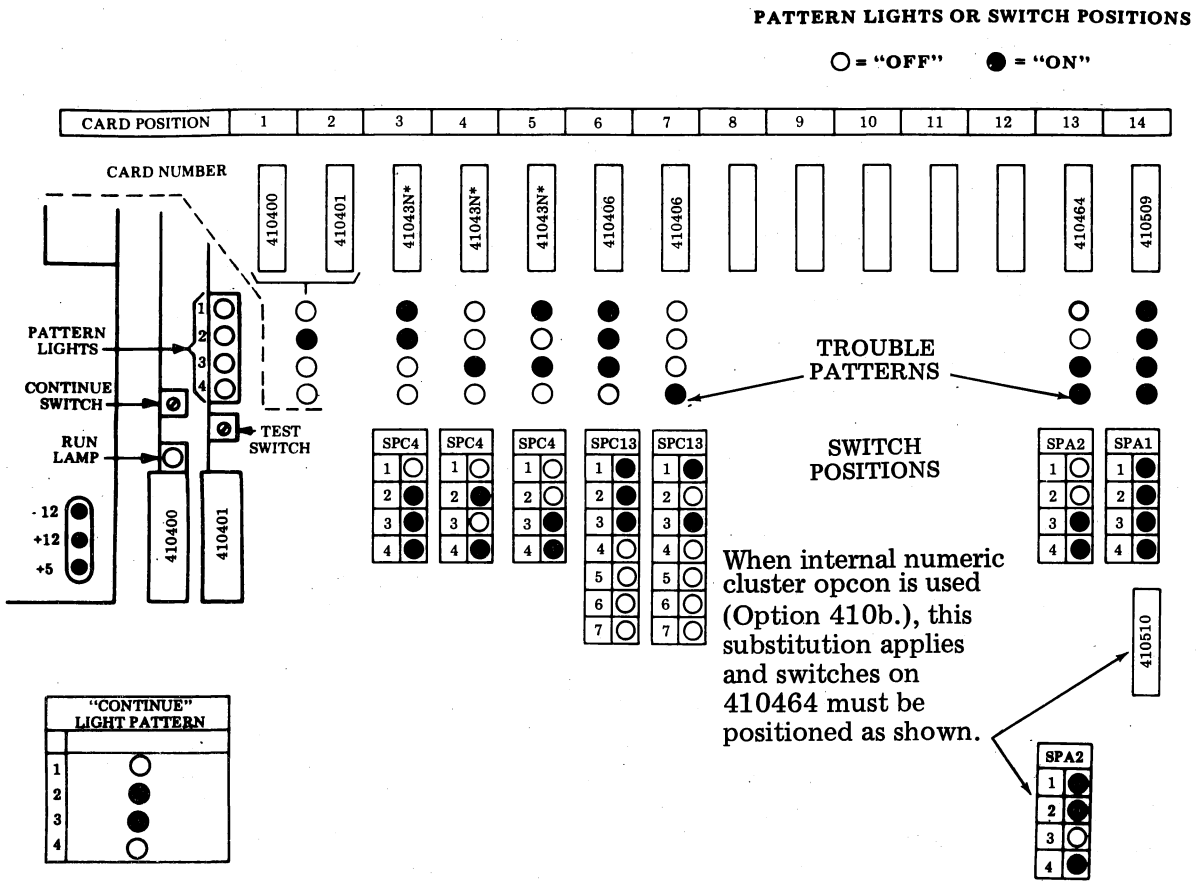
ASCII	EBCDIC
[	¢ (¬)**
|	¦ (!)
]	! (¦)
^	¬ (¢)



Note 2: If the customer requires that print local operation be prohibited from all KDs, or just one KD, place a 340701 blocking keytop over the PRINT LOCAL position of the appropriate KD opcon(s).

**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TU + 3-(4TOX+ OR 4TPX+)
HANDLES: 3-KDs & Up To 3-PTRs (2 Print Local)



*41043N — ANY D I/O CIRCUIT CARD

Note 1: Printer in I/O socket S8 is print local to KDs in I/O socket S6 & A and S7 & B. Printer in I/O socket S3 is print local to KD in I/O socket S1 & C. If no printer is in I/O socket S3, printer in I/O socket S8 will be print local to all KDs. See Note 2 on adjacent page.

See adjacent page for Connections and Device Addresses.

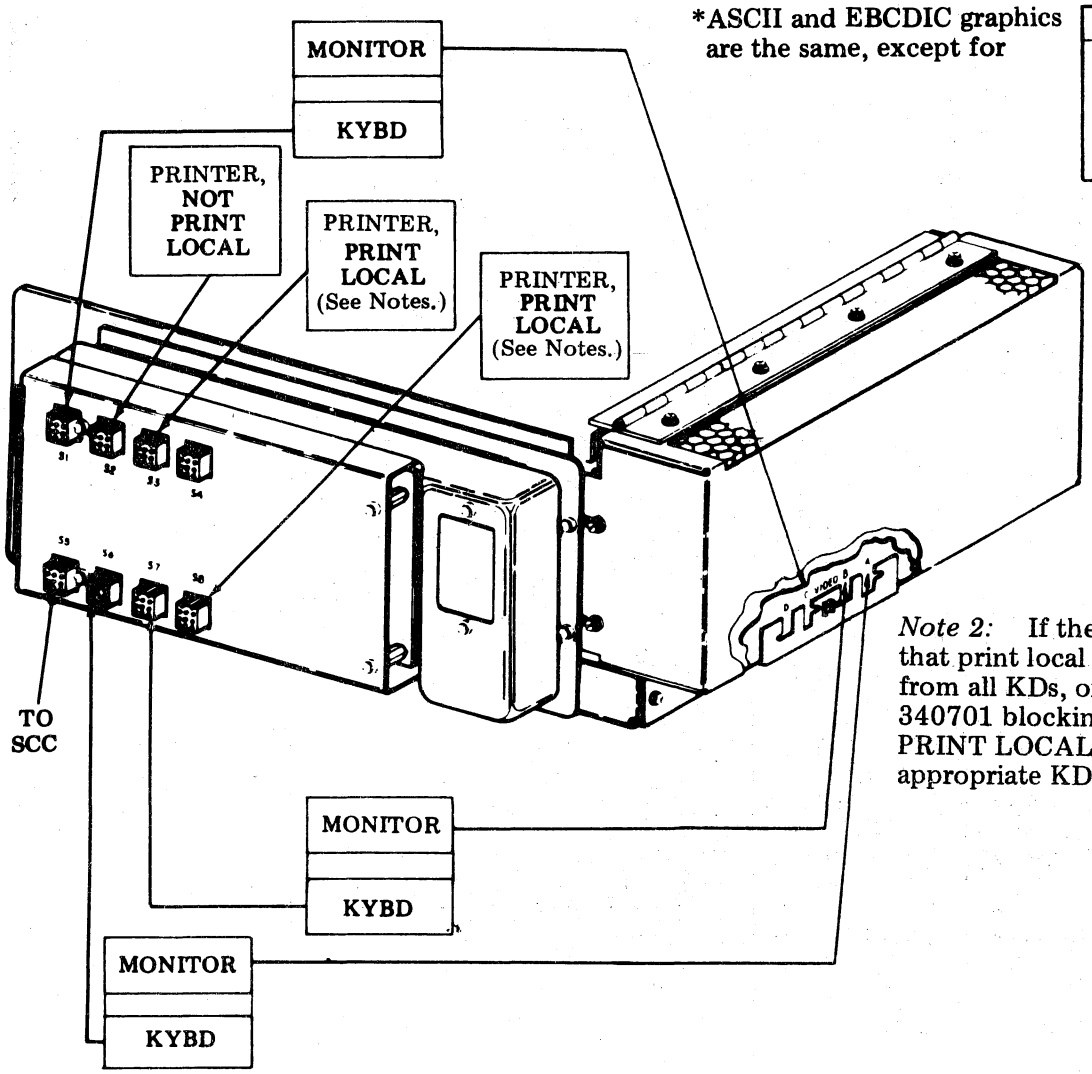
PRINTER OPTIONS			
PRINTER I/O SOCKET	S8	S3	S2
Friction Feed			
Tractor Feed 80 Col			
Tractor Feed 132 Col			
17. Specify Right Margin Specify Left Margin			
18.a. No Paper Feed Out			
18.b. Paper FO on "RM" Loss			
18.c. Paper FO on "RM" Loss and ETX			
19.d. 96 Character Set			
19.e. 64 Character Set			
19.f. Ext. ASCII Set			
20.a. Single LF			
20.b. Double LF			
21.a. Lower and Upper Case Print			
21.b. Lower Case Prints as Upper Case			
22.a. Lower Case Prints as Error			
22.b. Lower Case Prints as Upper Case			
39.a. Forms on			
39.b. Forms off			
48.a. Paper Out Not Gated W/FF			
48.b. Paper Out Gated W/FF			

DCC (EPROM Version) — Controller Arrangement Form
DCC: A ☐ B ☐ C ☐ D ☐ E ☐ F ☐
USOC: 4TV + 4TU + 3-(4TOX+ OR 4TPX+)
HANDLES: 3-KDs & Up To 3-PTRs (2 Print Local)

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
6	S5	STATION C/C (SCC)	DCC →	A	B	C	D	E	F
6 & 3	S6 & A	KEYBOARD DISPLAY	DEVICE ROW 1	Sp	F	<	K	Q	;
6 & 4	S7 & B	KEYBOARD DISPLAY	DEVICE ROW 2	A	G	(	L	R	^
6	S8	PRINTER (NOTES)	DEVICE ROW 3	B	H	+	M	]	—
7 & 5	S1 & C	KEYBOARD DISPLAY	DEVICE ROW 4	C	I	|	N	$	/
7	S2	PRINTER (N LOC)	DEVICE ROW 5	D	[	¢	O	*	S
7	S3	PRINTER (NOTES)	DEVICE ROW 6	E	.	J	P	)	T

*ASCII and EBCDIC graphics are the same, except for

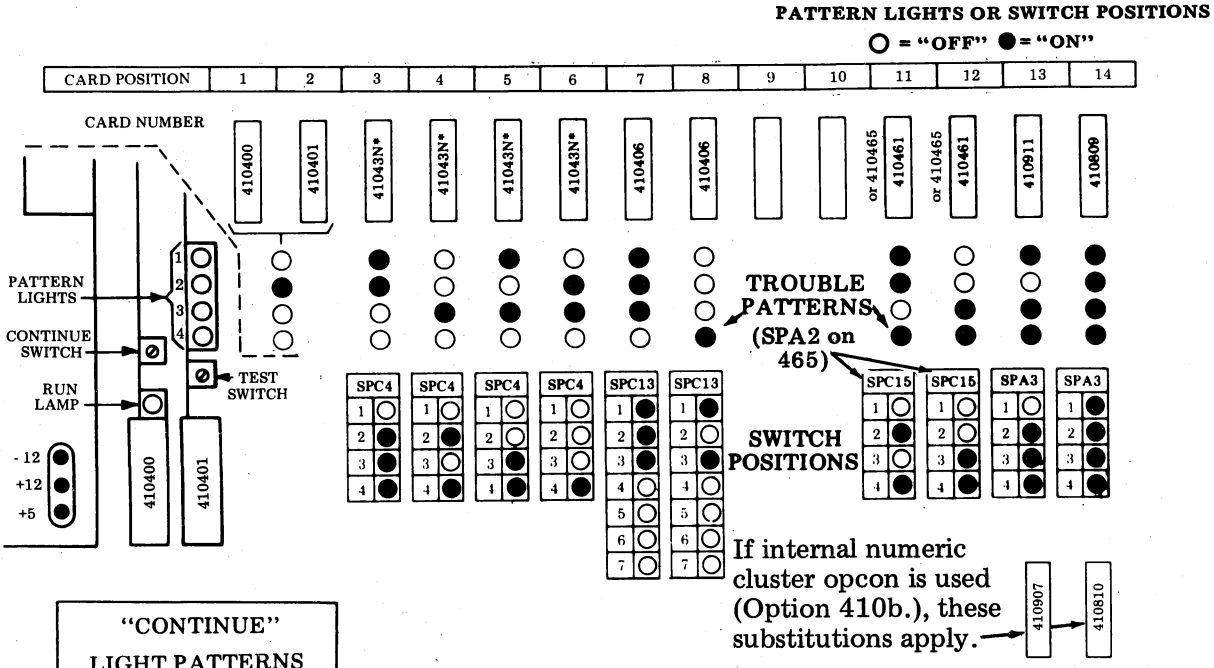
ASCII	EBCDIC
[	¢ (¬)**
|	| (!)
]	! (|)
^	¬ (¢)



Note 2: If the customer requires that print local operation be prohibited from all KDs, or just one KD, place a 340701 blocking keytop over the PRINT LOCAL position of the appropriate KD opcon(s).

**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (PROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TW + 4-(4TOX+ OR 4TPX+)
HANDLES: 4-KDs & Up To 2-PTRs (2 Print Local)



"CONTINUE" LIGHT PATTERNS
There are no "CONTINUE" LIGHT PATTERNS

*41043N — ANY D I/O CIRCUIT CARD

Note 1: Printer in I/O socket S4 is print local to KDs in I/O socket S2 & A and S3 & B. Printer in I/O socket S7 is print local to KDs in I/O socket S5 & C and S6 & D. If no printer in I/O socket S7, printer in I/O socket S4 will be print local to all KDs. See Note 2 on adjacent page.

See adjacent page for Connections and Device Addresses.

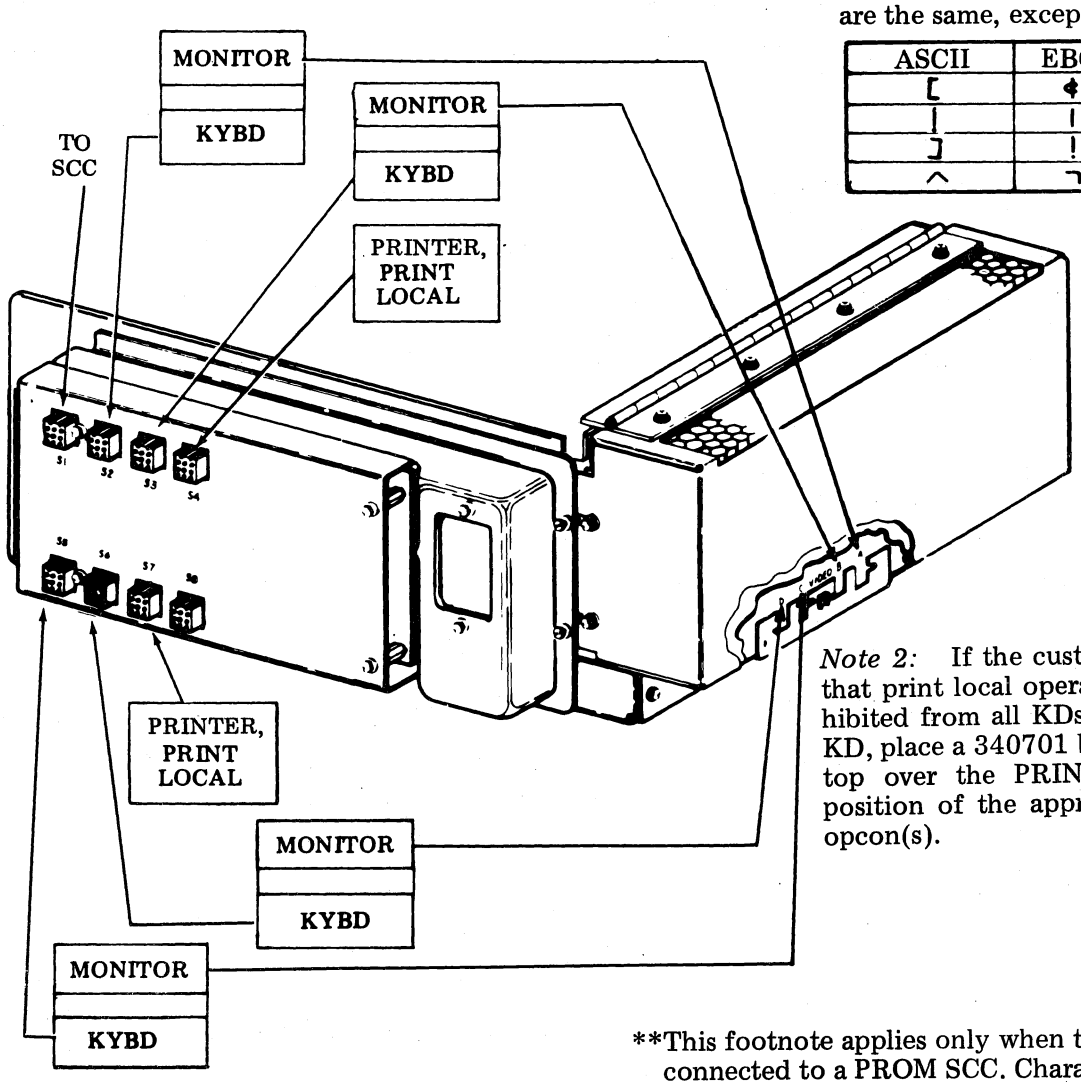
PRINTER OPTIONS		
PRINTER I/O SOCKET	S4	S7
Friction Feed		
Tractor Feed 80 Col		
Tractor Feed 132 Col		
17. Specify Right Margin		
Specify Left Margin		
18.a. No Paper Feed Out		
18.b. Paper FO on "RM" Loss		
18.c. Paper FO on "RM" Loss and ETX		
19.d. 96 Character Set		
19.e. 64 Character Set		
19.f. Ext. ASCII Set		
20.a. Single LF		
20.b. Double LF		
21.a. Lower and Upper Case Print		
21.b. Lower Case Prints as Upper Case		
22.a. Lower Case Prints as Error		
22.b. Lower Case Prints as Upper Case		
39.a. Forms on		
39.b. Forms off		
48.a. Paper Out Not Gated W/FF		
48.b. Paper Out Gated W/FF		

DCC (PROM Version) — Controller Arrangement Form
DCC: A ☐ B ☐ C ☐ D ☐ E ☐ F ☐
USOC: 4TV + 4TW + 4-(4TOX+ OR 4TPX+)
HANDLES: 4-KDs & Up To 2-PTRs (2 Print Local)

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
7	S1	STATION C/C (SCC')	DCC →	A	B	C	D	E	F
7 & 3	S2 & A	KEYBOARD/DISPLAY	DEVICE ROW 1	Sp	F	<	K	Q	;
7 & 4	S3 & B	KEYBOARD/DISPLAY	DEVICE ROW 2	A	G	(	L	R	^
7	S4	PRINTER (NOTES)	DEVICE ROW 3	B	H	+	M	]	—
8 & 5	S5 & C	KEYBOARD/DISPLAY	DEVICE ROW 4	C	I	!	N	$	/
8 & 6	S6 & D	KEYBOARD/DISPLAY	DEVICE ROW 5	D	[	&	O	*	S
8	S7	PRINTER (NOTES)	DEVICE ROW 6	E	.	J	P	)	T

*ASCII and EBCDIC graphics are the same, except for

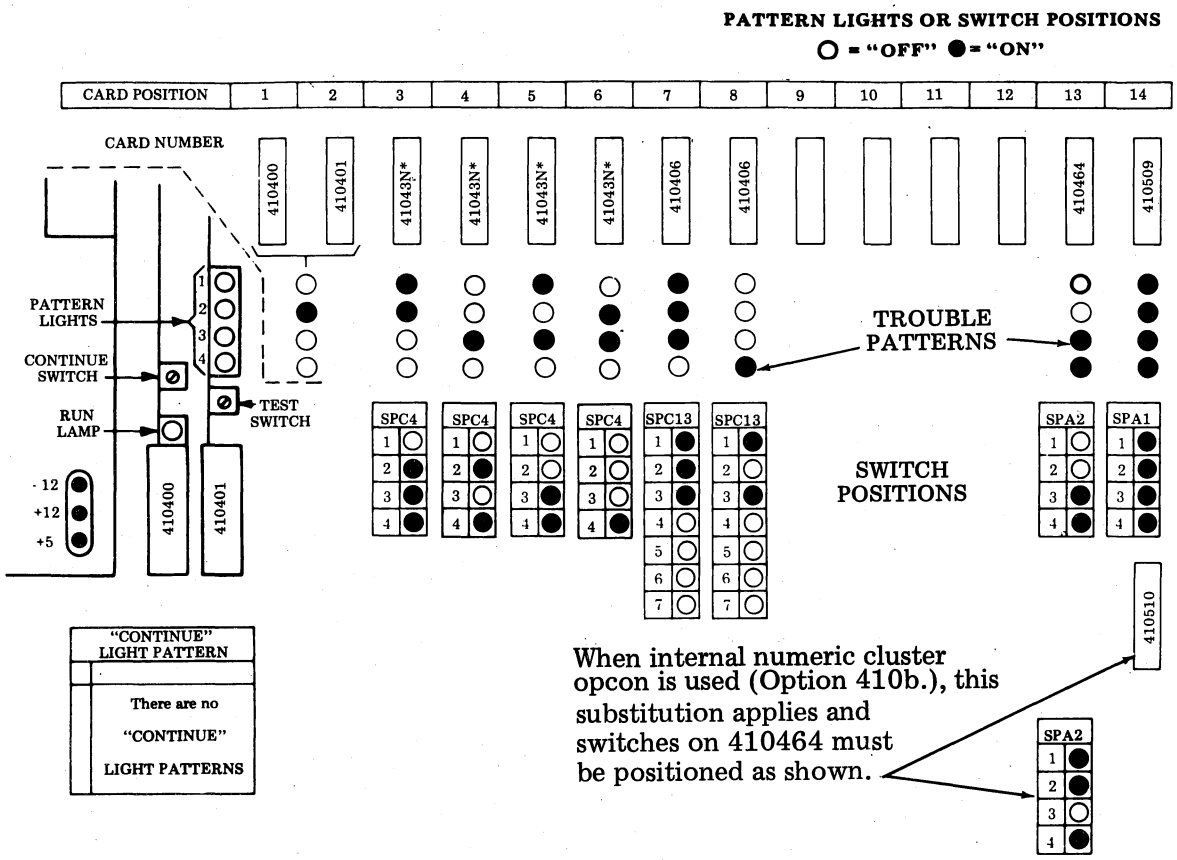
ASCII	EBCDIC
[	¢ (¬) **
]	! (!)
]	! (|)
^	¬ (¢)



Note 2: If the customer requires that print local operation be prohibited from all KDs, or just one KD, place a 340701 blocking keytop over the PRINT LOCAL position of the appropriate KD opcon(s).

**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TU + 4-(4TOX+ OR 4TPX+)
HANDLES: 4-KDs & Up To 2-PTRs (2 Print Local)



*41043N — ANY D I/O CIRCUIT CARD

Note 1: Printer in I/O socket S4 is print local to KDs in I/O socket S2 & A and S3 & B. Printer in I/O socket S7 is print local to KDs in I/O socket S5 & C and S6 & D. If no printer in I/O socket S7, printer in I/O socket S4 will be print local to all KDs. See Note 2 on adjacent page.

See adjacent page for Connections and Device Addresses.

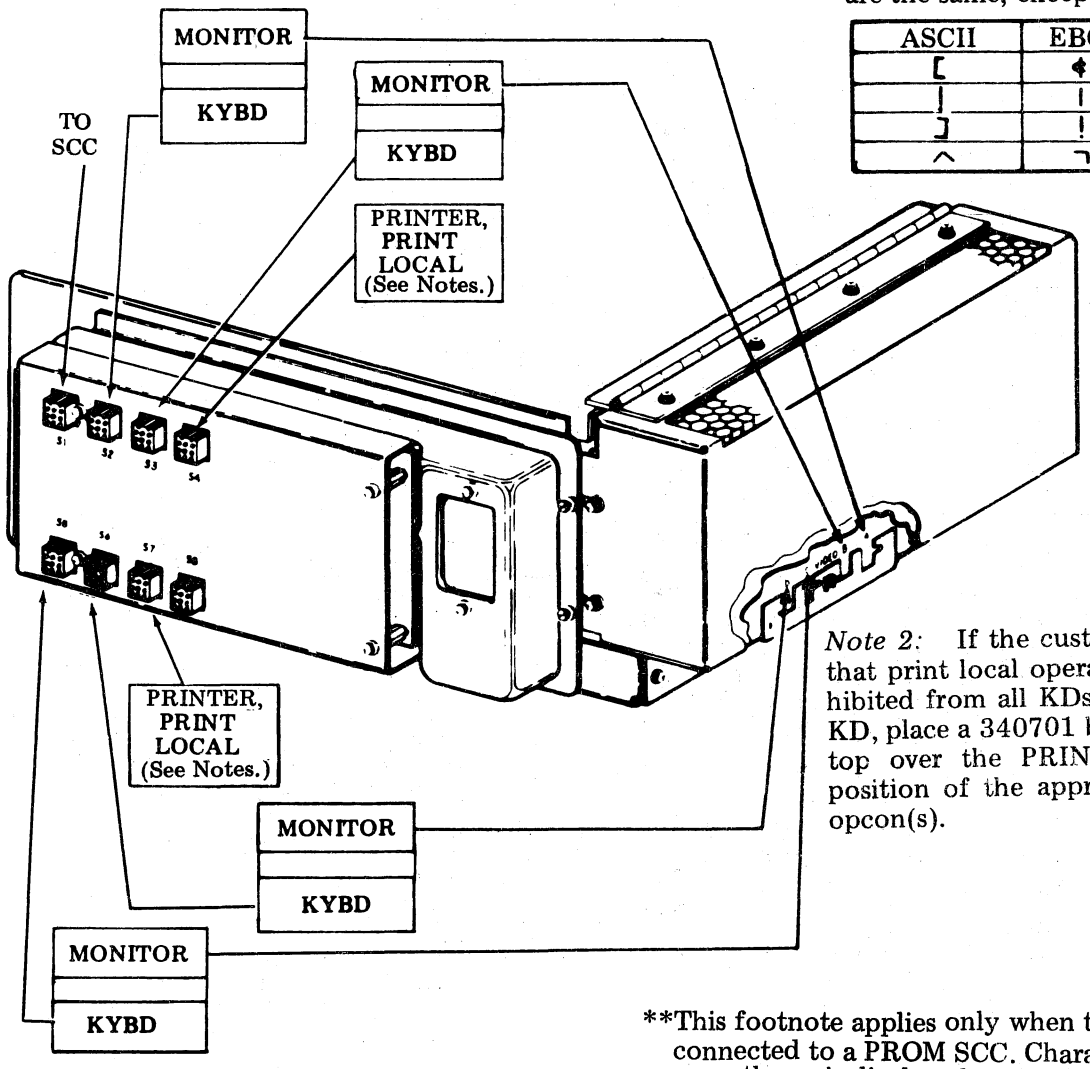
PRINTER OPTIONS		
PRINTER I/O SOCKET	S4	S7
Friction Feed		
Tractor Feed 80 Col		
Tractor Feed 132 Col		
17. Specify Right Margin Specify Left Margin		
18.a. No Paper Feed Out		
18.b. Paper FO on "RM" Loss		
18.c. Paper FO on "RM" Loss and ETX		
19.d. 96 Character Set		
19.e. 64 Character Set		
19.f. Ext. ASCII Set		
20.a. Single LF		
20.b. Double LF		
21.a. Lower and Upper Case Print		
21.b. Lower Case Prints as Upper Case		
22.a. Lower Case Prints as Error		
22.b. Lower Case Prints as Upper Case		
39.a. Forms on		
39.b. Forms off		
48.a. Paper Out Not Gated W/FF		
48.b. Paper Out Gated W/FF		

DCC (EPROM Version) — Controller Arrangement Form
DCC: A☐ B☐ C☐ D☐ E☐ F☐
USOC: 4TV + 4TU + 4-(4TOX+ OR 4TPX+)
HANDLES: 4-KDs & Up To 2-PTRs (2 Print Local)

CARD POSITION	I/O SOCKET	DEVICE	STATION WORK SHEET	DEVICE ADDRESS *					
7	S1	STATION C/C (SCC'	DCC→	A	B	C	D	E	F
7 & 3	S2 & A	KEYBOARD/DISPLAY	DEVICE ROW 1	Sp	F	<	K	Q	;
7 & 4	S3 & B	KEYBOARD/DISPLAY	DEVICE ROW 2	A	G	(	L	R	^
7	S4	PRINTER (NOTES)	DEVICE ROW 3	B	H	+	M	]	—
8 & 5	S5 & C	KEYBOARD/DISPLAY	DEVICE ROW 4	C	I	!	N	$	/
8 & 6	S6 & D	KEYBOARD/DISPLAY	DEVICE ROW 5	D	[	&	O	*	S
8	S7	PRINTER (NOTES)	DEVICE ROW 6	E	.	J	P	)	T

*ASCII and EBCDIC graphics are the same, except for

ASCII	EBCDIC
[	¢ (¬) **
]	! (!)
^	¬ (¢)

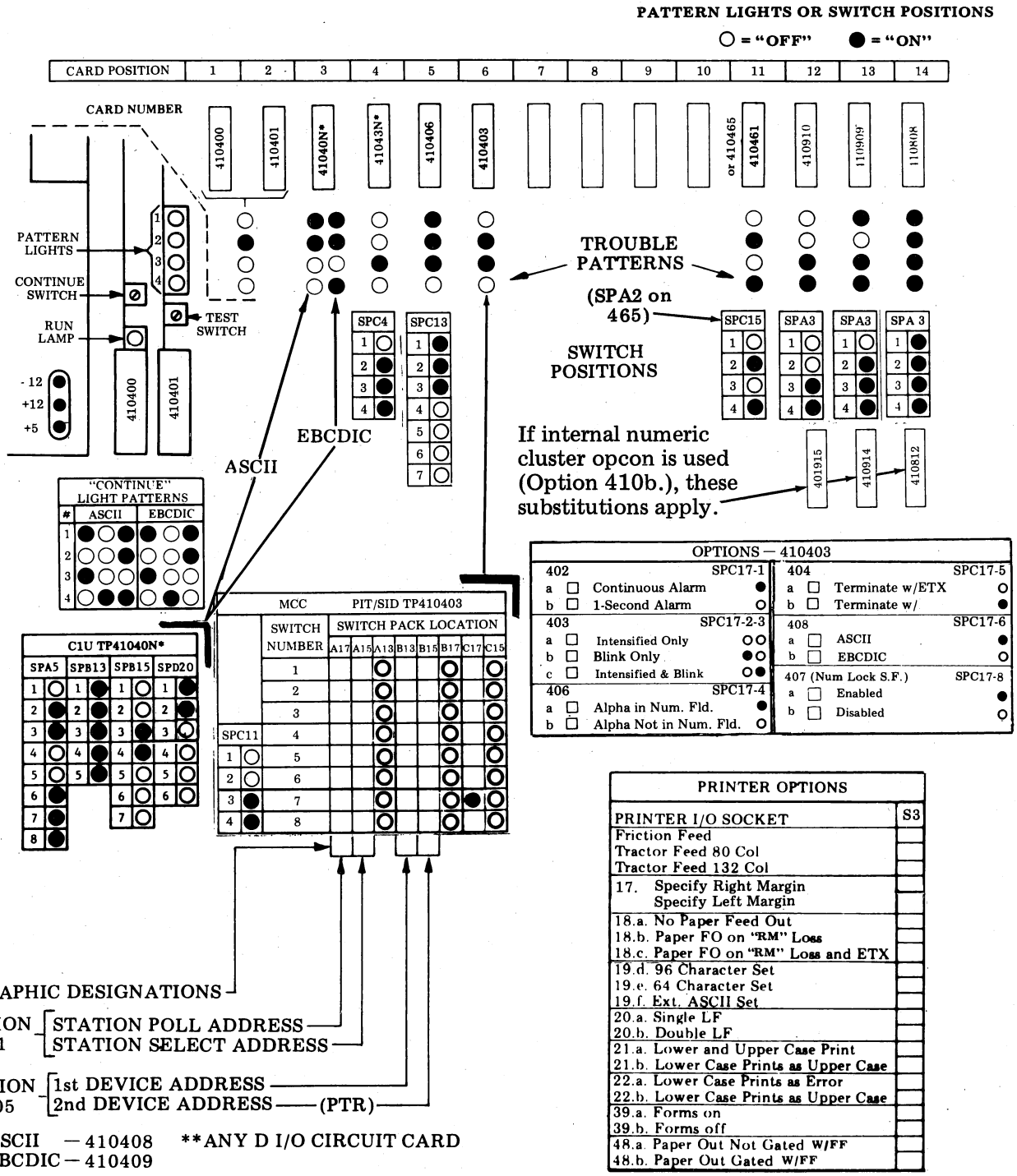


Note 2: If the customer requires that print local operation be prohibited from all KDs, or just one KD, place a 340701 blocking keytop over the PRINT LOCAL position of the appropriate KD opcon(s).

**This footnote applies only when this DCC is connected to a PROM SCC. Character in parentheses is displayed as the device address in local test when using EBCDIC line code.

C. MCC — Mini-Cluster Controller Arrangement Forms

MCC (PROM Version) — Controller Arrangement Form
LINE CODE: ASCII ☐ EBCDIC ☐
USOC: 4TX + (4TOX+ OR 4TPX+)
HANDLES: 1-KD & 1-PTR (Print Local)

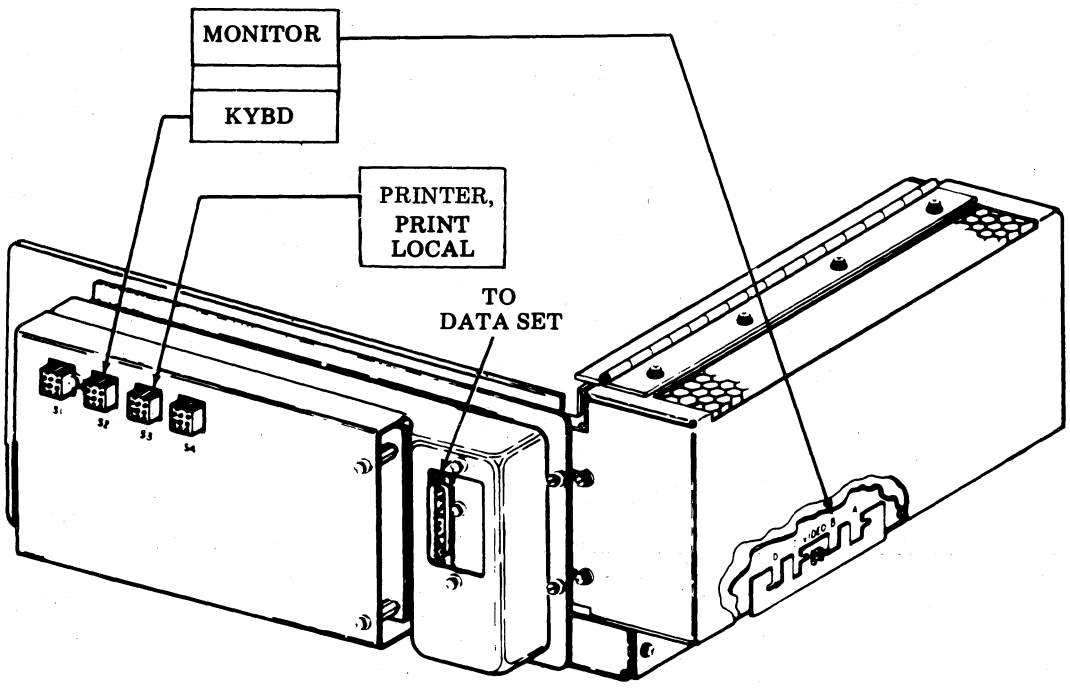


PRINTER OPTIONS	
PRINTER I/O SOCKET	S3
Friction Feed	
Tractor Feed 80 Col	
Tractor Feed 132 Col	
17. Specify Right Margin	
Specify Left Margin	
18.a. No Paper Feed Out	
18.b. Paper FO on "RM" Loss	
18.c. Paper FO on "RM" Loss and ETX	
19.d. 96 Character Set	
19.e. 64 Character Set	
19.f. Ext. ASCII Set	
20.a. Single LF	
20.b. Double LF	
21.a. Lower and Upper Case Print	
21.b. Lower Case Prints as Upper Case	
22.a. Lower Case Prints as Error	
22.b. Lower Case Prints as Upper Case	
39.a. Forms on	
39.b. Forms off	
48.a. Paper Out Not Gated W/FF	
48.b. Paper Out Gated W/FF	

See adjacent page for Connections.

MCC (PROM Version) — Controller Arrangement Form
USOC: 4TX + (4TOX+ OR 4TPX+)
HANDLES: 1-KD & 1-PTR (Print Local)

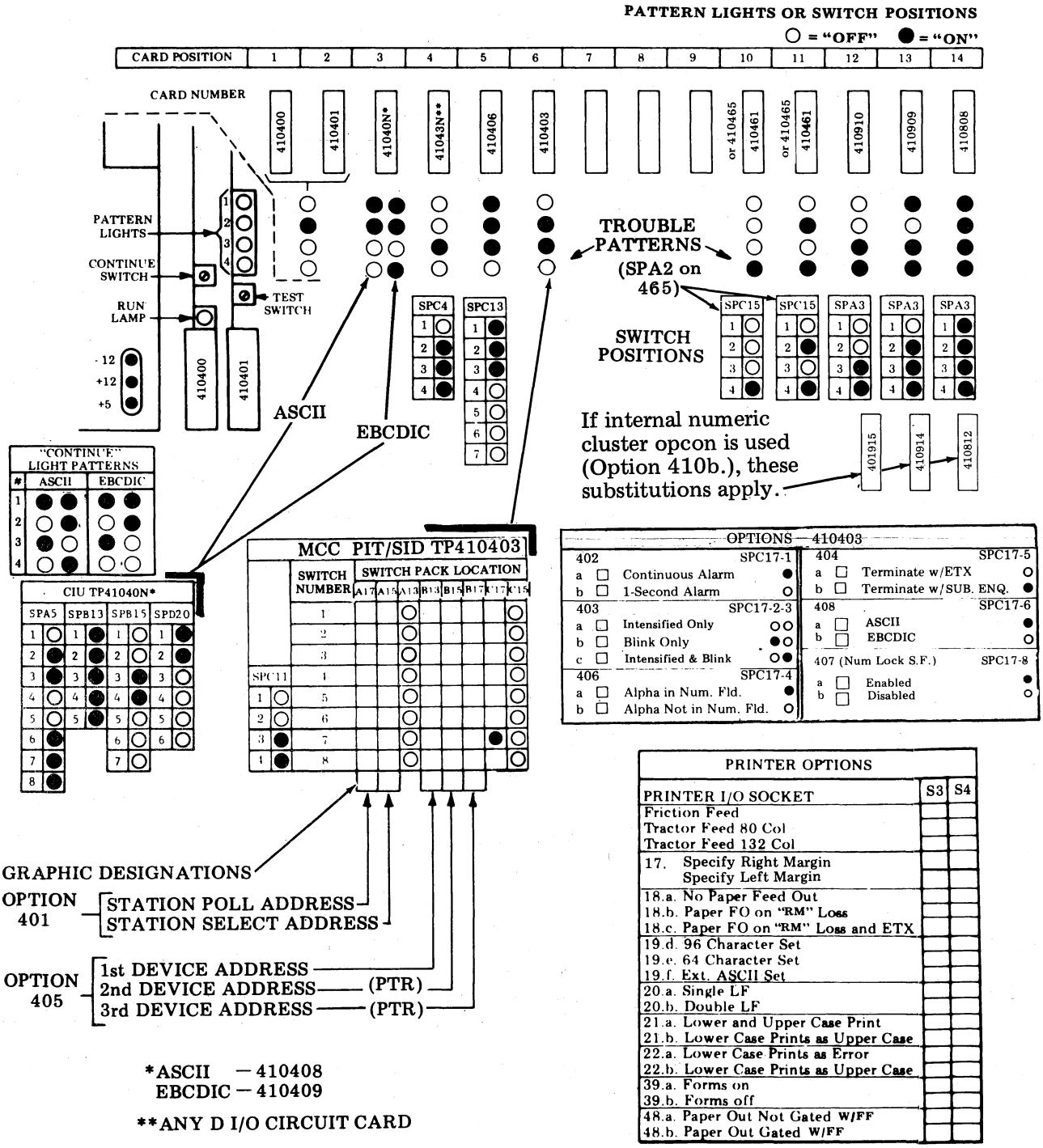
CARD POSITION	I/O SOCKET	STATION WORK SHEET
3	DS	DATA SET
4 & 5	S2-B	KEYBOARD/MON. (1)
5	S3	PRINTER (2)



Note 1: If the customer requires that print local operation be prohibited form the KD, place a 340701 over the PRINT LOCAL position of the KD opcon. Another method is to connect the printer to S4, option 410403 so that the third device address (B17) is the printer address, and turn all B15 switches off.

Note 2: If printer is not part of station, option all B15 switches off.

MCC (PROM Version) — Controller Arrangement Form
LINE CODE: ASCII ☐ EBCDIC ☐
USOC: 4TX + 4TY + (4TOX+ OR 4TPX+)
HANDLES: 1-KD & 2-PTRs (1 Print Local)



OPTIONS — 410403

402	SPC17-1	404	SPC17-5
a ☐ Continuous Alarm	●	a ☐ Terminate w/ETX	○
b ☐ 1-Second Alarm	○	b ☐ Terminate w/SUB. ENQ.	●
403	SPC17-2-3	408	SPC17-6
a ☐ Intensified Only	○○	a ☐ ASCII	●
b ☐ Blink Only	●○	b ☐ EBCDIC	○
c ☐ Intensified & Blink	○●	407 (Num Lock S.F.)	SPC17-8
406	SPC17-4	a ☐ Enabled	●
a ☐ Alpha in Num. Fld.	●	b ☐ Disabled	○
b ☐ Alpha Not in Num. Fld.	○		

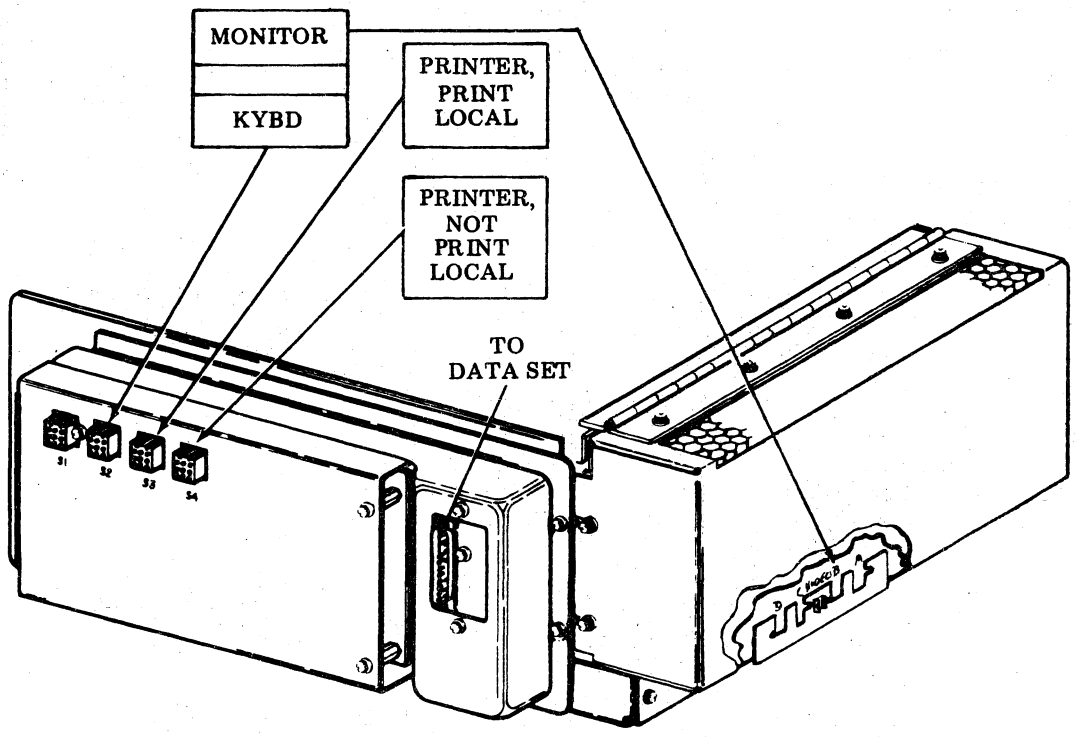
PRINTER OPTIONS

PRINTER I/O SOCKET	S3	S4
Friction Feed		
Tractor Feed 80 Col		
Tractor Feed 132 Col		
17. Specify Right Margin		
Specify Left Margin		
18.a. No Paper Feed Out		
18.b. Paper FO on "RM" Loss		
18.c. Paper FO on "RM" Loss and ETX		
19.d. 96 Character Set		
19.e. 64 Character Set		
19.f. Ext. ASCII Set		
20.a. Single LF		
20.b. Double LF		
21.a. Lower and Upper Case Print		
21.b. Lower Case Prints as Upper Case		
22.a. Lower Case Prints as Error		
22.b. Lower Case Prints as Upper Case		
39.a. Forms on		
39.b. Forms off		
48.a. Paper Out Not Gated W/FF		
48.b. Paper Out Gated W/FF		

See adjacent page for Connections.

MCC (PROM Version) — Controller Arrangement Form
USOC: 4TX + 4TY + (4TOX+ OR 4TPX+)
HANDLES: 1-KD & 2-PTRs (1 Print Local)

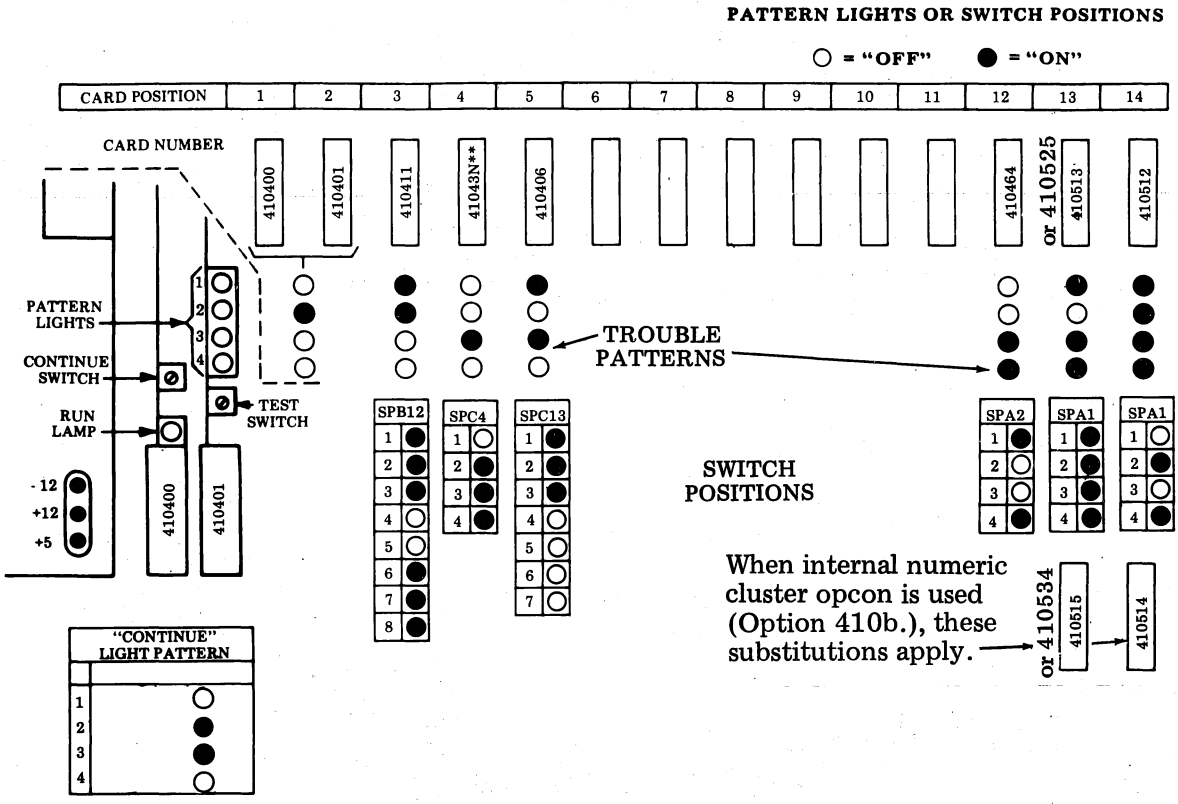
CARD POSITION	I/O SOCKET	DEVICE
3	DS	DATA SET
4 & 5	S2-B	KEYBOARD/MON. (1)
5	S3	PRINTER (2)
5	S4	PRINTER (3)



Note 1: If the customer requires that print local operation be prohibited from the KD, place a 340701 blocking keytop over the PRINT LOCAL position of the KD opcon.

Note 2: If only one printer is part of the order and the customer requires that print local operation be prohibited from the KD, another method can be used: connect printer to S4, option 410403 card for third device address (B17) to be the printer address, and turn all B15 switches off.

MCC (EPROM Version) — Controller Arrangement Form
LINE CODE: ASCII ☐ EBCDIC ☐
USOC: 4TX + XX10 (4TOX+ OR 4TPX+)
HANDLES: 1-KD & Up To 2-PTRs (1 Print Local)



MCC PIT/SID/CIU TP410411									
SWITCH NUMBER	SWITCH PACK LOCATION								
	A21	B1	B2	B3	B4	B5	B6	B7	B8
1	○			○					○
2	○			○					○
3	○			○					○
4	○			○					○
5	○			○					○
6	○			○					○
7	○			○					○
8	○			○					○
9	○								○

GRAPHIC DESIGNATIONS:
OPTION 401 STATION POLL ADDRESS
STATION SELECT ADDRESS
OPTION 405 1st DEVICE ADDRESS
2nd DEVICE ADDRESS (PTR)
3rd DEVICE ADDRESS (PTR)

**ANY D I/O CIRCUIT CARD

OPTIONS — 410411	
402	SPB7-1
a ☐ Continuous Alarm	●
b ☐ 1-Second Alarm	○
403	SPB7-2-3
a ☐ Intensified Only	○○
b ☐ Blink Only	●○
c ☐ Intensified & Blink	○●
406	SPB7-4
a ☐ Alpha in Num. Fld.	●
b ☐ Alpha Not in Num. Fld.	○
404	SPB7-5
a ☐ Terminate w/ETX	○
b ☐ Terminate w/SUB. ENQ.	●
408	SPB7-6
a ☐ ASCII	●
b ☐ EBCDIC	○
407 (Num Lock S.F.)	SPB7-8
a ☐ Enabled	●
b ☐ Disabled	○
414 Buffer Lock	SPB7-7
a ☐ Enabled	● ○
b ☐ Disabled (Requires 410525)	○ ●

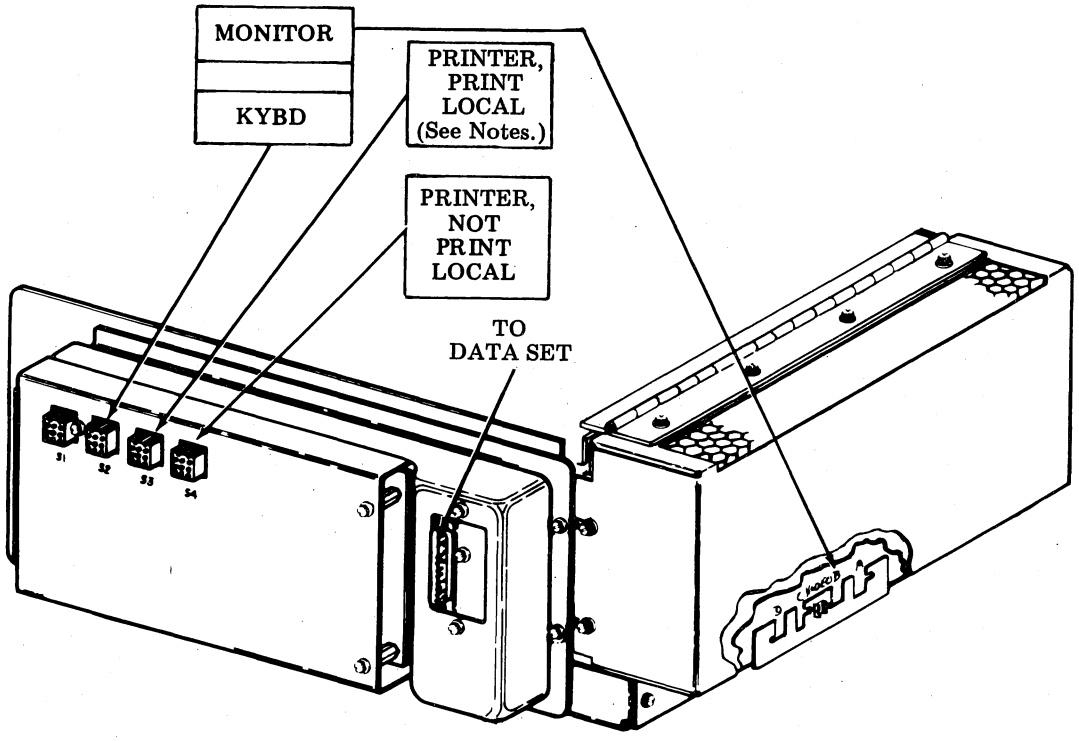
Applies for 410513 or 410515
Applies for 410525 or 410534

PRINTER OPTIONS		
PRINTER I/O SOCKET	S3	S4
Friction Feed		
Tractor Feed 80 Col		
Tractor Feed 132 Col		
17. Specify Right Margin		
Specify Left Margin		
18.a. No Paper Feed Out		
18.b. Paper FO on "RM" Loss		
18.c. Paper FO on "RM" Loss and ETX		
19.d. 96 Character Set		
19.e. 64 Character Set		
19.f. Ext. ASCII Set		
20.a. Single LF		
20.b. Double LF		
21.a. Lower and Upper Case Print		
21.b. Lower Case Prints as Upper Case		
22.a. Lower Case Prints as Error		
22.b. Lower Case Prints as Upper Case		
39.a. Forms on		
39.b. Forms off		
48.a. Paper Out Not Gated W/FF		
48.b. Paper Out Gated W/FF		

See adjacent page for Connections.

MCC (EPROM Version) — Controller Arrangement Form
USOC: 4TX + XX10 + (4TOX + OR 4TPX+)
HANDLES: 1-KD & Up To 2-PTRs (1 Print Local)

CARD POSITION	I/O SOCKET	DEVICE
3	DS	DATA SET
4 & 5	S2-B	KEYBOARD/MON. (1)
5	S3	PRINTER (2)
5	S4	PRINTER (3)

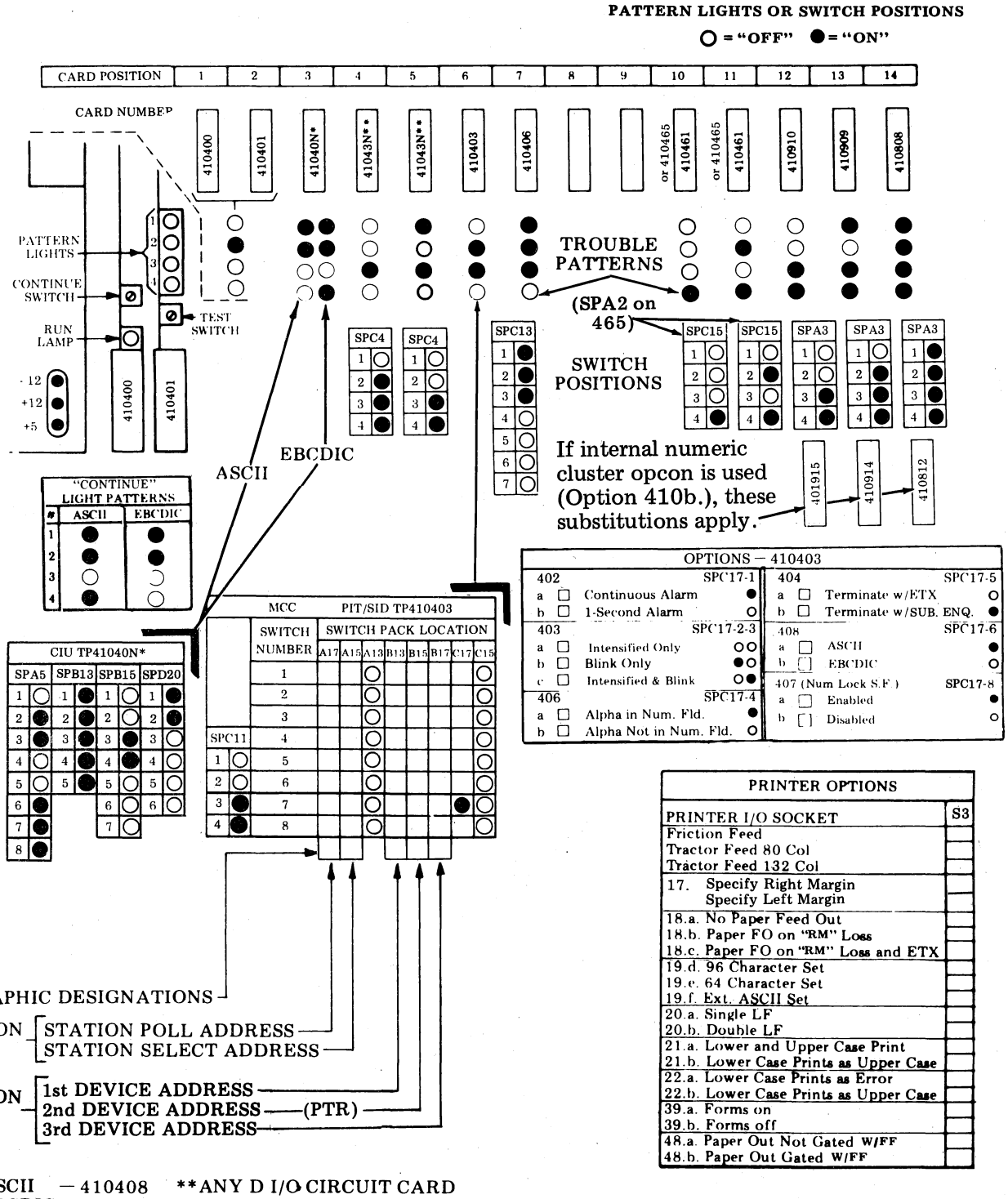


Note 1: If the customer requires that print local operation be prohibited from the KD, place a 340701 blocking keytop over the PRINT LOCAL position of the KD opcon.

Note 2: If only one printer is part of the order and the customer requires that print local operation be prohibited from the KD, another method can be used: connect printer to S4, option 410411 card for third device address (B6) to be the printer address, and turn all B5 switches off.

Note 3: If printers are not part of station, option B5 and B6 switches off on 410411 circuit card.

MCC (PROM Version) — Controller Arrangement Form
LINE CODE: ASCII ☐ EBCDIC ☐
USOC: 4TX + 4TY + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KDs & 1-PTR (Print Local)



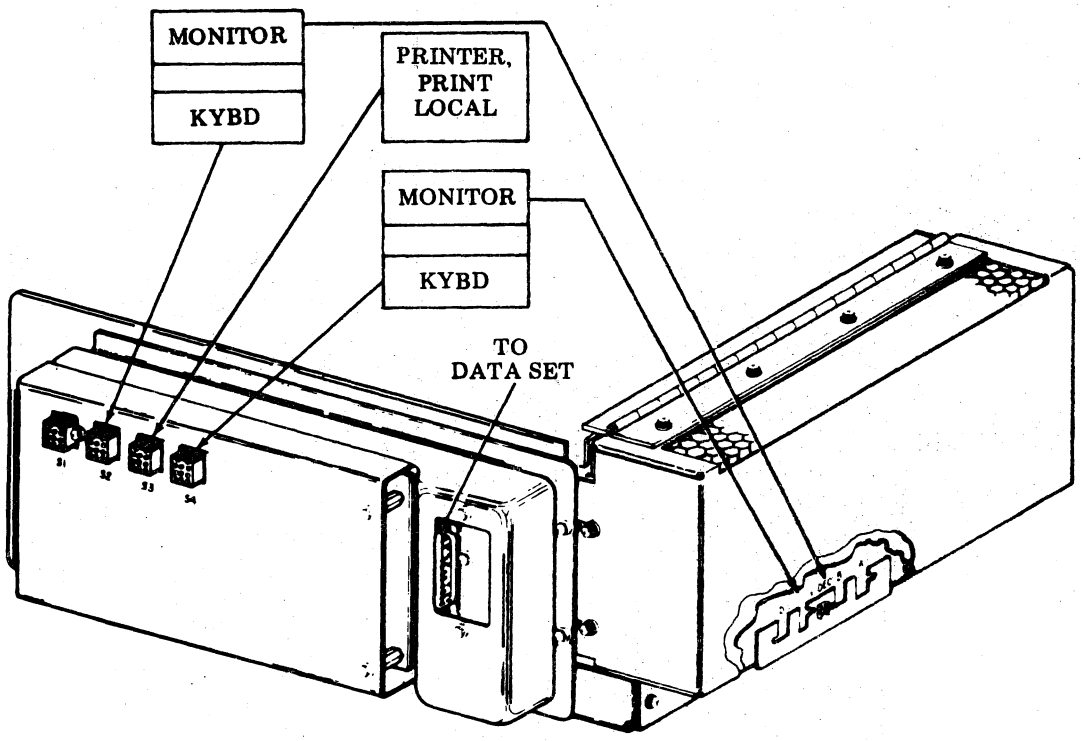
PRINTER OPTIONS	
PRINTER I/O SOCKET	S3
Friction Feed	
Tractor Feed 80 Col	
Tractor Feed 132 Col	
17. Specify Right Margin	
Specify Left Margin	
18.a. No Paper Feed Out	
18.b. Paper FO on "RM" Loss	
18.c. Paper FO on "RM" Loss and ETX	
19.d. 96 Character Set	
19.e. 64 Character Set	
19.f. Ext. ASCII Set	
20.a. Single LF	
20.b. Double LF	
21.a. Lower and Upper Case Print	
21.b. Lower Case Prints as Upper Case	
22.a. Lower Case Prints as Error	
22.b. Lower Case Prints as Upper Case	
39.a. Forms on	
39.b. Forms off	
48.a. Paper Out Not Gated W/FF	
48.b. Paper Out Gated W/FF	

*ASCII — 410408 **ANY D I/O CIRCUIT CARD
EBCDIC — 410409

See adjacent page for Connections.

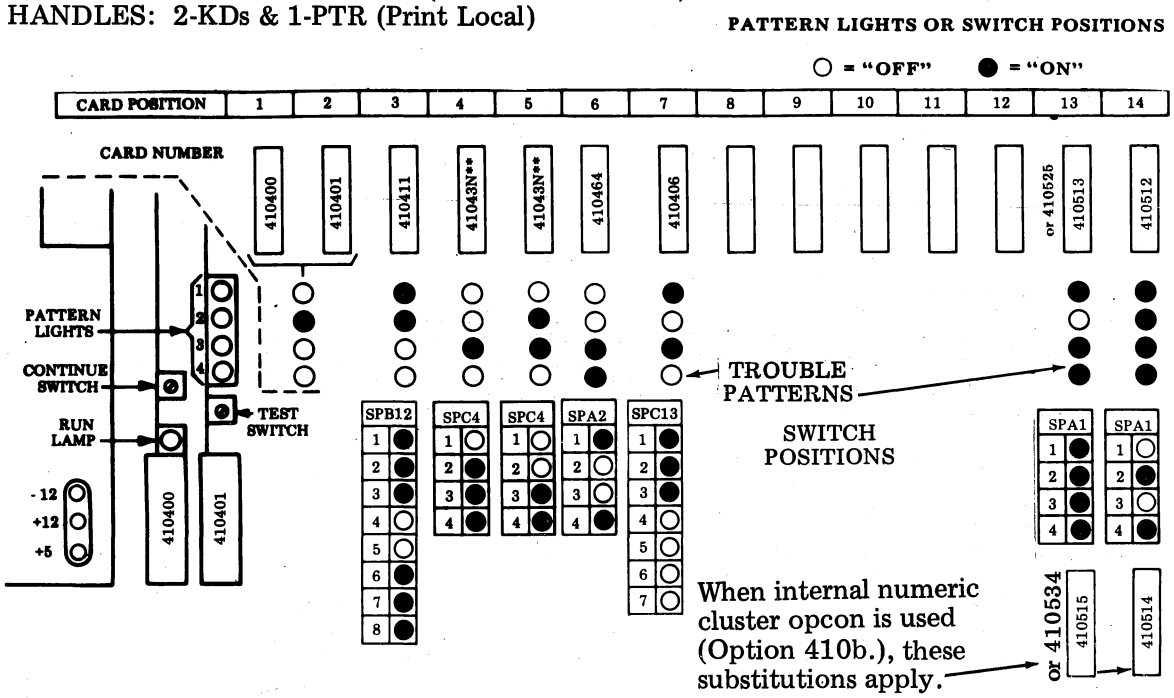
MCC (PROM Version) — Controller Arrangement Form
USOC: 4TX + 4TY + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KDs & 1-PTR (Print Local)

CARD POSITION	I/O SOCKET	DEVICE
3	DS	DATA SET
4 & 7	S2-B	KEYBOARD/MON. (1)
7	S3	PRINTER (2)
5 & 7	S4-C	KEYBOARD/MON. (3)



Note: If the customer requires that print local operation be prohibited from the KD(s), place 340701 blocking keytop over the PRINT LOCAL position of the KD opcon(s).

MCC (EPROM Version) — Controller Arrangement Form
LINE CODE: ASCII ☐ EBCDIC ☐
USOC: 4TX + 4TY + XX10 + 2-(4TOX+ OR 4TPX+)
HANDLES: 2-KDs & 1-PTR (Print Local)



"CONTINUE" LIGHT PATTERN
There are no continue patterns.

MCC	PIT/SID/SIU TP410411							
SWITCH NUMBER	SWITCH PACK LOCATION A21	B1	B2	B3	B4	B5	B6	B7	B8
1	○			○					○
2	○			○					○
3	○			○					○
4	○			○					○
5	○			○					○
6	○			○					○
7	○			○					○
8	○			○					○
9	○								○

OPTIONS — 410411	
402	SPB7-1
a ☐ Continuous Alarm	●
b ☐ 1-Second Alarm	○
403	SPB7-2-3
a ☐ Intensified Only	○ ○
b ☐ Blink Only	● ○
c ☐ Intensified & Blink	○ ●
406	SPB7-4
a ☐ Alpha in Num. Fld.	●
b ☐ Alpha Not in Num. Fld.	○
404	SPB7-5
a ☐ Terminate w/ETX	○
b ☐ Terminate w/SUB. ENQ.	●
408	SPB7-6
a ☐ ASCII	●
b ☐ EBCDIC	○
407 (Num Lock S.F.)	SPB7-8
a ☐ Enabled	●
b ☐ Disabled	○
414 Buffer Lock	SPB7-7
a ☐ Enabled	● ○
b ☐ Disabled (Requires 410525)	○ ●

PRINTER OPTIONS	
PRINTER I/O SOCKET	S3
Friction Feed	
Tractor Feed 80 Col	
Tractor Feed 132 Col	
17. Specify Right Margin / Specify Left Margin	
18.a. No Paper Feed Out	
18.b. Paper FO on "RM" Loss	
18.c. Paper FO on "RM" Loss and ETX	
19.d. 96 Character Set	
19.e. 64 Character Set	
19.f. Ext. ASCII Set	
20.a. Single LF	
20.b. Double LF	
21.a. Lower and Upper Case Print	
21.b. Lower Case Prints as Upper Case	
22.a. Lower Case Prints as Error	
22.b. Lower Case Prints as Upper Case	
39.a. Forms on	
39.b. Forms off	
48.a. Paper Out Not Gated W/FF	
48.b. Paper Out Gated W/FF	

GRAPHIC DESIGNATIONS:

OPTION 401 — STATION POLL ADDRESS / STATION SELECT ADDRESS

OPTION 405 — 1st DEVICE ADDRESS / 2nd DEVICE ADDRESS (PTR) / 3rd DEVICE ADDRESS

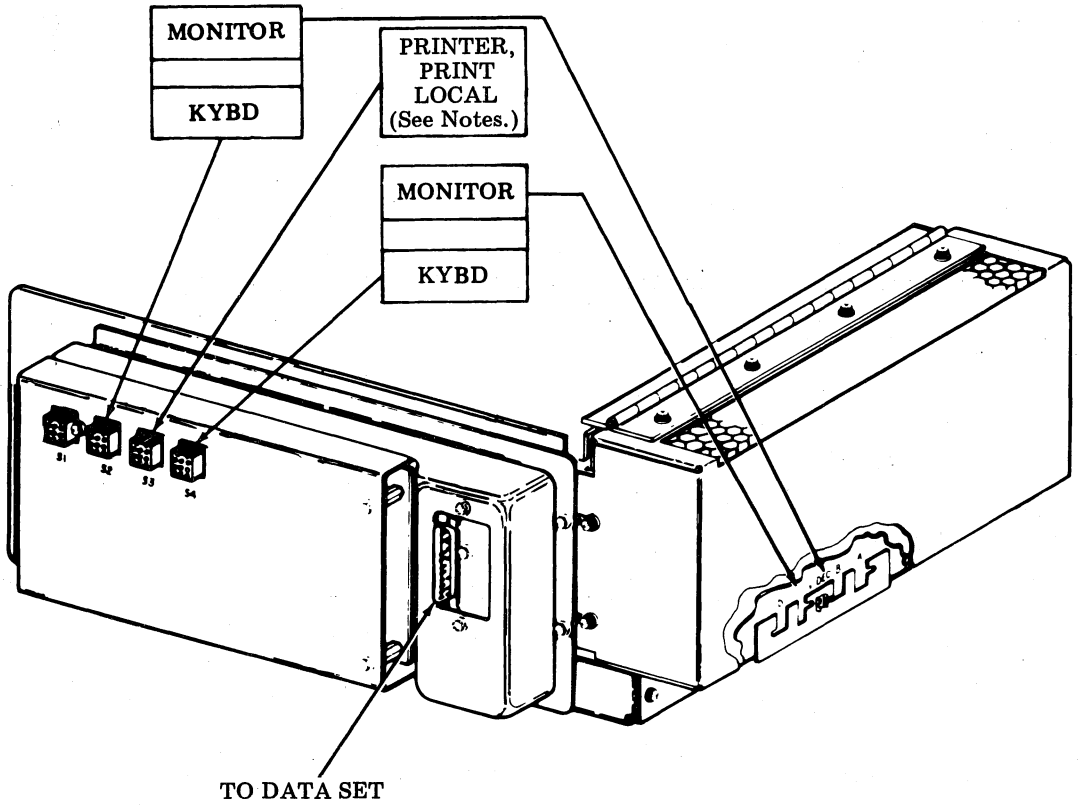
**ANY D I/O CIRCUIT CARD

Applies for 410513 or 410515
Applies for 410525 or 410534

See adjacent page for Connections.

MCC (EPROM Version) — Controller Arrangement Form
USOC: 4TX + 2-(4TOX + OR 4TPX+)
HANDLES: 2-KDs & 1-PTR (Print Local)

CARD POSITION	I/O SOCKET	DEVICE
3	DS	DATA SET
4 & 7	S2-B	KEYBOARD/MON. (1)
7	S3	PRINTER (2)
5 & 7	S4-C	KEYBOARD/MON. (3)



Note 1: If the customer requires that print local operation be prohibited from the KD(s), place 340701 blocking keytop over the PRINT LOCAL position of the KD opcon(s).

Note 2: If printer is not included as part of configuration, option B5 switches off on 410411 circuit card and option B6 switches for 2nd KD.

3. INSTALLATION

INSTALLATION OUTLINE

☐ (1) Review configuration worksheet and cable worksheet, (3.08).
☐ (2) Unpack equipment (3.01).
☐ (3) Placement of equipment, (3.09).
☐ (4) Installation of controllers, preliminary, (3.16).
☐ (5) Verify coding and options of 410403 or 410411 SCC/MCC, (3.18, 4.04, 4.05).

(a)	401	b ☐	(Station Number)				
(b)	402	a ☐		b ☐			
(c)	403	a ☐		b ☐		c ☐	
(d)	404	a ☐		b ☐			
(e)	405	b ☐		c ☐		d ☐	
		(Device Numbers)					
(f)	406	a ☐		b ☐			
(g)	407	a ☐		b ☐			
(h)	408	a ☐		b ☐			
(i)	409	a ☐		b ☐			
(j)	410	a ☐		b ☐			
(k)	414	a ☐		b ☐	(MCC only)		

☐ (6) Self-test controllers without cables, (3.19).
☐ (7) Installation of controllers, final, (3.27).
☐ (8) Installation of Attached KD, (3.44) or Free-Standing KD (3.47).
☐ (9) Install and option printers, (3.52 or 3.53, 4.07 through 4.15).
☐ (10) Install and option data set or data service unit, (4.16).
☐ (11) Perform operational checkout, refer to Section 582-200-501.

(a) Self-test controllers with cables,
(b) Component operational checks,
(c) Local test,
(d) Perform on-line tests.

☐ (12) Have customer try out station arrangement.
☐ (13) Complete the installation:

(a) Give How to Operate Manual(s) to customer.
(b) Clean up.
(c) Complete service order.

UNPACKING INSTRUCTIONS

3.01 Any special instructions necessary to open a box will be affixed to the top of the box. A sample instruction label is shown.

UNPACKING INSTRUCTIONS

1. TURN BOX BOTTOM SIDE UP. OPEN BOTTOM FLAPS AND FOLD OUTWARD.
2. RETURN BOX AND CONTENTS TO AN UPRIGHT POSITION, KEEPING BOTTOM FLAPS FOLDED OUTWARD.
3. REMOVE BOX AND PLACE ASIDE. REMOVE INNER PACKING DETAILS FROM AROUND PRODUCT.
4. REMOVE PLASTIC BAG AND ALL TAPE FROM PRODUCT.

28130PK 40CAB

3.02 If the box has no instruction label, use these procedures:

(a) With box in upright position, open top flaps and fold outward.

(b) Lift contents out of box. Remove inner packing details from around product.

(c) Remove plastic bag and all tape from product.

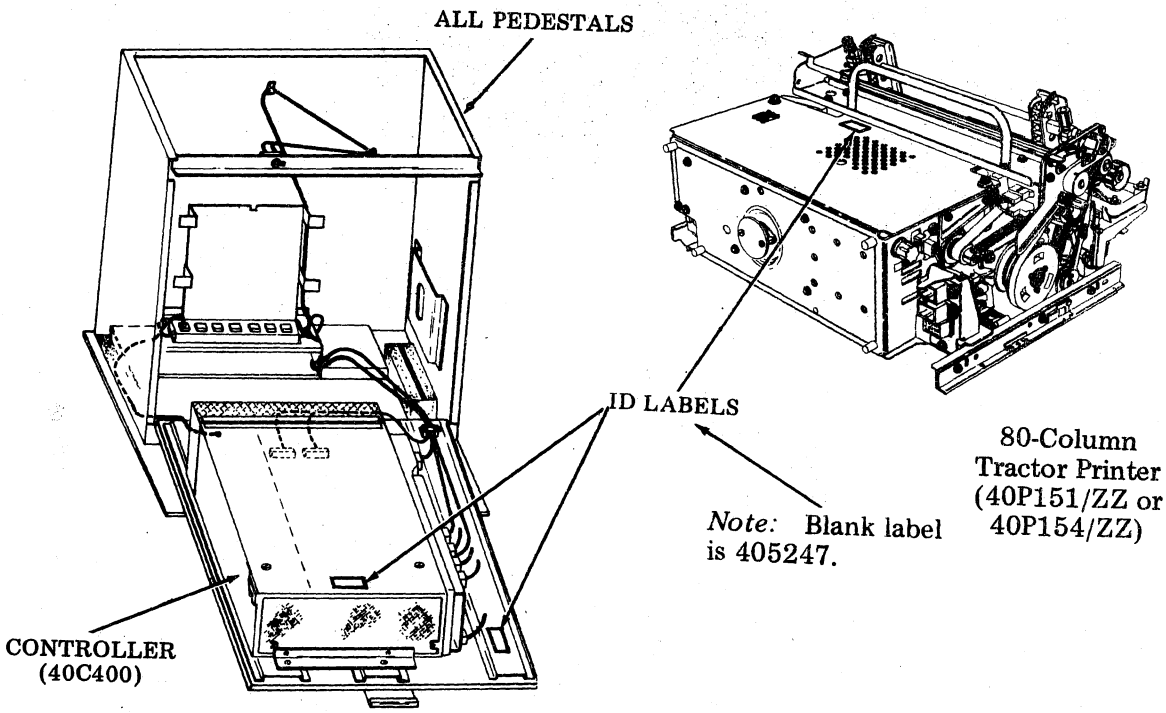
ID LABELS

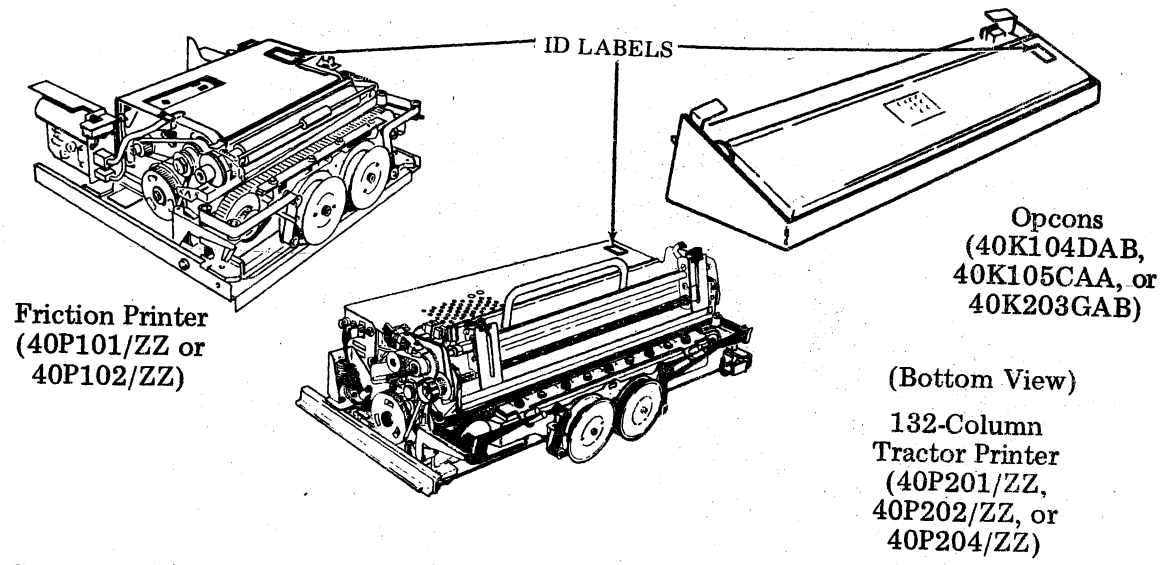
3.03 Besides the Unpacking Instructions labels, ID labels will be affixed to boxes which contain printers, opcons, pedestals, and controllers.

3.04 The ID label will identify the component in the box as to whether it is a controller or device.

3.05 The ID label on a box also includes the identified controller or device ID and associated component IDs. (See examples in 3.07.)

3.06 As given in 3.05, ID labels will be on some boxes, ID labels will also be located on the following components.

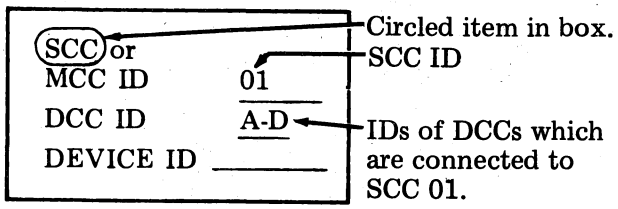




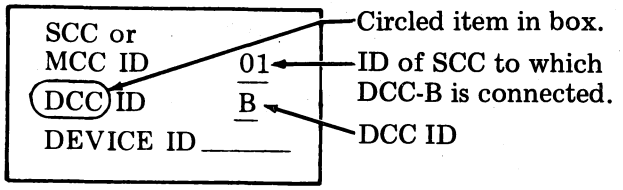
Note: See the following page for examples of information found on ID labels.

3.07 Examples of labels for boxes and components are as follows:

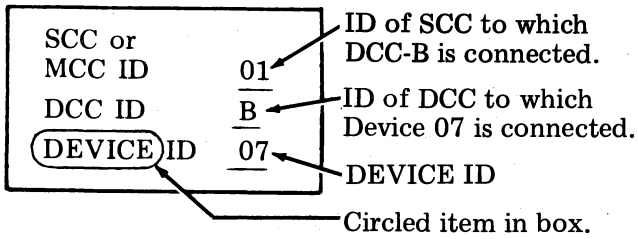
Example 1 — (ID label on box containing Station Cluster Controller 01)



Example 2 — (ID label on box containing Device Cluster Controller B)



Example 3 — (ID label on box containing Device 07)



STATION WORKSHEETS

3.08 Before proceeding any further, obtain the Station Configuration Worksheet and cable worksheet(s) (if present) from the box containing the SCC or MCC. The worksheet(s) are located in the document holder of the SCC or MCC pedestal. See 1.05 for purpose and 1.07 for samples of configuration worksheets. If a worksheet is not present or does not contain required information, obtain the service order (see 1.09).

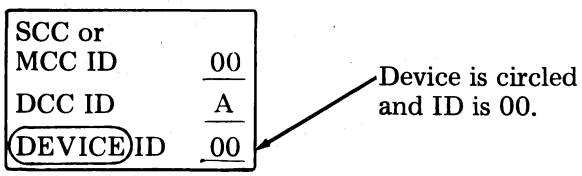
Note: If the SCC or MCC box does not include a pedestal, the Station Configuration Worksheet will be taped to the outside of the cover of the SCC or MCC.

STATION COMPONENT PLACEMENT

3.09 Referring to the Station Configuration Worksheet and the ID labels on the boxes, move the boxes to their exact location on the customer premises (ie, to the rooms and post numbers listed on the worksheet).

Note: A copy of the customer's floor plan (if obtainable) would aid in placing the equipment in the proper location.

3.10 Example of How to Determine Component Placement: Refer again to the Station Configuration Worksheet which includes Station A in Room 500 (1.09). Notice that device 00 has location post L1 written next to it. All that is needed now is to find the box which has the following ID label.



According to the worksheet, device 00 is a 4TOXG (attached KD). An ID label will be with the opcon portion of device 00. The cabinet portion of device 00 will most likely be packed in the same box as the opcon; however, if it is not, then any KD cabinet (40CAB251/ZZ + 405562 SOP) packed separately, can be used with the opcon, since all KD cabinets are identical. If a pedestal (4TM++) had been listed in the device 00 block, its box would also have an ID label with "device" circled and "00" entered as the device ID. Any monitor (40MN101) can be used with the KD since all monitors are identical.

Note: Devices 01 and 03 on the Station Configuration Worksheet are handled in the same manner as Device 00.

3.11 Once it has been determined where the boxes are to be located, they should be moved to their locations (ie, using the above example, device 00 should be moved to post L1, in Room 500, device 01 to post L2 in Room 500, etc).

3.12 If the following items are packed separately, it is not important that they be assigned to a particular location, since each of these items is identical to other items having the same part number (ie, all paper winders (40PWU101) are identical, all monitors (40MN101) are identical, etc).

40CAB251 — KD Cabinet
40CAB201 — Cabinet for Friction Feed Printer (40P101/ZZ)

40CAB351 — Cabinet For Tractor Feed Printer (80-Column)
40CAB353 — Cabinet For Tractor Feed Printer (132-Column)
40CAB371 — Cabinet For Friction Feed Printer (40P102/ZZ)
40MN101 — Monitor
40PWU101 — Paper Winder
40BSE101 — Monitor Base
40BSE201 — Opcon Base
401200 — Copyholder
405544 — Paper Rack
407060 — Paper Guide (80-Column)
407061 — Paper Guide (132-Column)
KS8621 — 8-1/2" Paper, Roll

3.13 During component placement, the following items should not be searched for since they will be assembled to or installed in their respective components.

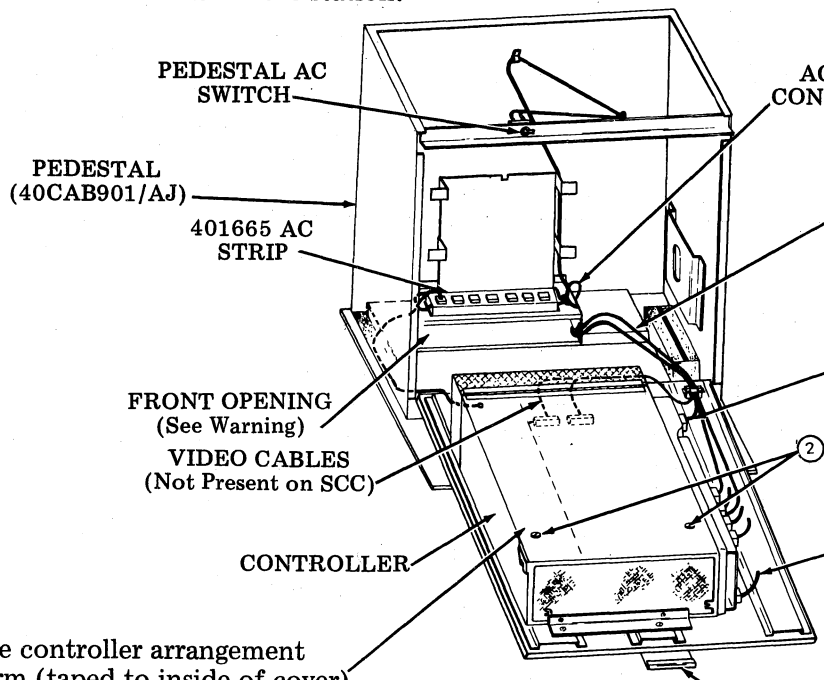
All WES coded parts.
All pedestal tops and feet assembled to pedestals.
All printer type carriers and form-out belts installed in printers.
All circuit cards installed in respective controllers.
All sets of parts assembled to respective cabinets.
All cables connected to respective controllers (except 405239 cable, which is found with the printer).

CONTROLLER INSTALLATION (PRELIMINARY)

3.14 Assuming that all boxes have been moved to their proper locations, the controller portions of the station should now be unpacked. The boxes containing the controllers will be identified by their ID labels. Controllers will already be pedestal mounted and all cables terminating at the controller will be connected. If controller is to be rack mounted, see 3.17.

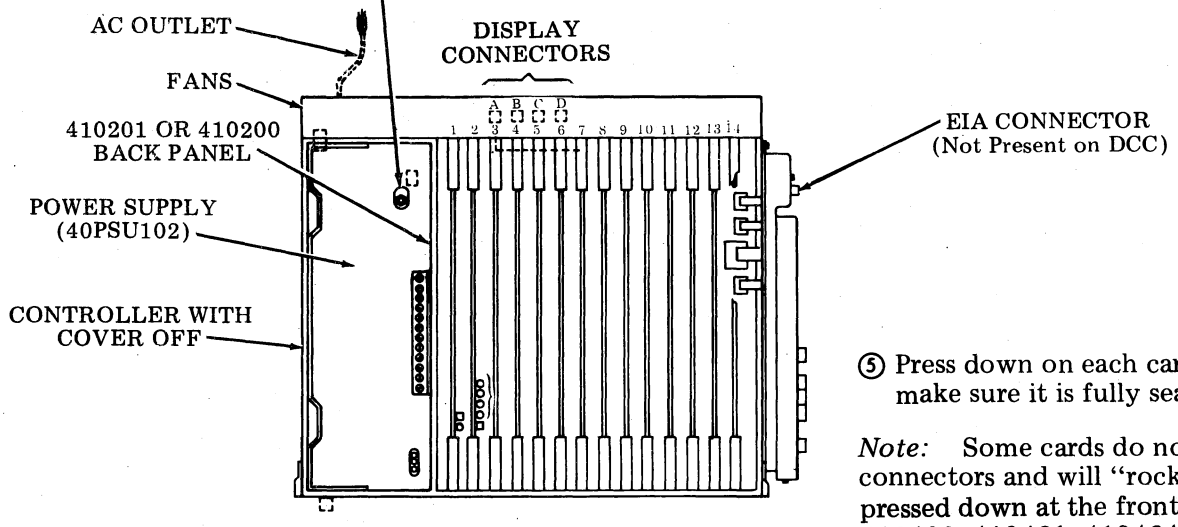
3.15 Whether the controller is pedestal or rack mounted, perform the steps outlined in Paragraph 3.16.

3.16 After installing the controllers at their proper location, the following should be performed for each controller of the station.



*Printer and/or opcon cables not present on SCC. Controller SSI cables not present on MCC.

④ The above warning applies. Check to see that circuit breaker is in the on position (down, white band not showing).



⑤ Press down on each card to make sure it is fully seated.

Note: Some cards do not have rear connectors and will "rock" when pressed down at the front. They are: 410403, 410461, 410464, 410465 and all the 4108NN, 4109NN and 4105NN series cards.

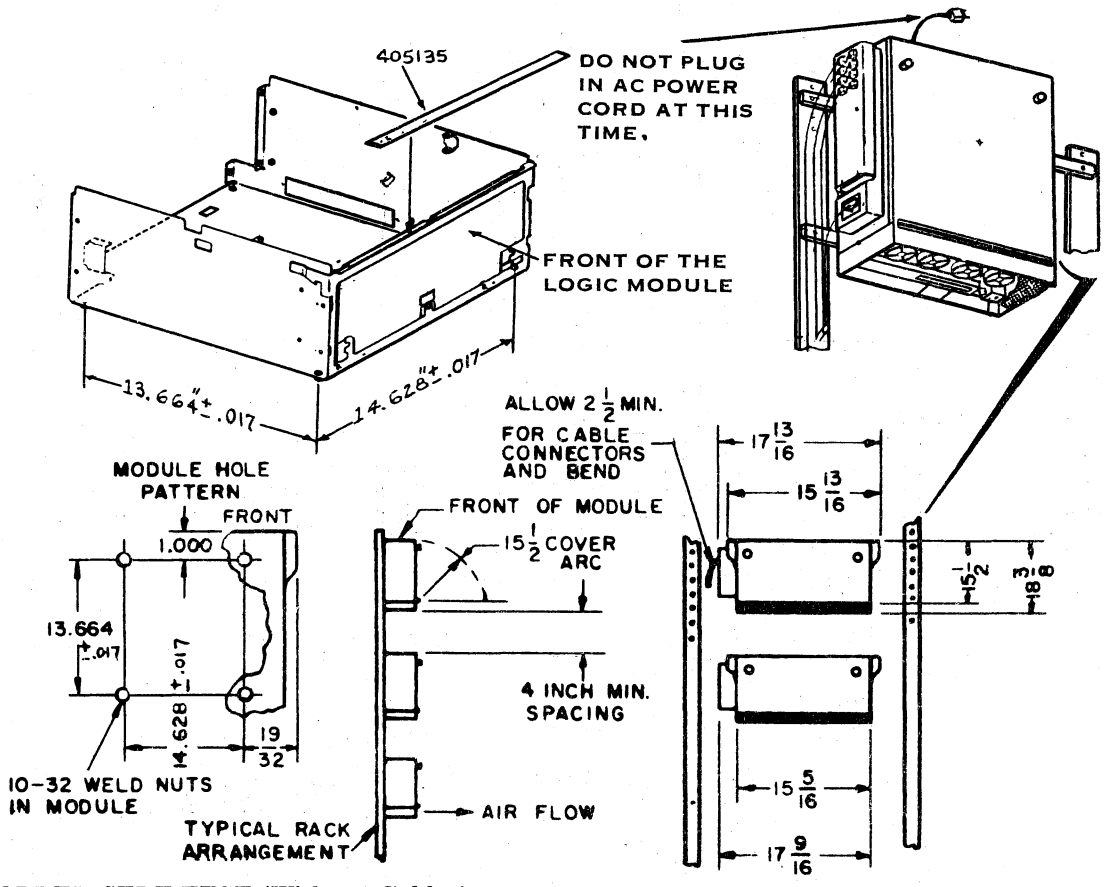
3.17 Installation of controller on a relay rack:

(a) Mounting brackets and hardware to be furnished by customer. Since 10-32 screws are 3/16 inch diameter, holes in rack to mount module should be at least 1/4 inch diameter.

(b) Mount the logic module to relay rack bracketry using 10-32 screws. Mounting nuts are located in each corner of the logic module. To prevent an interference between the tip of the mounting screw and the back panel, the distance from the tip of the screw to the outside surface of the module shall not exceed 0.216 inch.

(c) Install the 405135 card slot identification label to the unpainted formed surface at the front of the module so that XZ1 lines up with the first card slot next to the power supply.

(d) Perform steps outlined in 3.16.



CONTROLLER SELF-TEST (Without Cables)

3.18 Enabling controller options:

(a) Controller options are enabled as received from the Service Center per the service order request and are recorded on the controller arrangement form taped to the inside of each controller cover. Samples of the controller arrangement forms are found on Pages 20 through 65 of this section.

(b) Check the controller arrangement form on the SCC or MCC controller to determine which controller options should be enabled. If any options are to be changed or checked, refer to paragraphs 4.04 through 4.06 for switch programming.

(c) If any options are changed, the controller arrangement form should be changed. If necessary, obtain blank copy of the corresponding form shown in 2. CONTROLLER ARRANGEMENTS.

(d) If any station or device numbers (IDs) are changed, it will be necessary to remark the associated ID labels.

3.19 Perform Steps 1 through 3 of controller self test in Section 582-200-501.

CABLE ID TAGS AND CABLE ROUTING

A. Cable ID Tags

3.20 Each end of every cable in the station, with the exception of the ac cables and data set cable, will have an ID tag attached to aid in determining where the cables are to be connected.

3.21 The ID tags are color coded so that a specific colored tag next to a connector defines where that connector is to be connected. The following color codes are used.

TAG	ID TAG COLOR	CONNECTED TO
405243	Yellow	SCC
405209	White	DCC or MCC
405242	Orange	DEVICES (KD and printers)

3.22 The information entered on the ID tags is defined as follows.

Example 1: (SCC)

S201-DCB ←—— Yellow ID Tag

The information on the left side of the hyphen (-) always shows where the connector (next to ID tag) is to be connected. The information on the right side of the hyphen shows what component is connected to the other end of the cable. Using Example 1, we find that the connector is to be plugged into S2 socket of SCC 01 and the other end of the cable is connected to DCC-B.

Example 2: (DCC or MCC)

S1B-SC01 ←—— White ID Tag

In Example 2, the connector would be plugged into S1 socket of DCC-B and the other end of the cable would be connected to SCC-01.

Note: If two 10-foot cables are to be connected between a SCC and DCC, both cables will be tagged at each end. The cable assembled to the SCC will have yellow ID tags at both ends with identical information on each tag, while the tags on the cable assembled to the DCC will be white with identical information.

Example 3: (DEVICE)

D03-MC02 ←—— Orange ID Tag

In Example 3, the connector would be plugged into device 03 and the other end of the cable would be connected to MCC-02.

Note: If two 10-foot cables are to be connected between the printer and DCC or MCC, the same information (Example 2, Note) would apply except that the ID tags at the printer side would be orange, while those at the DCC or MCC would be white.

B. Cable Routing

3.23 The two types of cables that are used to interconnect devices and controllers (or an SCC to a DCC) can be called the single assembly type (example: 405306) and the stub cable type (example: 405237/CABLE†/405239).

Single Assembly Cables

3.24 If one of the following cables must be run through a cable run without space for pulling the cable connectors, extract the terminals at the indicated end with a 402840 terminal extractor. Wrap the terminals with tape. Pull the cable in the indicated direction. Unwrap and install the extracted terminals in the connector using needle-nose pliers. Connection details are given later in Part 3. INSTALLATION.

Wire color designations are given in Section 582-200-401.

PART NUMBER(S)	CABLE USE	EXTRACT TERMINALS AT	PULL TOWARD
405311 and 405312	SCC/DCC	DCC End	DCC End
405301 Through 405304, 405139 and 405140	DCC or MCC/KD	KD End	KD End
405306 Through 405309	DCC or MCC/Printer	Printer End	Printer End

Stub Cable Assemblies

3.25 A set of stub cables, termination boxes and a length of cable† can be used to provide cabling beyond the lengths available as single cable assemblies. Only the cable† may be routed through a cable run; do not prepare the ends of the cable† for connections until after the cable has been routed. Connection details are given later in Part 3. INSTALLATION.

3.26 The station configuration worksheet (and cable worksheet, if required) should provide routing and cable identification information for the installation. The length of cable† should be determined from the station configuration worksheet, however, the cable can be unwound directly from a spool.

CONTROLLER INSTALLATION (FINAL)

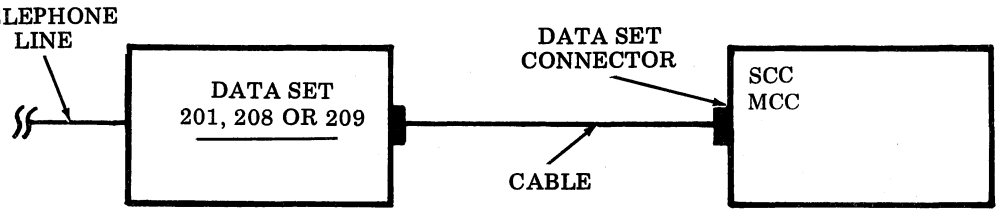
3.27 Connect the cables to each controller (SCC, DCC, or MCC) in the station using the information on the ID tags.

SCC (or MCC) to Data Set

3.28 One of four cable lengths may be used between the controller and the data set:

CABLE:

	408065	7 feet
(WES7J)	408066	12 feet
(WES7K)	408067	25 feet
(WES7L)	408068	50 feet



(See Notes on next page.)

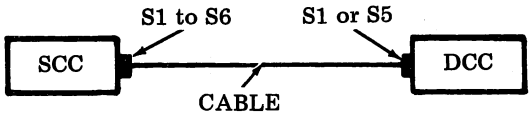
†Shielded 4-conductor cable (2 twisted pair) (see 3.31).

Note: 341896 data set cable (5 foot) may be part of the station.

Controller to Controller

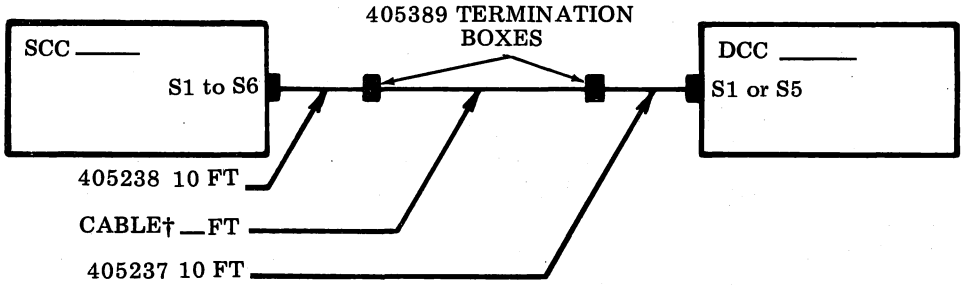
3.29 One of two standard cable lengths may be used between controllers:

CABLE	
405311	25 Feet
405312	50 Feet



Note: Determine connections at controller from controller arrangement form (or cable tags).

3.30 For cable (SSI) lengths between controllers of up to 2000 feet, a specially made cable† may be specified. See paragraphs 3.31 and 3.39 or 3.42 and diagram below.



3.31 *Caution — The use of cable other than the following specified or equivalent cable may degrade system performance: shielded cable from 406318 (500 feet), 406319 (2000 feet), or 406320 (5000 feet). This shielded cable consists of two twisted pairs of No. 24 AWG conductors covered with thin film plastic braided shielding and the outer jacket. Pair No. 1 conists of twisted red and yellow wires while pair No. 2 consists of twisted orange and green wires. Shielded cable insures the quality of 40/4 system performance by minimizing the effects of radiated and conducted noise.*

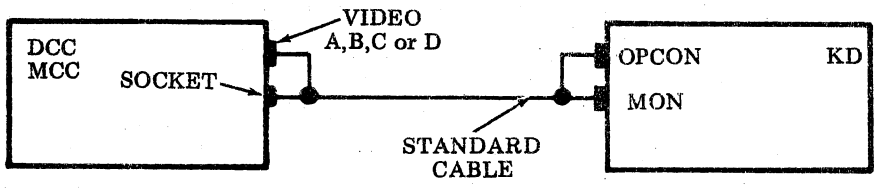
3.32 When a WE44A connector block is substituted for a 405389 termination box, spade terminals must be installed on all cable connectors.

†Shielded 4-conductor cable (2 twisted pair) (see paragraph 3.31).

Controller to KD

3.33 One of six standard cable lengths may be used between the controller and a KD (cable installation at controller, see 3.35; at the KD, see 3.44 or 3.47).

CABLE:	
405301	6 feet
405302	12 feet
405303	25 feet
405304	50 feet
405139	75 feet
405140	100 feet



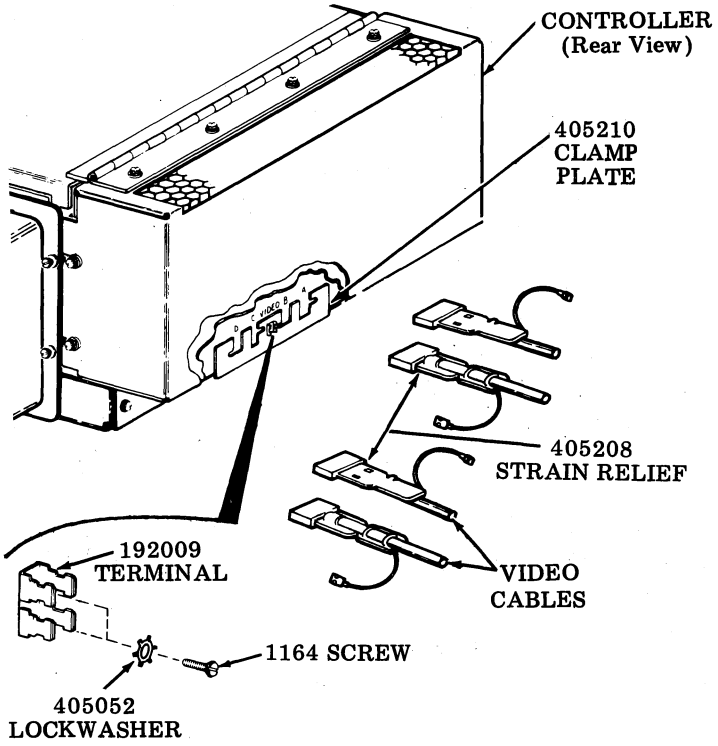
3.34 For cable lengths of 100 to 600 feet, a specially made cable and use of a KDA (Keyboard-Display Amplifier) is required. Refer to Section 582-200-210.

Note: For cable lengths less than 100 feet, a KDA can be used to allow the use of the smaller diameter TKS107† cable in restricted cable runs or to allow DCC(s) to be positioned next to an SCC. The function of the KDA for these short runs is to provide the required dc voltages for the KD (the TKS107† cable does not include dc voltage leads).

†TKS107 can be ordered under COM code 104873419.

Controller to KD

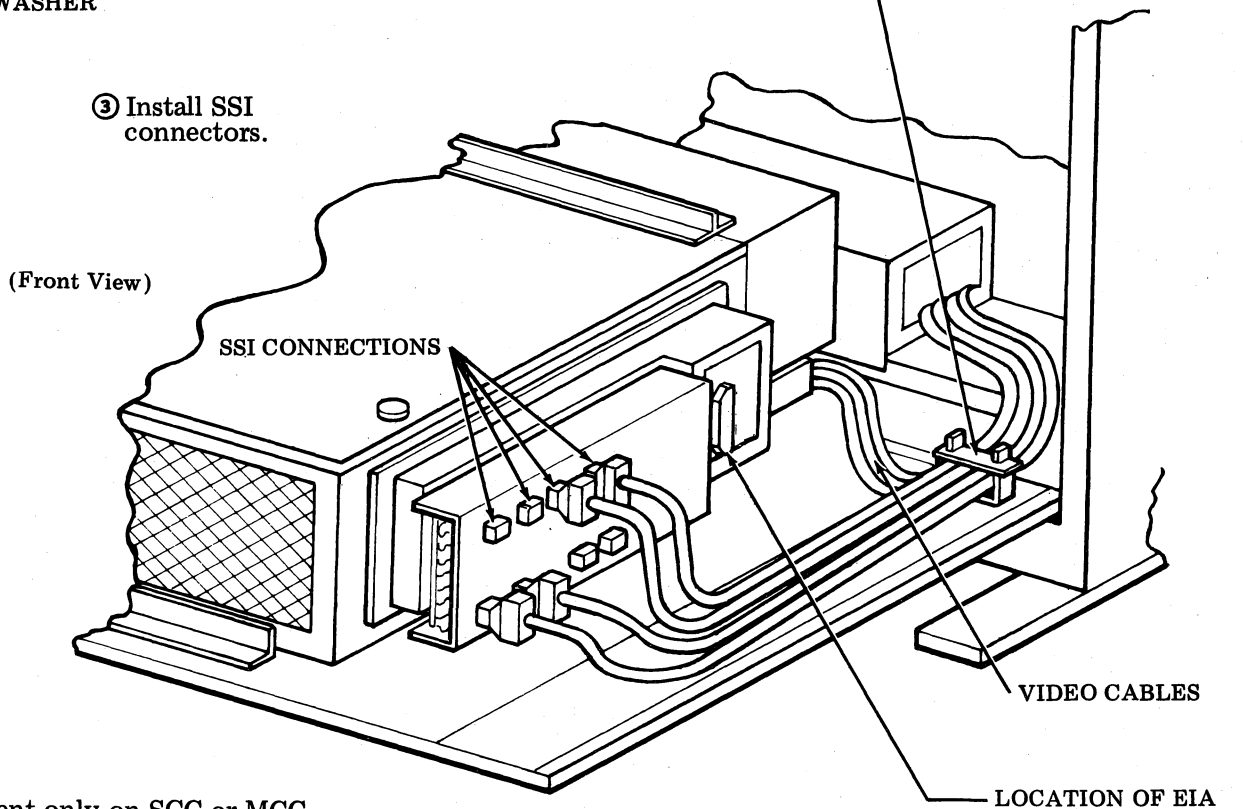
3.35 Video and SSI connections at the controller should be made as shown below; determine which connections to make from the controller arrangement form (or cable tags).



① Install video connectors. Strain reliefs of video connectors A and C must be facing up and B and D must face down as shown. Each green wire terminal must be connected to the 192009 terminal.

② Position clamp plate to hold video connectors and secure by two 198670 screws.

④ Provide some cable slack on door; install strain relief clamp over cables.



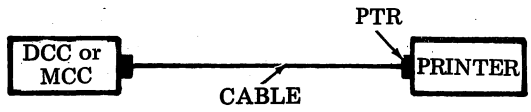
**Present only on SCC or MCC.

Controller to Printer

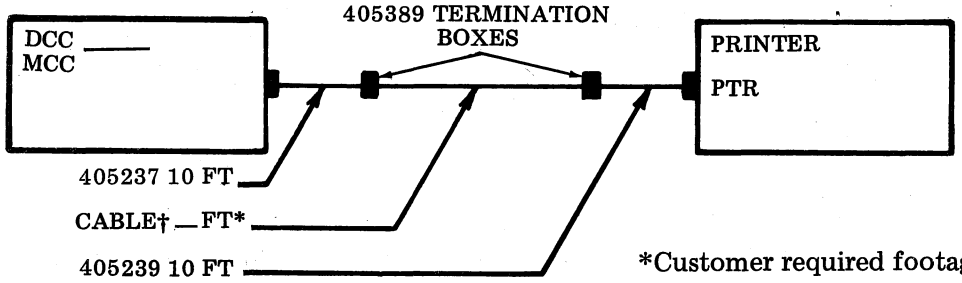
3.36 One of four standard cable lengths may be used between a controller and printer.

CABLES:

405306	6 feet
405307	12 feet
405308	25 feet
405309	50 feet



3.37 For cable (SSI) lengths between controller and printer of up to 2000 feet, a specially made cable† may be specified. See 3.39 or 3.42 and diagram below.



*Customer required footage.

3.38 SSI connections at the controller should be made as shown in the figure following 3.35; determine which connections to make from the controller arrangement form (or cable tags).

Stub Cable Assemblies (Remote SSI Cabling)

3.39 The use of special Teletype Standard Serial Interface (SSI) cables will accommodate distances of up to 2000 feet between a controller and a printer or another controller. Lengths of cable† (ordered by the foot) are used in conjunction with the 405389 termination box or WE44A connector block and the 405237, 405238 and 405239 cables.

Warning: Since the cable† is not intended for rigorous pulling when being run through conduits, for runs in excess of 200 feet, not more than 40 percent of the conduit area should be used. Additionally, if more than two 90° bends are to be used, a pull box should be inserted.

Caution: If one side of either SSI pair is grounded, the noise immunity of this interface will be greatly reduced and while the interface may still appear to be operative, random errors will result.

3.40 At both ends of cable†:

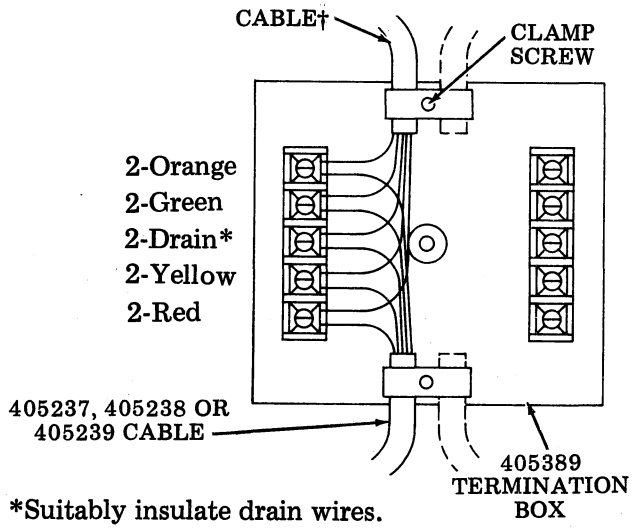
(a) Remove approximately three inches of outer jacket and outer shield.

(b) Cut conductors to length to avoid wire build-up in the termination box.

(c) Skin approximately 1/4 inch of insulation from the wires.

Warning: Do not damage the shield drain wire.

(d) Position wires at terminals. Secure the cable† in the clamp and tighten screw.



†Shielded 4-conductor cable (2 twisted pair) (see 3.31).

*Suitably insulate drain wires.

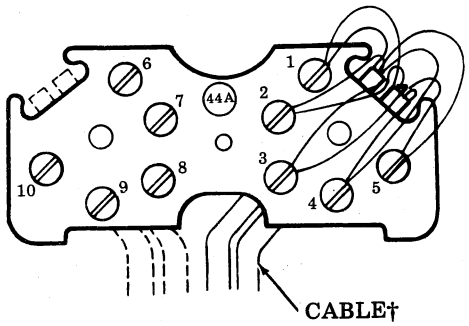
3.41 Installing the mating cable (405237, 405238 or 405239 or equivalent). The terminal blocks in the 405389 termination box are intended for terminating standard wire without spade terminals. If spade terminals are not affixed to the cable† leads, removal of the spade terminals on the mating cable (405237, 405238 or 405239) is necessary. Repeat steps (b), (c) and (d) of 3.40.

Caution: Do not attempt terminating wires with and without spade terminals on the same connector block terminal.

Note: Observe that a single termination box can be used between an SCC and two DCCs (at the SCC end).

3.42 As mentioned in 3.32, a WE44A may be substituted for a 405389 termination box. Thus, the conductors at both ends of the cable run may terminate in WE44A connector blocks. When a WE44A connector block is substituted for a 405389 termination box, spade terminals must be installed on all cable conductors.

WE44A CONNECTOR BLOCK



1-Red
2-Yellow
3-Drain*
4-Green
5-Orange
6-Orange
7-Green
8-Drain*
9-Yellow
10-Red

Note: The WE44A has no means of strain relief.

*Drain wires to be suitably insulated.

3.43 When all connections have been made, recheck all terminals to insure that wire color codes match. In addition, check to insure that all screws are properly tightened and that all wires are solidly clamped.

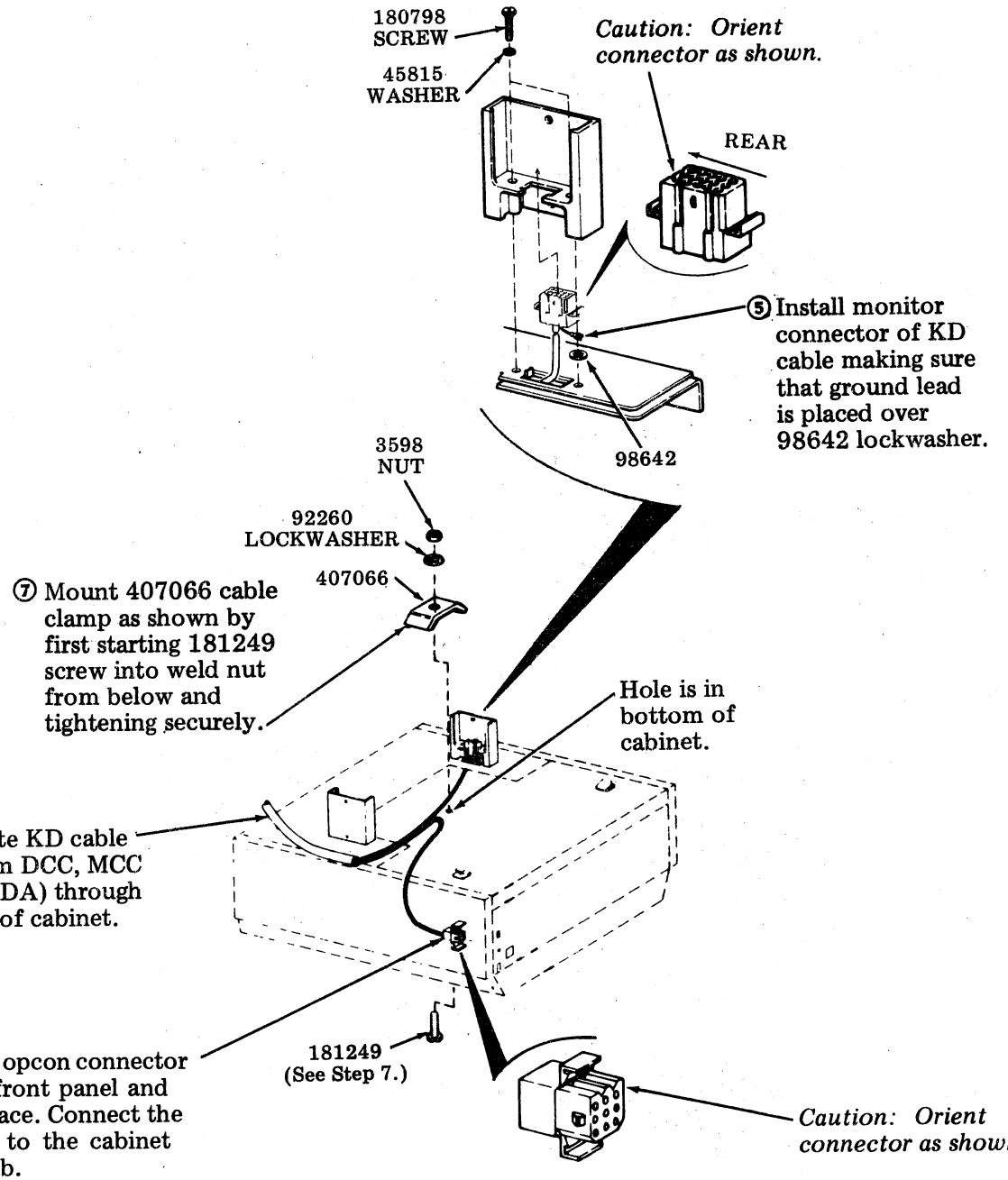
†Shielded 4-conductor cable (2 twisted pair) (see 3.31).

KD (KEYBOARD-DISPLAY) INSTALLATION

3.44 Attached KD (USOC 4TOX+):

① Unpack the attached KD Cabinet (40CAB251).
② Unpack the opcon and lay alongside of cabinet.
③ Route KD cable from controller (or KDA) through rear opening of cabinet. This cable has already been routed to the KD location.

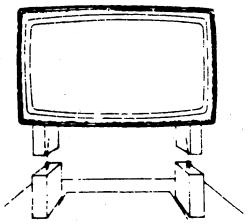
Note: Use ID label on opcon and ID tag on cable to determine which cable is to be connected to each KD (eg, opcon ID label reads DEVICE ID-01, DCC ID-A. Orange ID tag on unconnected end of KD cable at DCC-A should read D01-DCA).



3.45 Monitor (40MN101) Installation to Cabinet (40CAB251)

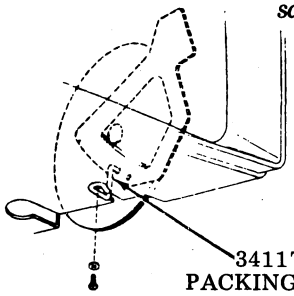
①Unpack monitor. Remove packing detail from tilt lever (only present on monitors with tilt lever).

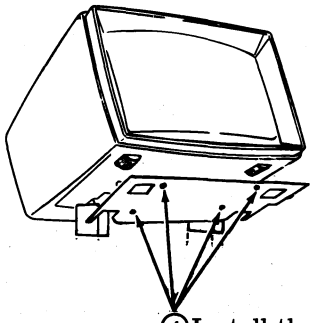
②Place the monitor on its corresponding posts (there is no locking device associated with the monitor support posts, ie, it can be lifted off without releasing any latches).



Caution: Wear safety glasses.

③Tilt the monitor back and remove the 341719 packing clip (if present) from the tube tilt mechanism. Retain the clip for future repacking.

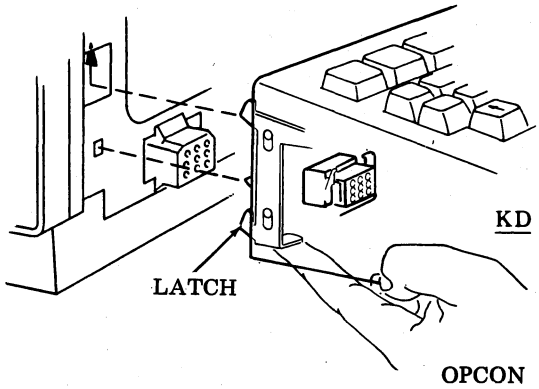




④Install the plastic bottom plate (packed separately) — snaps on with 4 studs that are part of the bottom plate.

3.46 Opcon (40K104/DAB, 40K105/CAA or 40K203/GAB) Installation to Cabinet (40CAB251)

①Slide latches downward and position opcon so that connectors are aligned and latches on left and right side are fully engaged.



Note: Remove opcon shipping plates (applies to old style pack).

Details of 40K203/GAB installation to 40CAB251 are given in 50919S.

②Slide latches upward and check that opcon is firmly attached on both sides before releasing.

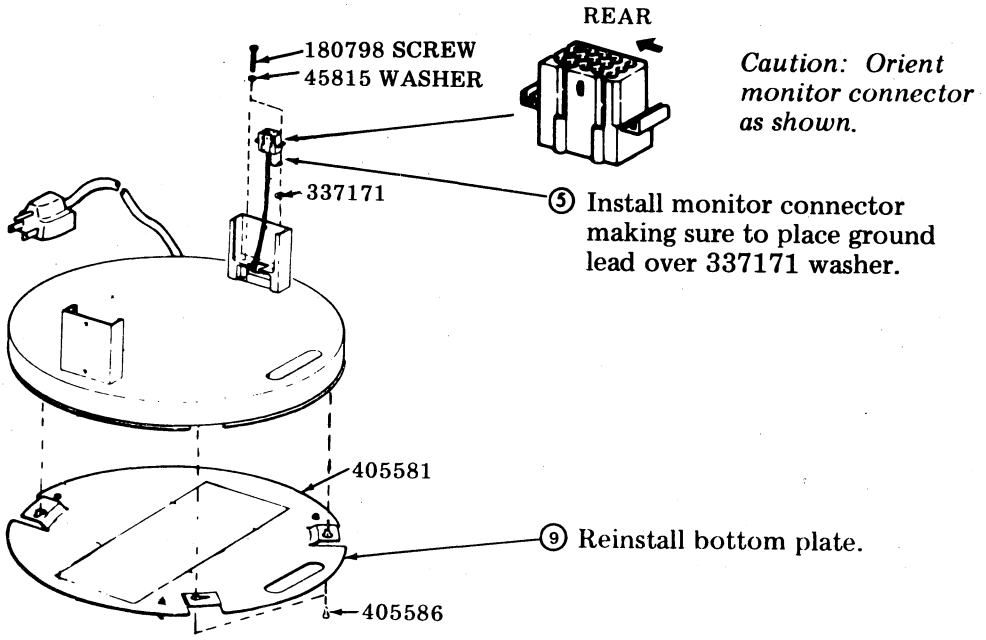
3.47 Free-Standing KD (USOC 4TPX+):

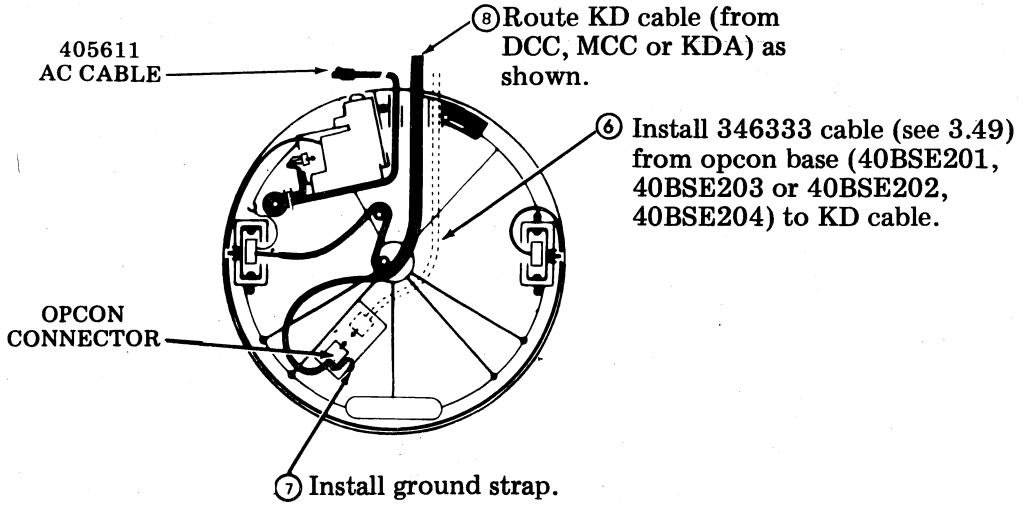
① Unpack the free-standing KD bases (40BSE101 and 40BSE201 or 40BSE203 or 40BSE101 and 40BSE202 or 40BSE204).

Unpack the opcon and lay alongside bases.

③ Loosen three 405586 screws from the bottom of base (40BSE101) and remove bottom plate.

④ Route KD cable from controller (or KDA) and install as shown below (see Note in paragraph 3.34). This cable has already been routed to the KD location.





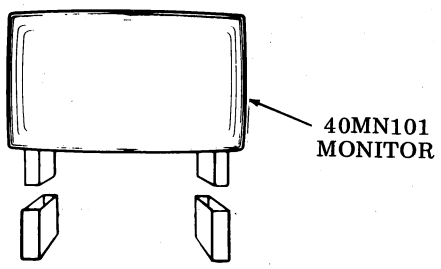
3.48 Install Monitor (40MN101) to Base (40BSE101).

①Unpack monitor. Remove packing detail from tilt lever (only present on monitors with tilt lever).

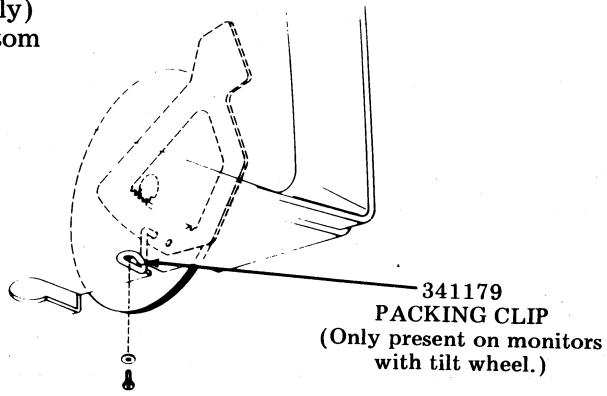
②Place the monitor on its corresponding posts (there is no locking device associated with the monitor support posts, ie, it can be lifted off without releasing any latches).

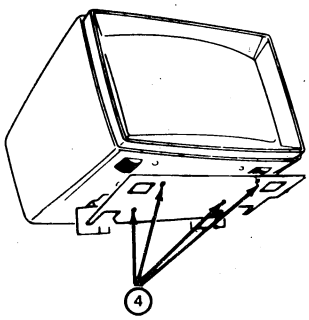
③Tilt the monitor back and remove the 341719 packing clip (if present) from the tube tilt mechanism. Retain the clip for future repacking.

④Install the plastic bottom plate (packed separately) — snaps on with 4 studs that are part of the bottom plate.



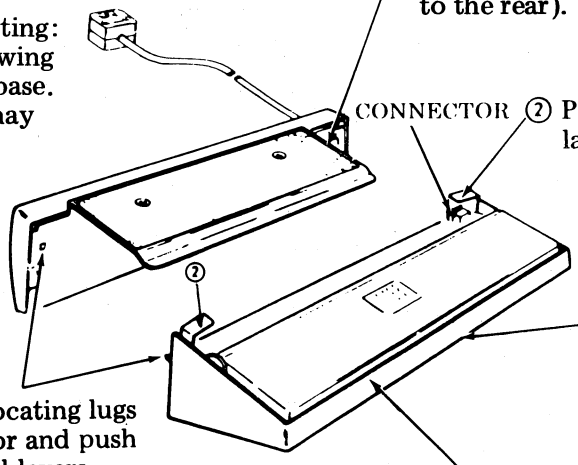
Caution: Wear safety glasses.



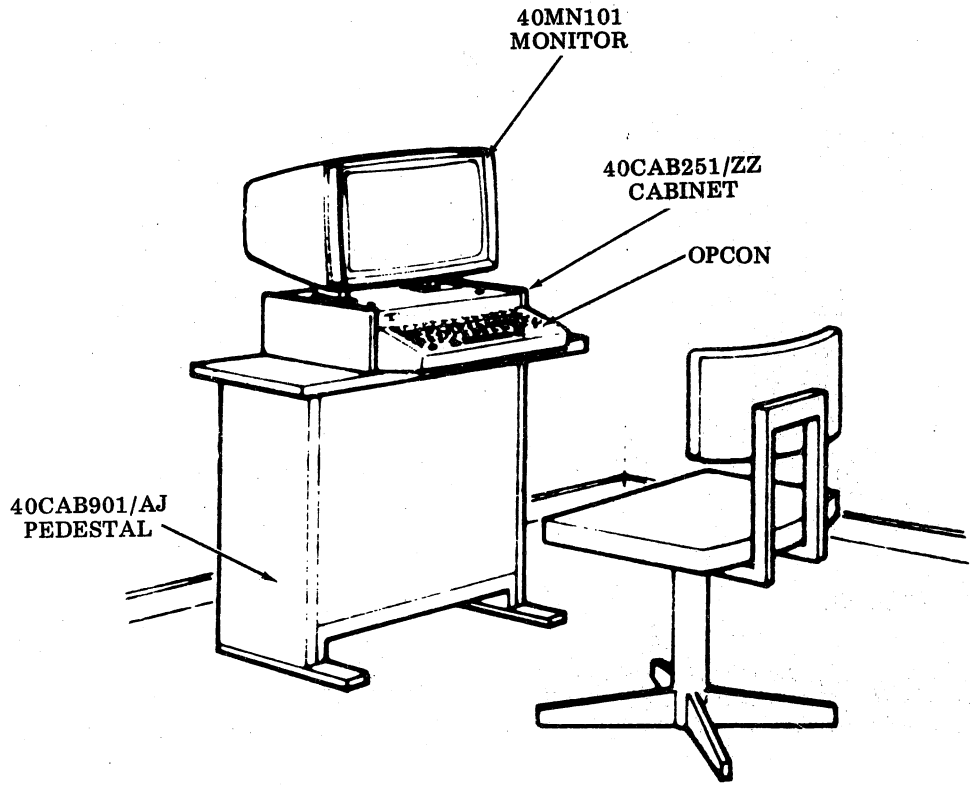


3.49 Install 40K104/DAB or 40K105/CAA opcon to 40BSE201 or 40BSE203 base, or 40K203/GAB opcon to 40BSE202 or 40BSE204 base. (See paragraph 3.51 for permanent mounting.)

⑤ Not applicable to permanent mounting: install bottom pad (cover) by following instructions furnished with opcon base. Installation of the drive fasteners may require more than finger pressure.

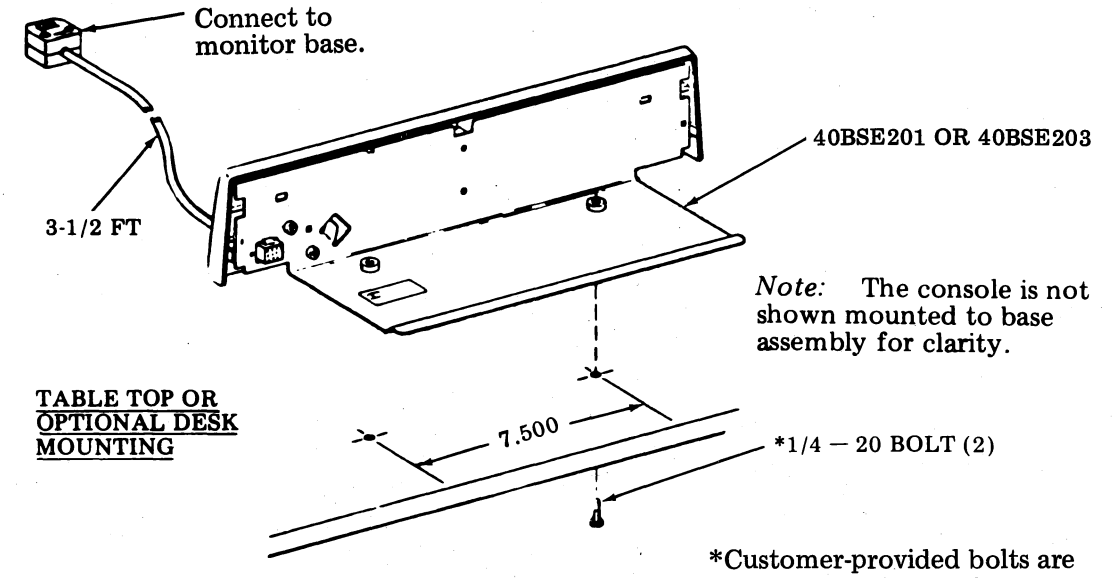


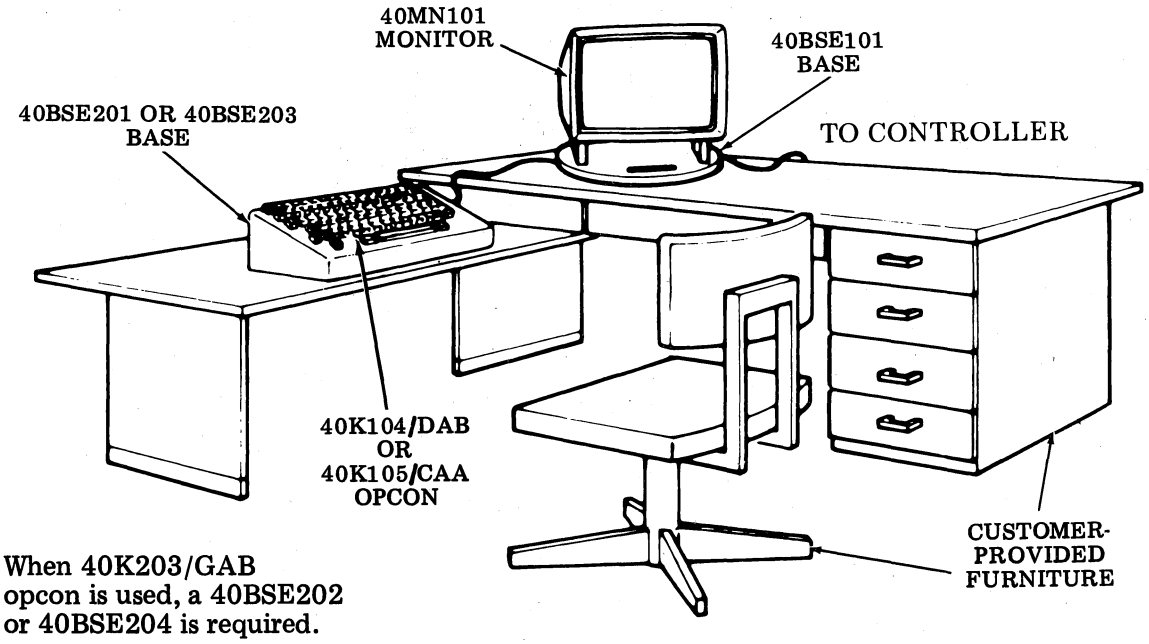
3.50 If attached KD is to be pedestal mounted (per Station Configuration Worksheet), place KD on pedestal and route ac cable from KD into ac convenience strip inside of pedestal. Connect ac cable from pedestal into 115 V ac outlet.



Attached Keyboard Display

3.51 If KD is a free standing (USOC: 4TPX+), permanent mounting (per customer option) of the opcon may be required. Instructions are provided as follows.





When 40K203/GAB opcon is used, a 40BSE202 or 40BSE204 is required.

PRINTER INSTALLATION

A. Friction Feed

3.52 Friction Feed Printer (40P101/ZZ or 40P102/ZZ)

(a) Unpack printer and cabinet (40CAB201/ZZ or 40CAB371/ZZ).

(b) If four 400409 immobilization screws are present (see 3.53 for approximate location), back them off 7 or 8 turns.

(c) Printer options are installed per Service Order and entered on Controller Arrangement Form attached to controller to which printer is connected. (See 4.07.)

(d) To check or change options, refer to Section 582-210-702 for removal of printer circuit card.

(e) Install printer in cabinet.

(f) If pedestal is provided with the printer (per Station Configuration Worksheet), unpack pedestal, mount pedestal top, place printer and cabinet on pedestal top, open the pedestal door and route ac cable from printer cabinet into ac convenience strip inside of pedestal.

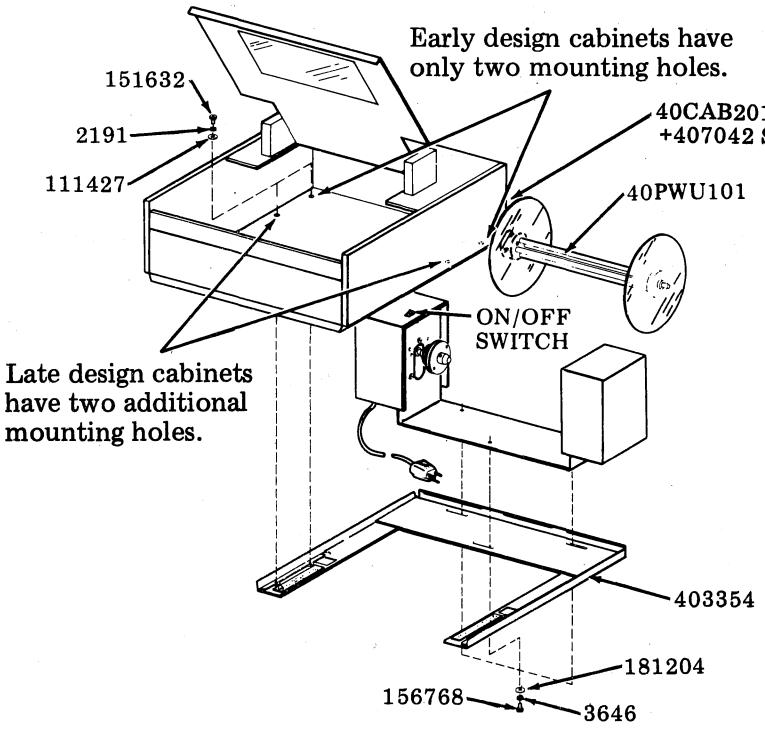
(g) If printer cabinet is not mounted on a pedestal, connect ac cable to an ac outlet.

(h) The controller to printer cable has already been routed to the printer location. Connect the cable to the PTR connector at the rear of the printer. Also connect the separate ground terminal to the cabinet ground lug.

(i) Installation of paper winder (40PWU101 or 40PWU102), if part of station. Refer to Specification 50917S if required.

(j) Install paper and ribbon.

(k) Connect ac cable from pedestal (if pedestal mounted) or from printer cabinet and paper winder (if used) to 115 V ac outlet.



Note 1: If pedestal mounted, route ac cable to convenience strip in pedestal.

Note 2: A 407192 paper guide is included with 40CAB371/ZZ cabinet.

B. Tractor Feed

3.53 Tractor Feed Printers (40P151/ZZ or 40P154/ZZ — 80 Column) or 40P201/ZZ, 40P202/ZZ or 40P204/ZZ — 132 Column) and 40P253/ZZ (80 Column Forms Access):

(a) Unpack printer, cabinet and pedestal.

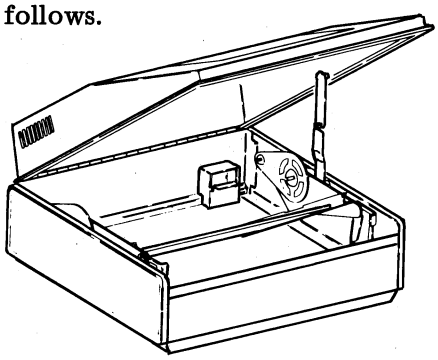
(b) Printer options are installed per Service Order and entered on Controller Arrangement Form attached to controller to which printer is connected. (See printer options in paragraph 4.08 or 4.10, as applies.)

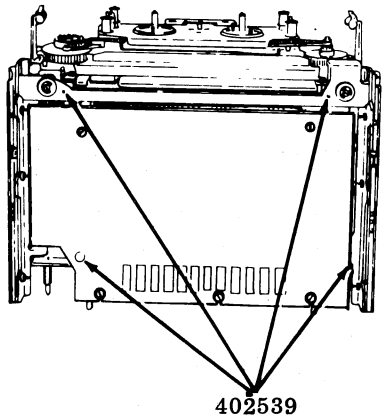
(c) To check or change printer options, refer to Section 582-210-702 for removal of printer circuit card in 80-column printer. (Options for 132-column printers are changed without removing circuit card.)

(d) Install printer into cabinet as follows.

①Back off the four black shock mount immobilizing screws (7-8) turns.

②Place cabinet on pedestal with opening in bottom of cabinet over slot in pedestal. Open lid by depressing latches on either side of lid and then raising it until it locks.

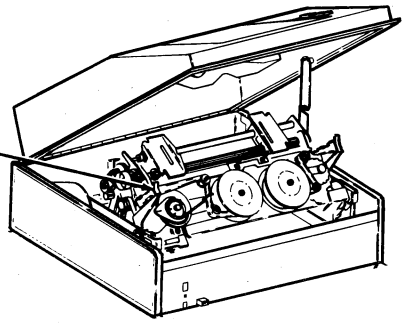




402539
IMMOBILIZATION SCREWS
(4 Places)

③ Install printer in tracks until detents are seated.

Note: With printer properly seated, all power and SSI connections will be made.



(e) Place cabinet on pedestal. Open pedestal door. Connect ac cable at rear of printer cabinet to ac convenience strip inside of pedestal.

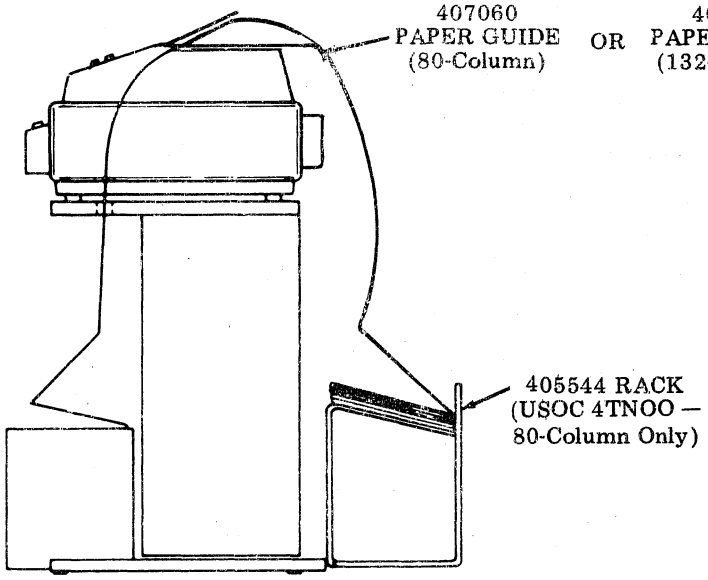
(f) Connect printer cable to printer, see 3.52 (f).

(g) Install paper and ribbon.

(h) If printer cabinet is mounted on a pedestal, connect ac cable from pedestal to 115 V ac outlet.

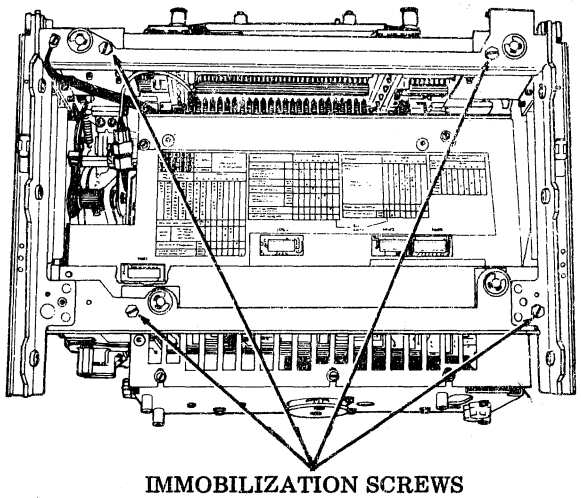
(i) Assemble paper guide as shown.

(j) If included with order, install 405544 rack as shown.



(k) Install forms access printer into 40-type cabinet as given below. This application of the 40CAB302 printer cabinet requires an SSI interface on the cabinet. 40CAB302/AB cabinet is equipped with an SSI interface. 40CAB302/ZZ requires 406370 modification kit (refer to Specification 50951S, if required). When 406374 pre-sense paper-out modification kit is required, to be installed, refer to Specification 50958S.

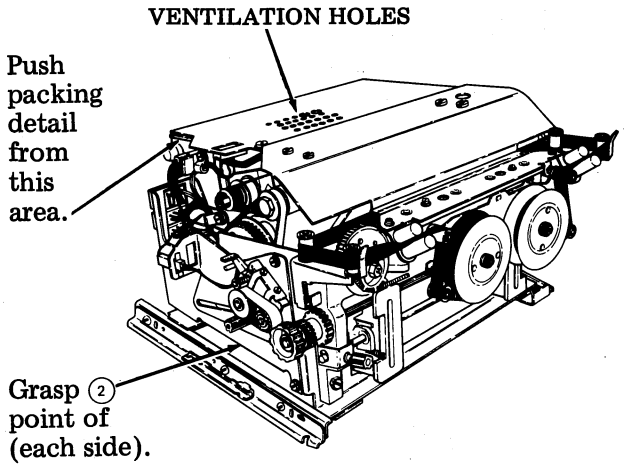
①After installing options on 410071 circuit card, with the printer resting on its back side, back off the four black shock mount immobilizing screws seven or eight turns.



IMMOBILIZATION SCREWS
(4 Places)

Bottom View of 40P253/ZZ

②Using grasp points lower printer with both hands so that it rests on its bottom. Check for a cardboard packing detail under the top plate. If present, it should be seen through the ventilation holes. Remove the packing detail by pushing from the left of the printer, then pull it out the right side of the printer.



Front and Left Side of 40P253/ZZ Forms Access Printer

Warning: Failure to remove the packing detail before turning on the printer could result in damage to the printer.

③Install ribbon (see printer How To Operate Manual if required).

④If necessary, stabilize cabinet by turning cabinet leg levelers.

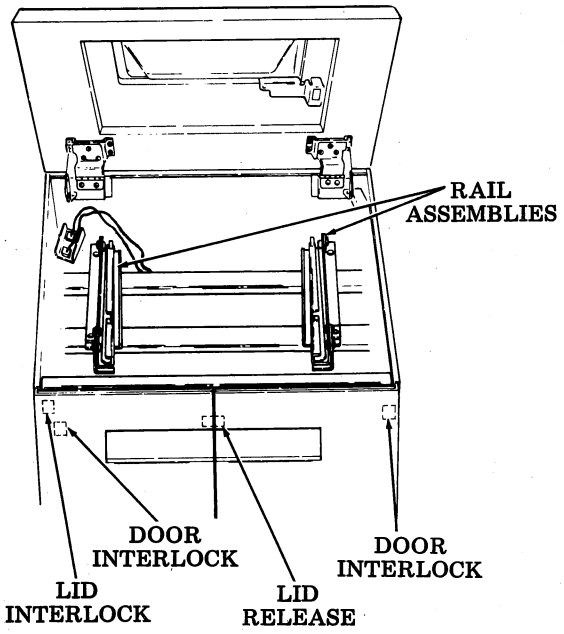
⑤Early Design Printer Cabinet — Open cabinet doors, depress lid release button. Raise lid and close doors.

Late Design Printer Cabinet — Open cabinet doors. Raise and latch lid, close doors.

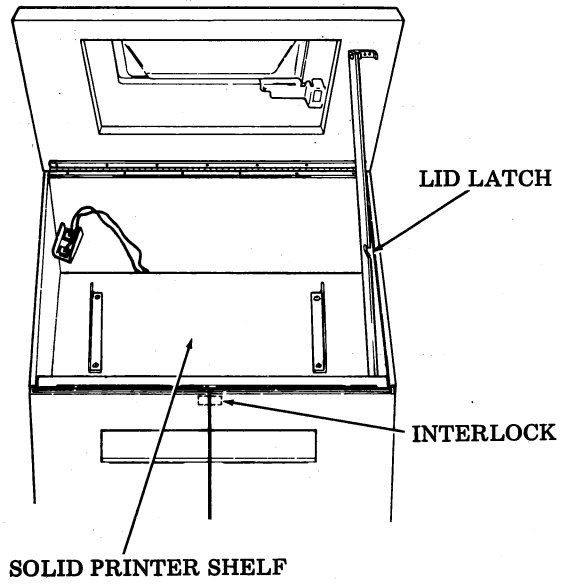
⑥Early Design Printer Cabinet — Grasp printer as in Step 2. Lower printer into cabinet and onto rail assemblies. Slide printer rearward to fully engage latch on right side.

Late Design Printer Cabinet — Follow instruction sheet included with cabinet to modify printer. Grasp printer as in Step 2. Lower printer into cabinet between cabinet mounting brackets and seat bushings in bracket slots. Install the two remaining screws.

Early Design Cabinet



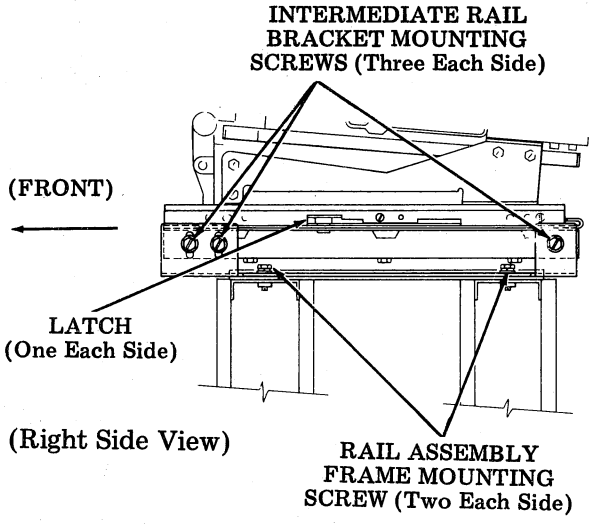
Late Design Cabinet



⑦Connect cabinet connector bracket (left rear) to printer.

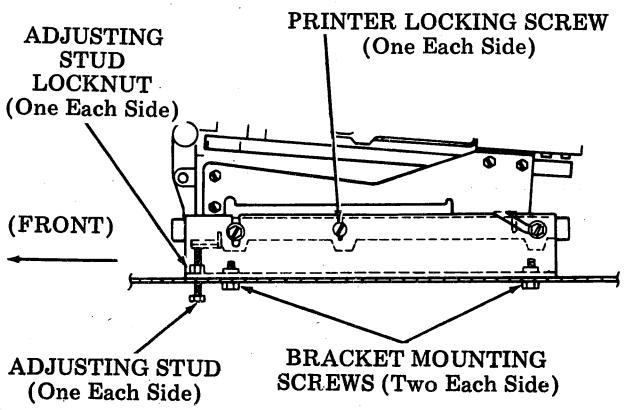
Three cabinet security features are available, refer to Section 582-212-700, if required. Step 8 provides positioning requirements. Perform Steps 8 and 9 only if adjustment is required.

⑧ Early Design Printer Cabinet — If adjustment is required to meet the requirements of Step 9 then with the printer positioned and latched in its rearmost location on the rail assembly frame, loosen the following screws friction tight: four rail assembly frame mounting screws and six intermediate rail bracket mounting screws.



Early Style Cabinet

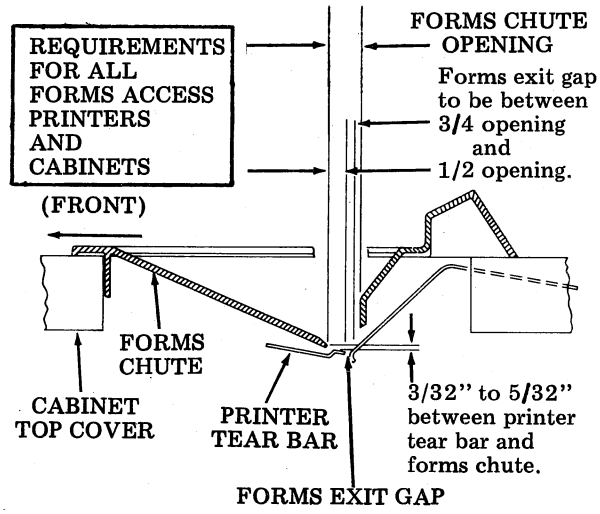
Late Design Printer Cabinet — If adjustment is required to meet the requirements of Step 9, loosen the two printer locking screws and four bracket mounting screws. Also loosen the two adjusting stud locknuts.



Late Style Cabinet

⑨ Early Design Printer Cabinet — When adjustment of the forms exit gap is required, move the printer rail assembly frame forward or rearward so that the printer forms exit gap is located half- to three-fourths of the way back in the forms chute opening (as gauged by eye). Tighten the rail assembly mounting screws.

Late Design Printer Cabinet — When adjustment is required, move printer forward or rearward so that the forms exit gap is located half- to three-fourths of the way back in the forms chute opening (as gauged by eye). Tighten the bracket mounting screws.



(Right Side View)

⑩ Early Design Printer Cabinet — When adjustment of clearance between the printer tear bar and forms chute is required, place the blade of a screwdriver between the frame and the intermediate rail. Pry intermediate rail assembly up at alternate left and right front corners until requirement clearance is 3/32- to 5/32-inches. See Step 9. Tighten the intermediate rail bracket mounting screws.

Late Design Printer Cabinet — When adjustment of clearance between the printer tear bar and forms chute is required, turn adjusting studs until the clearance is 3/32- to 5/32-inches. See Step 9. Tighten adjusting stud locknuts and printer locking screws.

Warning: For Early Design Printer Cabinets — To avoid damage to doors or interlocks, do not close cabinet doors unless door interlocks (locations illustrated in Step 6) are returned from maintenance position to operating position.

⑪ Open cabinet doors and install paper (refer to printer How To Operate Manual if required). Paper width: 4-1/4 to 9-1/8 inches edge to edge. Close lid and doors.

Caution: Printer motor will not turn on unless all interlocks are turned on.

⑫ Connection of cabinet ac cable is done now.

4. OPTIONS

GENERAL

4.01 This part includes all options that are utilized in the DATASPEED 40/4 station and associated data sets. It also covers handling of circuit cards, location of circuit card switch packs and information on how to activate or change switch positions.

4.02 Controller option switches are enabled per the service order request and should be checked per the Controller Arrangement Form included with each controller. This form will be taped to the inside of each controller cover. Samples of the Controller Arrangement Forms are found in 2. CONTROLLER ARRANGEMENT FORMS of this section.

4.03 If any field options are to be changed, turn off power and remove cards using the following procedures. Check card to see that pins are not bent before reinserting. Examples of the relationship between the controller worksheets and options is given in 2. CONTROLLER ARRANGEMENTS.

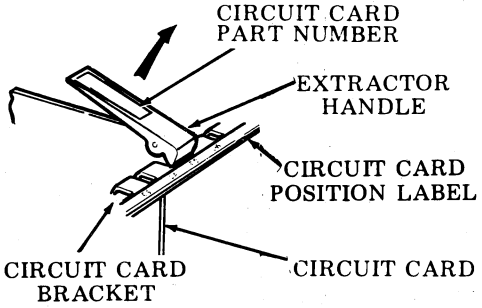
Note: Changing of options without turning off power will not alter options since switches are only sampled during station initialization (power up).

Caution: Wear 346392 ground strap (see Page 2 of this section).

EXTRACTING CIRCUIT CARDS FROM CONTROLLER

(a) Lift up on the extractor handles of the circuit card.

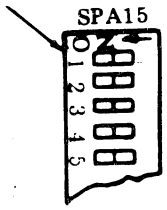
(b) Lift circuit card straight up.

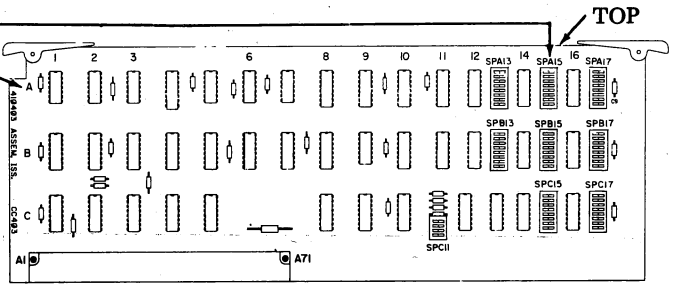


LOCATING SWITCH PACKS ON CIRCUIT CARDS

Example: SP [A] [15]

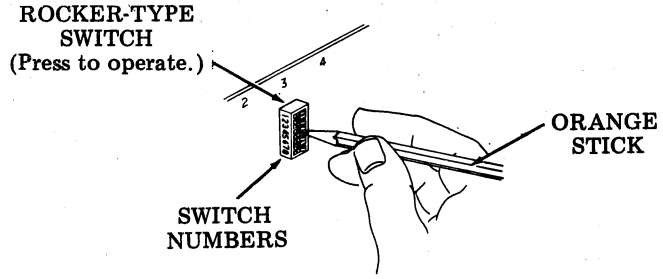
Note: Number "1" is always at the top; "ON" is always switch thrown to the left.

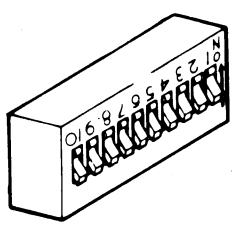




ACTIVATING OPTIONS OR CHANGING SWITCH POSITIONS

Switch OFF (open) = O (Depress right side or throw to right.)
Switch ON (closed) = ● (Depress left side or throw to left.)





CONTROLLER OPTIONS

4.04 Option 401 is determined by the station number entered in the SCC or MCC portion of the Station Configuration Worksheet. Option 401.b. must be selected. Do not choose 401.a.

401 — Station Poll and Select Address		410403 (SPA15, 17) 410411 (SPB1, 2)
a.	None (Does Not Provide Proper Operation)	(See Tables A and B for ASCII and Tables C and D for EBCDIC.)
b.	Station Number (Specify a Station Number From 00 to 31)	

TABLE A

ASCII

OPTION 401 — STATION POLL ADDRESS (SCC or MCC)

STATION NUMBER	STATION POLL ADDRESS		410403 (SPA17) or 410411 (SPB1)							
	CHARACTER	HEX	1	2	3	4	5	6	7	8
00	SPACE	20	O	O	O	O	O	●	O	O
01	A	C1	●	O	O	O	O	O	●	O
02	B	C2	O	●	O	O	O	O	●	O
03	C	43	●	●	O	O	O	O	●	O
04	D	C4	O	O	●	O	O	O	●	O
05	E	45	●	O	●	O	O	O	●	O
06	F	46	O	●	●	O	O	O	●	O
07	G	C7	●	●	●	O	O	O	●	O
08	H	C8	O	O	O	●	O	O	●	O
09	I	49	●	O	O	●	O	O	●	O
10	[	5B	●	●	O	●	●	O	●	O
11	. (PERIOD)	AE	O	●	●	●	O	●	O	O
12	<	BC	O	O	●	●	●	●	O	O
13	(	A8	O	O	O	●	O	●	O	O
14	+	AB	●	●	O	●	O	●	O	O
15	!	A1	●	O	O	O	O	●	O	O
16	&	26	O	●	●	O	O	●	O	O
17	J	4A	O	●	O	●	O	O	●	O
18	K	CB	●	●	O	●	O	O	●	O
19	L	4C	O	O	●	●	O	O	●	O
20	M	CD	●	O	●	●	O	O	●	O
21	N	CE	O	●	●	●	O	O	●	O
22	O	4F	●	●	●	●	O	O	●	O
23	P	D0	O	O	O	O	●	O	●	O
24	Q	51	●	O	O	O	●	O	●	O
25	R	52	O	●	O	O	●	O	●	O
26	]	5D	●	O	●	●	●	O	●	O
27	$	44	O	O	●	O	O	●	O	O
28	*	2A	O	●	O	●	O	●	O	O
29	)	29	●	O	O	●	O	●	O	O
30	;	3B	●	●	O	●	●	●	O	O
31	^	5E	O	●	●	●	●	O	●	O

Note: The "HEX" addresses shown above do not necessarily relate to the setting of the switches.

TABLE B

ASCII

OPTION 401 — STATION SELECT ADDRESS (SCC or MCC)

STATION NUMBER	STATION SELECT ADDRESS		410403 (SPA15) or 410411 (SPB2)								
	CHARACTER	HEX	1	2	3	4	5	6	7	8	
00	- (MINUS)	**AD**	●	○	●	●	○	●	○	○	
01	/	2F	●	●	●	●	○	●	○	○	
02	S	**D3**	●	●	○	○	●	○	●	○	
03	T	54	○	○	●	○	●	○	●	○	
04	U	**D5**	●	○	●	○	●	○	●	○	
05	V	**D6**	○	●	●	○	●	○	●	○	
06	W	57	●	●	●	○	●	○	●	○	
07	X	58	○	○	○	●	●	○	●	○	
08	Y	**D9**	●	○	○	●	●	○	●	○	
09	Z	**DA**	○	●	○	●	●	○	●	○	
10	¦ (VERTICAL LINE)	7C	○	○	●	●	●	●	●	○	See Note 2
11	, (COMMA)	2C	○	○	●	●	○	●	○	○	
12	%	25	●	○	●	○	○	●	○	○	
13	_ (UNDERSCORE)	**DF**	●	●	●	●	●	○	●	○	
14	>	3E	○	●	●	●	●	●	○	○	
15	?	**BF**	●	●	●	●	●	●	○	○	
16	0 (ZERO)	**B0**	○	○	○	○	●	●	○	○	
17	1 (ONE)	31	●	○	○	○	●	●	○	○	
18	2	32	○	●	○	○	●	●	○	○	
19	3	**B3**	●	●	○	○	●	●	○	○	
20	4	34	○	○	●	○	●	●	○	○	
21	5	**B5**	●	○	●	○	●	●	○	○	
22	6	**B6**	○	●	●	○	●	●	○	○	
23	7	37	●	●	●	○	●	●	○	○	
24	8	38	○	○	○	●	●	●	○	○	
25	9	**B9**	●	○	○	●	●	●	○	○	
26	:	**BA**	○	●	○	●	●	●	○	○	
27	#	23	●	●	○	○	○	●	○	○	
28	@	40	○	○	○	○	○	○	●	○	
29	'	**A7**	●	●	●	○	○	●	○	○	
30	=	3D	●	○	●	●	●	●	○	○	
31	"	**A2**	○	●	○	○	○	●	○	○	

Note 1: The "HEX" addresses shown above do not necessarily relate to the setting of the switches.

Note 2: If monocase font is used, " ¦ " will be displayed as " \ " during "LOCAL TEST".

TABLE C

EBCDIC

OPTION 401 — STATION POLL ADDRESS (SCC or MCC)

STATION NUMBER	STATION POLL ADDRESS		410403 (SPA17) or 410411 (SPB1)							
	CHARACTER	HEX	1	2	3	4	5	6	7	8
00	SPACE	40	○	○	○	○	○	○	●	○
01	A	C1	●	○	○	○	○	○	●	●
02	B	C2	○	●	○	○	○	○	●	●
03	C	C3	●	●	○	○	○	○	●	●
04	D	C4	○	○	●	○	○	○	●	●
05	E	C5	●	○	●	○	○	○	●	●
06	F	C6	○	●	●	○	○	○	●	●
07	G	C7	●	●	●	○	○	○	●	●
08	H	C8	○	○	○	●	○	○	●	●
09	I	C9	●	○	○	●	○	○	●	●
10	¢	4A	○	●	○	●	○	○	●	○
11	. (PERIOD)	4B	●	●	○	●	○	○	●	○
12	<	4C	○	○	●	●	○	○	●	○
13	(	4D	●	○	●	●	○	○	●	○
14	+	4E	○	●	●	●	○	○	●	○
15	|	4F	●	●	●	●	○	○	●	○
16	&	50	○	○	○	○	●	○	●	○
17	J	D1	●	○	○	○	●	○	●	●
18	K	D2	○	●	○	○	●	○	●	●
19	L	D3	●	●	○	○	●	○	●	●
20	M	D4	○	○	●	○	●	○	●	●
21	N	D5	●	○	●	○	●	○	●	●
22	O	D6	○	●	●	○	●	○	●	●
23	P	D7	●	●	●	○	●	○	●	●
24	Q	D8	○	○	○	●	●	○	●	●
25	R	D9	●	○	○	●	●	○	●	●
26	!	5A	○	●	○	●	●	○	●	○
27	$	5B	●	●	○	●	●	○	●	○
28	*	5C	○	○	●	●	●	○	●	○
29	)	5D	●	○	●	●	●	○	●	○
30	;	5E	○	●	●	●	●	○	●	○
31	¬	5F	●	●	●	●	●	○	●	○

LEGEND: | is "logical OR" (see Station No. 15).
¬ is "logical NOT" (see Station No. 31).

TABLE D

EBCDIC

OPTION 401 — STATION SELECT ADDRESS (SCC or MCC)

STATION NUMBER	STATION SELECT ADDRESS		410403 (SPA15) or 410411 (SPB2)								
	CHARACTER	HEX	1	2	3	4	5	6	7	8	
00	- (MINUS)	60	O	O	O	O	O	●	●	O	
01	/	61	●	O	O	O	O	●	●	O	
02	S	E2	O	●	O	O	O	●	●	●	
03	T	E3	●	●	O	O	O	●	●	●	
04	U	E4	O	O	●	O	O	●	●	●	
05	V	E5	●	O	●	O	O	●	●	●	
06	W	E6	O	●	●	O	O	●	●	●	
07	X	E7	●	●	●	O	O	●	●	●	
08	Y	E8	O	O	O	●	O	●	●	●	
09	Z	E9	●	O	O	●	O	●	●	●	
10	¦ (VERTICAL LINE)	6A	O	●	O	●	O	●	●	O	See Note
11	, (COMMA)	6B	●	●	O	●	O	●	●	O	
12	%	6C	O	O	●	●	O	●	●	O	
13	— (UNDERSCORE)	6D	●	O	●	●	O	●	●	O	
14	>	6E	O	●	●	●	O	●	●	O	
15	?	6F	●	●	●	●	O	●	●	O	
16	0(ZERO)	F0	O	O	O	O	●	●	●	●	
17	1 (ONE)	F1	●	O	O	O	●	●	●	●	
18	2	F2	O	●	O	O	●	●	●	●	
19	3	F3	●	●	O	O	●	●	●	●	
20	4	F4	O	O	●	O	●	●	●	●	
21	5	F5	●	O	●	O	●	●	●	●	
22	6	F6	O	●	●	O	●	●	●	●	
23	7	F7	●	●	●	O	●	●	●	●	
24	8	F8	O	O	O	●	●	●	●	●	
25	9	F9	●	O	O	●	●	●	●	●	
26	:	7A	O	●	O	●	●	●	●	O	
27	#	7B	●	●	O	●	●	●	●	O	
28	@	7C	O	O	●	●	●	●	●	O	
29	'	7D	●	O	●	●	●	●	●	O	
30	=	7E	O	●	●	●	●	●	●	O	
31	"	7F	●	●	●	●	●	●	●	O	

Note: If monocase font is used, " ¦ " will be displayed as " \ " during "LOCAL TEST".

4.05 Options 402 — 414 are determined from the Service Order and Station Configuration Worksheet and apply to either ASCII or EBCDIC Stations. Either 410403 or 410411 will be present.

402 — Type of Alarm on Receipt of Alarm Write Control or Copy Control Character		410403 SPC17-1	410411 SPB7-1	
a.	Continuous — ("Local" Must be Depressed to Stop Alarm)	●	●	
b.	One Second (Alarm Sounds Only Once)	O	O	*

403 — Display Highlighted Fields		410403		410411		
		SPC17-2	SPC17-3	SPB7-2	SPB7-3	
a.	Highlighted Fields are Intensified	O	O	O	O	*
b.	Highlighted Fields are Blinked	●	O	●	O	
c.	Highlighted Fields with Attribute Bits 4, 5, 6 of 1, 0, 1 are Blinked. Other Highlighted Fields are Intensified. When Both Types of Highlighted Fields are on Same Display, They are Blinked.	O	●	O	●	

404 — Block Abort Procedure Used When Station Abnormally Stops Sending On-Line (Install Option 404b. unless otherwise specified.)			410411 SPB7-5	
a.	Terminate With ETX	O	O	
b.	Terminate With SUB ENQ and Prime Alarm Flag	●	●	*

405 — Device Addresses (MCC Only)		410403 SPB 13, 15, or 17	410411 SPB4,B5, or B6
a.	None (Does Not Provide Proper Operation)	(See Table E for ASCII and Table F for EBCDIC.)	As for 410403
b.	First Device (Specify Device No. for KD)		
c.	Second Device (Specify Device No. for Printer)		
d.	Third Device (Specify Device No. for KD or Printer as Applies)		

Note: 405.a. must not be selected.

406 — Numeric Field Override (Applies to typewriter style opcons — 40K104 or 40K203)		410403 SPC17-4	410411 SPB7-4	
a.	Alpha Data Can be Entered in Numeric Field	●	●	
b.	Alpha Data Cannot be Entered in Numeric Field	O	O	*

Note: 406.a. or b.; when entering or trying to enter alpha data in numeric field, alarm will sound. Switch 4 has no affect for internal numeric cluster-style opcons.

407 — Numeric Special Feature (Applies to Internal Numeric Cluster-style Opcons, Does Not Apply to Unformatted Displays)		410403 SPC17-8	410411 SPB7-8
a.	Enabled — In a Numeric Field, only the Depression of a Numeric Cluster Key (Digits 0-9, Minus, DUP, and Period) will Cause the Numeric Character To be Displayed, Otherwise Bell Will Sound.	●	●
b.	Disabled — In a Numeric Field, Depression of Any Key Causes a "Numeric" Character to be Displayed.	O	O

Note: Switch 8 has no affect for typewriter-style opcons.

*Factory optioned.

● = ON O = OFF

408.	Line Code	(410408 present) 410403 SPC17-6	(410409 present) 410403 SPC17-6	(No 410408 or 410409) 410411 SPB7-6
a.	ASCII	●	N.A.	●
b.	EBCDIC	N.A.	O	O

409.	Up-Low/Monocase Font for KD	Type of D I/O Card Required in DCC or MCC	
		ASCII	EBCDIC
a.	Up-Low	410431	410435
b.	Monocase	410434	410436
c.	Line Drawing (ASCII Only)	410432	N.A.

Note: For printer type font, see Options 19.d and 19.e.

410.	Typewriter/Internal Numeric Cluster Opcon	Cards Required			
		PROM Version		EPROM Version	
		DCC	MCC	DCC	MCC
a.	DCC or MCC Will Accept Typewriter Style Opcon (ASCII or EBCDIC)	410809 410911	410808 410909 410910	410509	410512 410513 (or 410525)
b.	DCC or MCC Will Accept Internal Numeric Cluster Style Opcon (EBCDIC Only)	410810 410907	410812 410914 410915	410510	410514 410515 (or 410534)

414.	Buffer Lock (Buffer Lock Prevents Print Local When Specified by Host Unless Option 414.b. is Installed.)	(410408 or 410409 present) 410403 SPC17-7	(410411 present) 410411 SPB7-7
a.	Enabled — SCC/DCC or MCC (Buffer Lock Override Disabled)	(Required)	O
b.	Disabled — MCC Only (Requires 410525 or 410534) (Also Allows Copy of Locked Buffer via Copy Command.)	(Not Available)	●
	Disabled — SCC/DCC Only (Requires 410509 in Each DCC, also Requires 403126 Mod Kit on Each 410509 Card)	(Not Available)	●

● — Indicates on.
O — Indicates off.
N.A. — Indicates option is not available.

TABLE E

ASCII

OPTION 405 — DEVICE ADDRESS (MCC)

DEVICE NUMBER	DEVICE ADDRESS		410403 (SPB13, B15 and B17) or 410411 (SPB4, B5 and B6)							
	CHARACTER	HEX	1	2	3	4	5	6	7	8
00	SPACE	20	○	○	○	○	○	●	○	○
01	A	C1	●	○	○	○	○	○	●	○
02	B	C2	○	●	○	○	○	○	●	○
03	C	43	●	●	○	○	○	○	●	○
04	D	C4	○	○	●	○	○	○	●	○
05	E	45	●	○	●	○	○	○	●	○
06	F	46	○	●	●	○	○	○	●	○
07	G	C7	●	●	●	○	○	○	●	○
08	H	C8	○	○	○	●	○	○	●	○
09	I	49	●	○	○	●	○	○	●	○
10	[	5B	●	●	○	●	●	○	●	○
11	. (PERIOD)	AE	○	●	●	●	○	●	○	○
12	<	BC	○	○	●	●	●	●	○	○
13	(	A8	○	○	○	●	○	●	○	○
14	+	AB	●	●	○	●	○	●	○	○
15	!	A1	●	○	○	○	○	●	○	○
16	&	26	○	●	●	○	○	●	○	○
17	J	4A	○	●	○	●	○	○	●	○
18	K	CB	●	●	○	●	○	○	●	○
19	L	4C	○	○	●	●	○	○	●	○
20	M	CD	●	○	●	●	○	○	●	○
21	N	CE	○	●	●	●	○	○	●	○
22	O	4F	●	●	●	●	○	○	●	○
23	P	D0	○	○	○	○	●	○	●	○
24	Q	51	●	○	○	○	●	○	●	○
25	R	52	○	●	○	○	●	○	●	○
26	]	5D	●	○	●	●	●	○	●	○
27	$	44	○	○	●	○	○	●	○	○
28	*	2A	○	●	○	●	○	●	○	○
29	)	29	●	○	○	●	○	●	○	○
30	;	3B	●	●	○	●	●	●	○	○
31	^	5E	○	●	●	●	●	○	●	○
32	- (MINUS)	AD	●	○	●	●	○	●	○	○
33	/	2F	●	●	●	●	○	●	○	○
34	S	D3	●	●	○	○	●	○	●	○
35	T	54	○	○	●	○	●	○	●	○

Note: The "HEX" addresses shown above may not necessarily reflect the position of the switches.

TABLE F

EBCDIC

OPTION 405 — DEVICE ADDRESS (MCC)

DEVICE NUMBER	DEVICE ADDRESS		410403 (SPB13, B15 and B17) or 410411 (SPB4, B5 and B6)							
	CHARACTER	HEX	1	2	3	4	5	6	7	8
00	SPACE	40	O	O	O	O	O	O	●	O
01	A	C1	●	O	O	O	O	O	●	●
02	B	C2	O	●	O	O	O	O	●	●
03	C	C3	●	●	O	O	O	O	●	●
04	D	C4	O	O	●	O	O	O	●	●
05	E	C5	●	O	●	O	O	O	●	●
06	F	C6	O	●	●	O	O	O	●	●
07	G	C7	●	●	●	O	O	O	●	●
08	H	C8	O	O	O	●	O	O	●	●
09	I	C9	●	O	O	●	O	O	●	●
10	¢	4A	O	●	O	●	O	O	●	O
11	.(PERIOD)	4B	●	●	O	●	O	O	●	O
12	<	4C	O	O	●	●	O	O	●	O
13	(	4D	●	O	●	●	O	O	●	O
14	+	4E	O	●	●	●	O	O	●	O
15	|	4F	●	●	●	●	O	O	●	O
16	&	50	O	O	O	O	●	O	●	O
17	J	D1	●	O	O	O	●	O	●	●
18	K	D2	O	●	O	O	●	O	●	●
19	L	D3	●	●	O	O	●	O	●	●
20	M	D4	O	O	●	O	●	O	●	●
21	N	D5	●	O	●	O	●	O	●	●
22	O	D6	O	●	●	O	●	O	●	●
23	P	D7	●	●	●	O	●	O	●	●
24	Q	D8	O	O	O	●	●	O	●	●
25	R	D9	●	O	O	●	●	O	●	●
26	!	5A	O	●	O	●	●	O	●	O
27	$	5B	●	●	O	●	●	O	●	O
28	*	5C	O	O	●	●	●	O	●	O
29	)	5D	●	O	●	●	●	O	●	O
30	;	5E	O	●	●	●	●	O	●	O
31	¬	5F	●	●	●	●	●	O	●	O
32	- (MINUS)	60	O	O	O	O	O	●	●	O
33	/	61	●	O	O	O	O	●	●	O
34	S	E2	O	●	O	O	O	●	●	●
35	T	E3	●	●	O	O	O	●	●	●

LEGEND: | is "logical OR" (see Device No. 15).
¬ is "logical NOT" (see Device No. 31).

PRINTER OPTIONS

4.06 Refer to 4.07 to determine which paragraphs apply to the printer(s) in a given station.

4.07 Printer Option Reference Guide

PRINTER CODE	DESCRIPTION	COMPATIBLE PRINTER LOGIC CIRCUIT CARD	FOR OPTIONS, REFER TO THE FOLLOWING PARAGRAPHS
40P101/ZZ	FF 80-COLUMN	410640	4.08 and 4.10
		410076	4.08 and 4.12
40P102/ZZ	FF 80-COLUMN	410076	4.08 and 4.12
40P151/ZZ	TF 80-COLUMN	410640	4.08 and 4.10
		410076	4.08 and 4.12
40P154/ZZ or 40P253/ZZ	TF 80-COLUMN or TF 80-COLUMN (Forms Access)	410071	4.08, 4.13 and 4.15
40P201/ZZ	TF 132-COLUMN	410729	4.09, 4.11 and 4.15
		410072*	4.09, 4.14 and 4.15
40P202/ZZ	TF 132-COLUMN	410072	4.09, 4.14 and 4.15

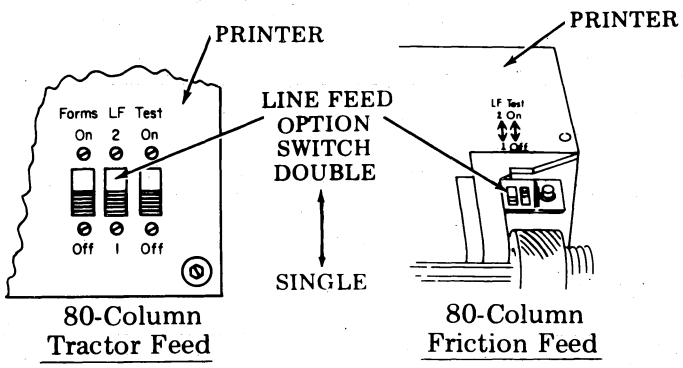
FF — Friction Feed
TF — Tractor Feed

*Use of the 410072 card in a 40P201/ZZ printer requires use of a 402980 lower pan assembly. The 402887 modification kit includes both a 410072 card and a 402980 lower pan assembly. The 402980 lower pan assembly is compatible with either the 410729 or 410072 circuit cards.

Note: Selected printer options must be entered on the Controller Arrangement Form located in the DCC or MCC to which printer is connected.

4.08 Location of "Forms" and "LF" switches on all 80-column printers.

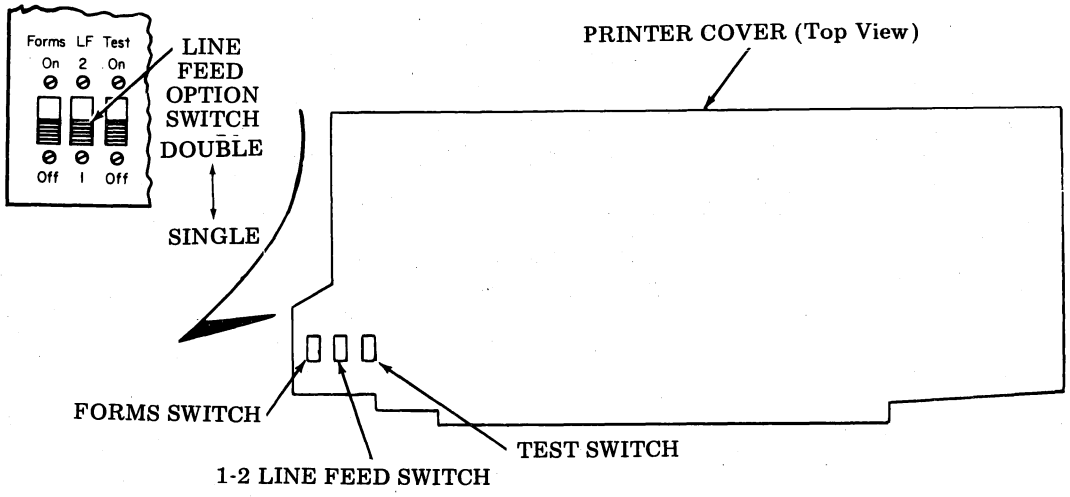
Note: The switches are on the left side for the 40P154/ZZ and 40P253/ZZ printers.



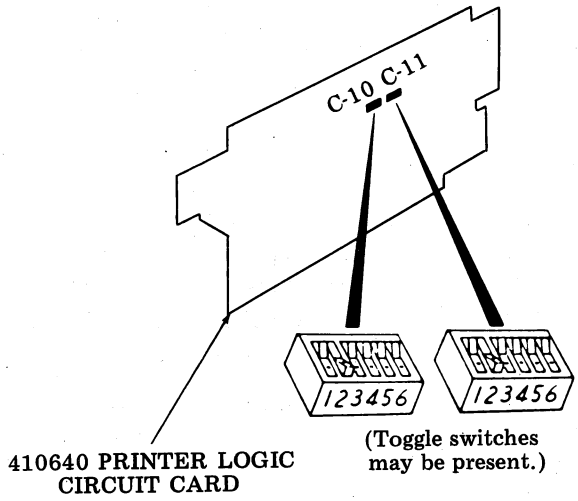
80-Column Tractor Feed

80-Column Friction Feed

4.09 Location of "Forms" and "LF" switches on all 132-column printers.



4.10 Printer Options For 410640 Circuit Card (See 4.07.)



For 80 Column Applications

17. Printer Right Margin and Form Length		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
c.	Last Character on 80th Column	—	—	—	—	—	—	O	●	●	O	—	—	*
d.(X)	Last Character on 79th Column	—	—	—	—	—	—	—	●	●	●	—	—	
	Last Character on 78th Column	—	—	—	—	—	—	●	—	—	●	—	—	
	Last Character on 77th Column	—	—	—	—	—	—	●	—	●	—	—	—	
	Last Character on 76th Column	—	—	—	—	—	—	●	—	●	●	—	—	
	Last Character on 75th Column	—	—	—	—	—	—	●	●	—	●	—	—	
	Last Character on 74th Column	—	—	—	—	—	—	●	●	●	—	—	—	
	Last Character on 73rd Column	—	—	—	—	—	—	●	●	●	●	—	—	

Unless otherwise specified, choose 17.c.

(X) — Indicates desired column number.

Note: If printer right margin specified is 36 through 72, a 410076 circuit card must be used.

18. Printer Paper Feed Out ("RM" is Receive Message)		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
a.	No Paper Feed Out	●	—	—	—	—	—	—	—	—	—	—	O	
b.	Paper Feed Out on "RM" Loss — 16 Lines	O	—	—	—	—	—	—	—	—	—	—	O	
c.	Paper Feed Out on "RM" Loss or ETX	O	—	—	—	—	—	—	—	—	—	—	●	*

Unless otherwise specified, choose 18.a.

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

19. Printer Errored Character Symbol		C-10						C-11					
		1	2	3	4	5	6	1	2	3	4	5	6
c.	Not Printed on Parity Error	—	—	—	●	●	—	—	—	—	—	—	—

→ Required Selection

19. Character Set		C-10						C-11					
		1	2	3	4	5	6	1	2	3	4	5	6
d.	Printers with 96 Character Set (Up-Low)	—	●	○	—	—	—	—	—	—	—	—	—
e.	Printers with 64 Character Set (Monocase)	—	○	●	—	—	—	—	—	—	—	—	—
f.	Printers with Special Carrier (Line Drawing)	—	○	○	—	—	—	—	—	—	—	—	—

Use of 400629 (A/B) or 400784 (A/M) type carriers require selection of 19.d.
Use of 400645 (A/A) or 400785 (A/O) type carriers require selection of 19.e.
Use of 400775 (A/G) type carrier requires selection of 19.f. (internal use only).

20. Line Feed on Printer		See 4.08.												
a.	Single													*
b.	Double													

Unless otherwise specified, choose 20.a.

21. Foldover on Up-Low Printer		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
a.	Lower Case and Upper Case Print	—	—	—	—	—	—	—	—	—	—	○	—	
b.	Lower Case Prints as Upper Case	—	—	—	—	—	—	—	—	—	—	●	—	*

→ Consider only with selection of 19.d. or 19.f.

Unless otherwise specified, choose 21.a.

22. Foldover on Monocase Printer		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
a.	Lower Case Not Folded Over	—	—	—	—	—	—	—	—	—	—	○	—	
b.	Lower Case Printed as Upper Case	—	—	—	—	—	—	—	—	—	—	●	—	*

→ Consider only with selection of 19.e.

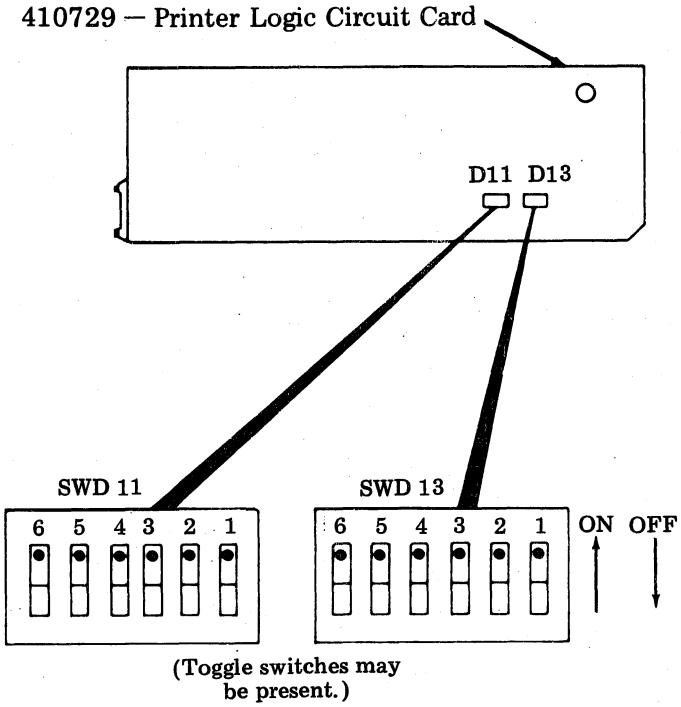
Unless otherwise specified, choose 22.b.

39. Forms (Tractor Printer Only)		See 4.08.												
a.	On													
b.	Off													*

Unless otherwise specified, choose 39.a.

● Indicates on.
○ Indicates off.
— Position of switch does not affect option.
* Factory optioned.

4.11 Printer Options For 410729 Circuit Card (See 4.07.)



17.	Printer Right Margin and Form Width	D11 6	5	4	3	2	1	D13 6	5	4	3	2	1	
e.	Last Character on Column 132	—	—	—	—	—	—	O	O	O	●	—	—	*
f.(X)	Last Character on Column 131	—	—	—	—	—	—	O	O	●	O	—	—	
	Last Character on Column 130	—	—	—	—	—	—	O	O	●	●	—	—	
	Last Character on Column 129	—	—	—	—	—	—	O	●	O	●	—	—	
	Last Character on Column 128	—	—	—	—	—	—	O	●	●	O	—	—	
	Last Character on Column 127	—	—	—	—	—	—	O	●	●	●	—	—	
	Last Character on Column 126	—	—	—	—	—	—	●	O	O	●	—	—	
	Last Character on Column 125	—	—	—	—	—	—	●	O	●	O	—	—	
	Last Character on Column 124	—	—	—	—	—	—	●	O	●	●	—	—	
	Last Character on Column 123	—	—	—	—	—	—	●	●	O	●	—	—	
	Last Character on Column 122	—	—	—	—	—	—	●	●	●	O	—	—	
	Last Character on Column 121	—	—	—	—	—	—	●	●	●	●	—	—	

Unless otherwise specified, choose 17.e.

(X) — Indicates desired column number.

Note: If right margin specified is 73 through 120, a 410072 circuit card must be used.

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

18. Printer Paper Feed Out		D11						D13						
		6	5	4	3	2	1	6	5	4	3	2	1	
a.	No Paper Feed Out	–	–	●	–	–	–	–	–	–	–	–	○	
b.	Paper Feed Out on RM Loss – 16 Lines	–	–	○	–	–	–	–	–	–	–	–	○	
c.	Paper Feed Out on RM Loss or ETX	–	–	○	–	–	–	–	–	–	–	–	●	*

Unless otherwise specified, choose 18.a.

19. Printer Errored Character Symbol		D11						D13						
		6	5	4	3	2	1	6	5	4	3	2	1	
c.	Not Printed on Parity Error	–	–	–	●	●	–	–	–	–	–	–	–	*

Required Selection

19. Character Set		D11						D13						
		6	5	4	3	2	1	6	5	4	3	2	1	
d.	Printers With 96-Character Set (Up-Low)	●	○	–	–	–	–	–	–	–	–	–	–	
e.	Printers With 64-Character Set (Monocase)	○	●	–	–	–	–	–	–	–	–	–	–	*

Use of 400777 (▲5) or 400783 (▲M) type carriers, require selection of 19.d.
Use of 400780 (▲1) or 400887 (▲2) type carriers, require selection of 19.e.

20. Line Feed on Printer		See 4.09.												
a.	Single													*
b.	Double													

Unless otherwise specified, choose 20.a.

21. Foldover on Up-Low Printer		D11						D13						
		6	5	4	3	2	1	6	5	4	3	2	1	
a.	Lower Case and Upper Case Print	–	–	–	–	–	–	–	–	–	–	○	–	
b.	Lower Case Prints as Upper Case	–	–	–	–	–	–	–	–	–	–	●	–	*

Consider only with selection of 19.d.
Unless otherwise specified, choose 21.a.

● Indicates on.
○ Indicates off.
– Position of switch does not affect option.
* Factory optioned.

22. Foldover on Monocase Printer		D11						D13						
		6	5	4	3	2	1	6	5	4	3	2	1	
a.	Lower Case Prints as Error Symbol	—	—	—	—	—	—	—	—	—	—	O	—	
b.	Lower Case Prints as Upper Case	—	—	—	—	—	—	—	—	—	—	●	—	*

Consider only with selection of 19.e.
Unless otherwise specified, choose 22.b.

39. Forms		Refer to 4.09.												
a.	On													
b.	Off													*

Unless otherwise specified, choose 39.a.

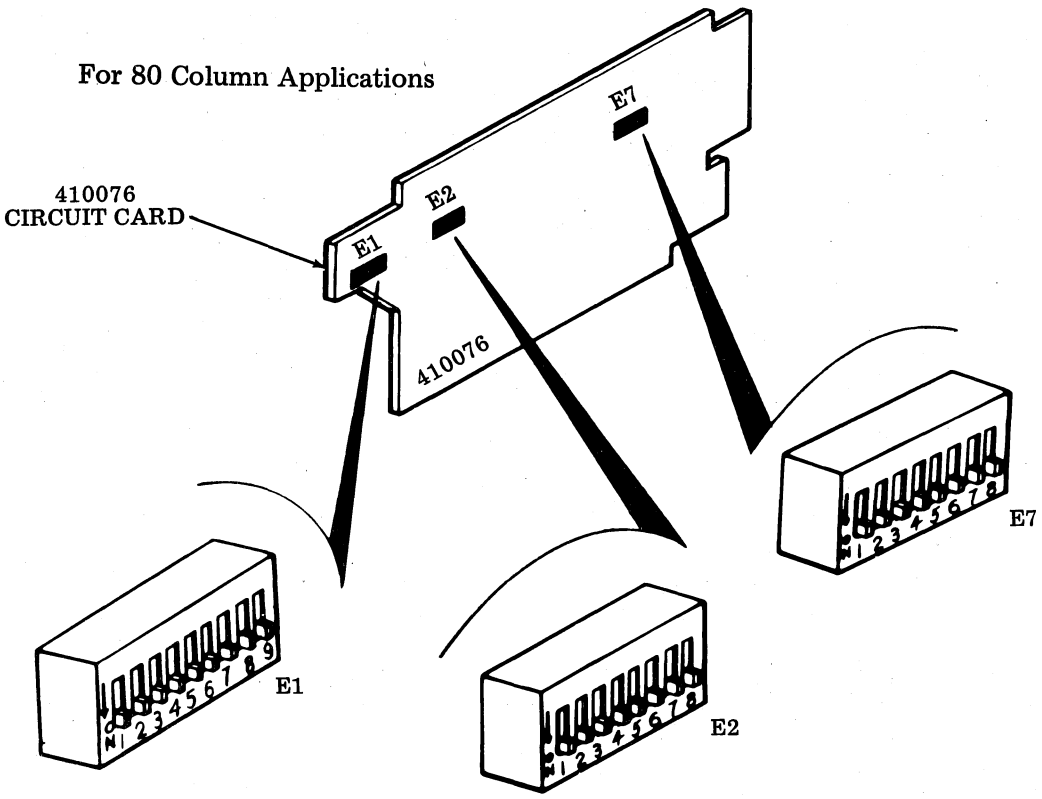
48. Incomplete Form Suppresses Paper Alarm		D11						D13						
		6	5	4	3	2	1	6	5	4	3	2	1	
a.	No (Paper Out Not Gated With Form Out)	—	—	—	—	—	●	—	—	—	—	—	—	
b.	Yes (Paper Out Gated With Form Out)	—	—	—	—	—	O	—	—	—	—	—	—	*

Unless otherwise specified, choose 48.b.

Also see 4.15 for other printer options.

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

4.12 Printer Options For 410076 Circuit Card (See 4.07.)



17.	Printer Left Margin and Form Width	E7								
		1	2	3	4	5	6	7	8	
a.	First Printer Column — Column 1	—	—	●	●	●	●	—	—	*
b.(X)	First Printer Column — Column 2	—	—	●	●	○	●	—	—	
	First Printer Column — Column 3	—	—	●	●	○	○	—	—	
	First Printer Column — Column 4	—	—	●	○	○	○	—	—	
	First Printer Column — Column 5	—	—	○	○	●	○	—	—	
	First Printer Column — Column 6	—	—	○	○	○	●	—	—	
	First Printer Column — Column 7	—	—	○	●	○	○	—	—	
	First Printer Column — Column 8	—	—	●	○	●	○	—	—	
	First Printer Column — Column 9	—	—	○	○	●	●	—	—	
	First Printer Column — Column 10	—	—	○	●	○	●	—	—	
	First Printer Column — Column 11	—	—	●	●	●	○	—	—	
	First Printer Column — Column 12	—	—	●	○	○	●	—	—	
	First Printer Column — Column 13	—	—	○	●	●	○	—	—	

Unless otherwise specified, choose 17.a.

(X) — Indicates desired column number.

● Indicates on.
○ Indicates off.
— Position of switch does not affect option.
* Factory optioned.

17.	Printer Right Margin and Form Width	E1									E2								E7								
	Last Char Printed Column Number	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
c.	80	—	—	—	—	O	●	—	●	O	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	*
d.(X)	73 61 49 37 25	—	—	—	—	●	●	—	●	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	
	74 62 50 38 26	—	—	—	—	●	●	—	●	O	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	
	75 63 51 39 27	—	—	—	—	●	●	—	O	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	
	76 64 52 40 28	—	—	—	—	●	O	—	●	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	
	77 65 53 41 29	—	—	—	—	●	O	—	●	O	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	
	78 66 54 42 30	—	—	—	—	●	O	—	O	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	
	79 67 55 43 31	—	—	—	—	O	●	—	●	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	
	68 56 44 32	—	—	—	—	O	●	—	●	O	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	
	69 57 45 33	—	—	—	—	O	●	—	O	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	
	70 58 46 34	—	—	—	—	O	O	—	●	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	
	71 59 47 35	—	—	—	—	O	O	—	●	O	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	
	72 60 48 36	—	—	—	—	O	O	—	O	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—	

To obtain counts:

73 through 80 program as shown.
61 through 72 program as shown, then operate E7 position 2 to OFF.
49 through 60 program as shown, then operate E7 position 1 to OFF.
37 through 48 program as shown, then operate E2 position 7 to OFF.
25 through 36 program as shown, then operate E2 position 8 to OFF.

Unless otherwise specified, choose 17.c.

X — Indicates desired column number.

18.	Printer Paper Feed Out	E1									E2						
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7
a.	No Paper Feed Out	●	—	—	—	—	—	—	—	—	—	—	—	—	—	O	—
b.	Paper Feed Out on RM Loss — 16 Lines or One Form	O	—	—	—	—	—	—	—	—	—	—	—	—	—	O	—
c.	Paper Feed Out on RM Loss or ETX — 16 Lines or One Form	O	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—

*

Unless otherwise specified, choose 18.a. See Option 58.

19.	Printer Errored Character Symbol	E1								
		1	2	3	4	5	6	7	8	9
c.	Not Printed on Parity Error	—	—	●	●	—	—	—	—	—

*

Required Selection

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

19. Character Set		E2								
		1	2	3	4	5	6	7	8	
d.	Printers With 96-Character Set (Up-Low)	—	—	—	O	●	—	—	—	
e.	Printers With 64-Character Set (Monocase)	—	—	—	●	O	—	—	—	*
f.	Printers With Special Carrier (Line Drawing)	—	—	—	O	O	—	—	—	

Use of 400629 (▲▲) or 400784 (▲▲) type carriers require selection of 19.d.
Use of 400645 (▲▲) or 400785 (▲▲) type carriers require selection of 19.e.
Use of 400775 (▲▲) type carrier requires selection of 19.f. (internal use only).

20. Line Feed on Printer		See 4.08.								
a.	Single									*
b.	Double									

Unless otherwise specified, choose 20.a.

21. Foldover on Up-Low Printer		E2								
		1	2	3	4	5	6	7	8	
a.	Lower Case and Upper Case Print	—	—	O	—	—	—	—	—	
b.	Lower Case Prints as Upper Case	—	—	●	—	—	—	—	—	*

→Consider only with selection of 19.d. or 19.f.
Unless otherwise specified, choose 21.a.

22. Foldover on Monocase Printer		E2								
		1	2	3	4	5	6	7	8	
a.	Lower Case Prints as Error Symbol	—	—	O	—	—	—	—	—	
b.	Lower Case Prints as Upper Case	—	—	●	—	—	—	—	—	*

→Consider only with selection of 19.c.
Unless otherwise specified, choose 22.b.

39. Forms		Refer to 4.08.								
a.	On									
b.	Off									*

Unless otherwise specified, choose 39.a.

48. Incomplete Form Suppresses Paper Alarm		E2								
		1	2	3	4	5	6	7	8	
a.	No (Paper Out Not Gated With Form Out)	—	●	—	—	—	—	—	—	
b.	Yes (Paper Out Gated With Form Out)	—	O	—	—	—	—	—	—	*

→Position of switch has no effect with Friction Feed Printer.
For Tractor Feed Printer, unless otherwise specified, choose 48.b.

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

54. Printing of Escape Sequences Suppressed		E1									
		1	2	3	4	5	6	7	8	9	
a.	Character After ESC Printed as Received	—	O	—	—	—	—	—	—	—	*
b.	Printing of Character After ESC Suppressed	—	●	—	—	—	—	—	—	—	

→Not Applicable — Position of switch does not affect operation.

55. SI/SO Detection		E1									
		1	2	3	4	5	6	7	8	9	
a.	SI/SO Detection Not Used	—	—	—	—	—	—	O	—	—	*
b.	SI/SO Detection Enables Printing Additional Characters	—	—	—	—	—	—	●	—	—	

→Not Applicable — Position of switch does not affect operation.

56. Friction Feed /Tractor Feed Printer		E2								
		1	2	3	4	5	6	7	8	
a.	Friction Feed Printer — Motor Held on After Paper Alarm	O	—	—	—	—	—	—	—	*
b.	Tractor Feed Printer — Motor Turned Off After Paper Alarm	●	—	—	—	—	—	—	—	

→Friction Feed Printer — Choose 56.a.
Tractor Feed Printer — Choose 56.b.

57. SSI/OEM Interface		E7								
		1	2	3	4	5	6	7	8	
a.	SSI	—	—	—	—	—	—	●	—	*

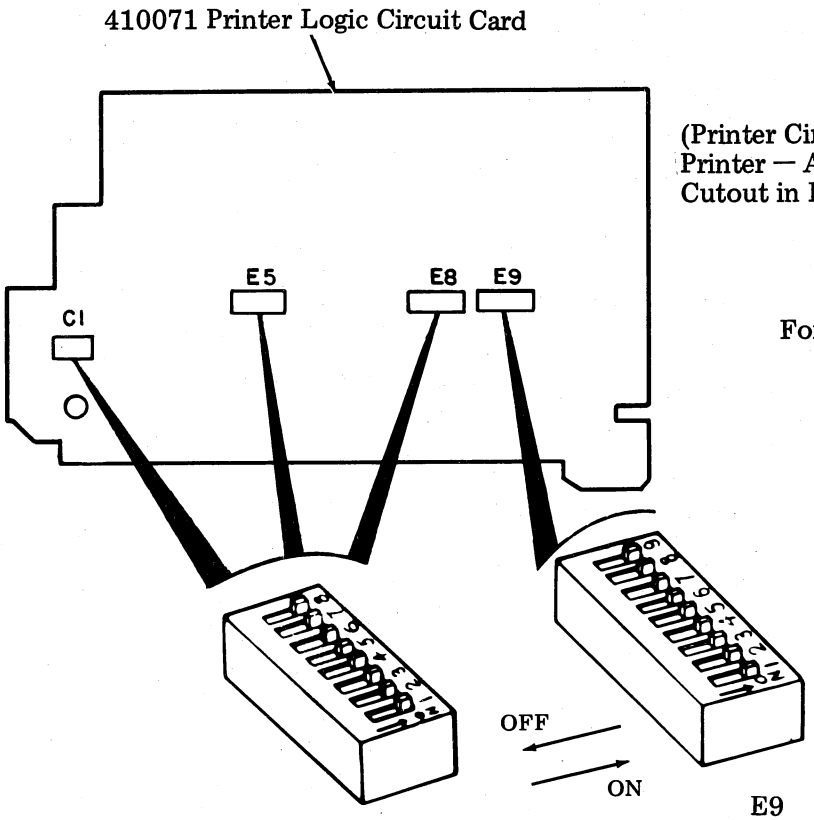
→Required Selection

58. Idle Line Motor Control		E7								
		1	2	3	4	5	6	7	8	
a.	Disabled — Motor Held On Indefinitely During Idle Line	—	—	—	—	—	—	—	O	*
b.	Enabled — Motor Turned Off After 40-Second Idle Line	—	—	—	—	—	—	—	●	

→ Not Applicable. Printer motor turns off approximately 20 seconds after printout unless printing of next message begins — position of switch does not affect operation.

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

4.13 Printer Options for 410071 Circuit Card (See 4.07.)



(Printer Circuit Card Viewed From Beneath Printer — Access to Switches is Through a Cutout in Bottom Pan of Printer.)

For 80 Column Applications

17.	Printer Left Margin and Form Width	E5 1	2	3	4	5	6	7	8	
a.	First Printed Column — Column 1	—	—	●	●	●	●	—	—	*
b.(X)	First Printed Column — Column 2	—	—	●	●	O	●	—	—	
	First Printed Column — Column 3	—	—	●	●	O	O	—	—	
	First Printed Column — Column 4	—	—	●	O	O	O	—	—	
	First Printed Column — Column 5	—	—	O	O	●	O	—	—	
	First Printed Column — Column 6	—	—	O	O	O	●	—	—	
	First Printed Column — Column 7	—	—	O	●	O	O	—	—	
	First Printed Column — Column 8	—	—	●	O	●	O	—	—	
	First Printed Column — Column 9	—	—	O	O	●	●	—	—	
	First Printed Column — Column 10	—	—	O	●	O	●	—	—	
	First Printed Column — Column 11	—	—	●	●	●	O	—	—	
	First Printed Column — Column 12	—	—	●	O	O	●	—	—	
	First Printed Column — Column 13	—	—	O	●	●	O	—	—	

Unless otherwise specified, choose 17.a.
(X) — indicates desired column number.

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

17.	Printer Right Margin and Form Width																										
	Last Char Printed Column Number	E9									E5								E8								
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
c.	80	O	●	—	●	O	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	*
d. (X)	73 61 49 37 25	●	●	—	●	●	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	
	74 62 50 38 26	O	●	—	●	●	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	
	75 63 51 39 27	●	O	—	●	●	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	
	76 64 52 40 28	●	●	—	O	●	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	
	77 65 53 41 29	O	●	—	O	●	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	
	78 66 54 42 30	●	O	—	O	●	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	
	79 67 55 43 31	●	●	—	●	O	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	
	68 56 44 32	O	●	—	●	O	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	
	69 57 45 33	●	O	—	●	O	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	
	70 58 46 34	●	●	—	O	O	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	
	71 59 47 35	O	●	—	O	O	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	
	72 60 48 36	●	O	—	O	O	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	

To obtain counts:

73 through 80 program as shown.
61 through 72 program as shown, then operate E8 position 8 to OFF.
49 through 60 program as shown, then operate E5 position 1 to OFF.
37 through 48 program as shown, then operate E5 position 7 to OFF.
25 through 36 program as shown, then operate E5 position 8 to OFF.

Unless otherwise specified, choose 17.c.
(X) — Indicates desired column number.

18.	Printer Paper Feed Out	E8								
		1	2	3	4	5	6	7	8	
a.	No Paper Feed Out	—	—	●	—	—	—	—	—	
b.	Paper Feed Out on RM Loss — 16 Lines or One Form	—	O	O	—	—	—	—	—	
c.	Paper Feed Out on RM Loss or ETX — 16 Lines or One Form	—	●	O	—	—	—	—	—	*

Unless otherwise specified, choose 18.a.

19.	Printer Errored Character Symbol	E9								
		1	2	3	4	5	6	7	8	9
c.	Not Printed on Parity Error	—	—	—	—	—	●	●	—	—

→Required Selection

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

19. Character Set		E8								
		1	2	3	4	5	6	7	8	
d.	Printers With 96-Character Set (Up-Low)	—	—	—	—	●	O	—	—	
e.	Printers With 64-Character Set (Monocase)	—	—	—	—	O	●	—	—	*
f.	Printers With Special Carrier (Line Drawing)	—	—	—	—	O	O	—	—	

Use of 400629 ( ) or 400784 ( ) type carriers require selection of 19.d.
Use of 400645 ( ) or 400785 ( ) type carriers require selection of 19.e.
Use of 400775 ( ) type carrier requires selection of 19.f. (internal use only).

20. Line Feed on Printer		See 4.08.								
a.	Single									*
b.	Double									

Unless otherwise specified, choose 20.a.

21. Foldover on Printers With 96-Character Set		E8								
		1	2	3	4	5	6	7	8	
a.	Lower Case and Upper Case Print	O	—	—	—	—	—	—	—	
b.	Lower Case Prints as Upper Case	●	—	—	—	—	—	—	—	*

→ Consider only with selection of 19.d. or 19.f.

Unless otherwise specified, choose 21.a.

22. Foldover on Printers With 64-Character Set		E8								
		1	2	3	4	5	6	7	8	
a.	Lower Case Prints as Error Symbol	O	—	—	—	—	—	—	—	
b.	Lower Case Prints as Upper Case	●	—	—	—	—	—	—	—	*

→ Consider only with selection of 19.e.

Unless otherwise specified, choose 22.b.

39. Forms (Tractor Printer Only)		See 4.08.								
a.	On									
b.	Off									*

Unless otherwise specified, choose 39.a.

48. Incomplete Form Suppresses Paper Alarm		E9									
		1	2	3	4	5	6	7	8	9	
a.	No (Paper Out Not Gated With Form Out)	—	—	—	—	—	—	—	—	●	
b.	Yes (Paper Out Gated With Form Out)	—	—	—	—	—	—	—	—	O	*

Unless otherwise specified, choose 48.b.

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

54. Printing of Escape Sequences Suppressed		E9									
		1	2	3	4	5	6	7	8	9	
a.	Character After ESC Printed as Received	—	—	—	—	—	—	—	O	—	*
b.	Printing of Character After ESC Suppressed	—	—	—	—	—	—	—	●	—	

Not Applicable — Position of switch does not affect operation.

55. SI/SO Detection		E9									
		1	2	3	4	5	6	7	8	9	
a.	SI/SO Detection Not Used	—	—	O	—	—	—	—	—	—	*
b.	SI/SO Detection Enables Printing Additional Characters	—	—	●	—	—	—	—	—	—	

Not Applicable — Position of switch does not affect operation.

57. SSI/OEM Interface		E8								
		1	2	3	4	5	6	7	8	
a.	SSI	—	—	—	—	—	—	●	—	*

Required Selection

58. Idle Line Motor Control		E8								
		1	2	3	4	5	6	7	8	
a.	Disabled — Motor Held On Indefinitely During Idle Line				O					*
b.	Enabled — Motor Turned Off After 40-Second Idle Line				●					

Not Applicable. Printer motor turns off approximately 20 seconds after printout unless printing of next message begins — position of switch does not affect operation.

59. Speed Selection		C1								
		1	2	3	4	5	6	7	8	
a.	75 Baud	●	O	O	O	O	O	O	O	
b.	150 Baud	O	●	O	O	O	O	O	O	
c.	300 Baud	O	O	O	O	O	O	O	●	
d.	600 Baud	O	O	●	O	O	O	O	O	
e.	1200 Baud	O	O	O	O	O	●	O	O	
f.	2400 Baud	O	O	O	●	O	O	O	O	*
g.	4800 Baud	O	O	O	O	●	O	O	O	
h.	9600 Baud	O	O	O	O	O	O	●	O	

Not Applicable — Position of switch does not affect operation.

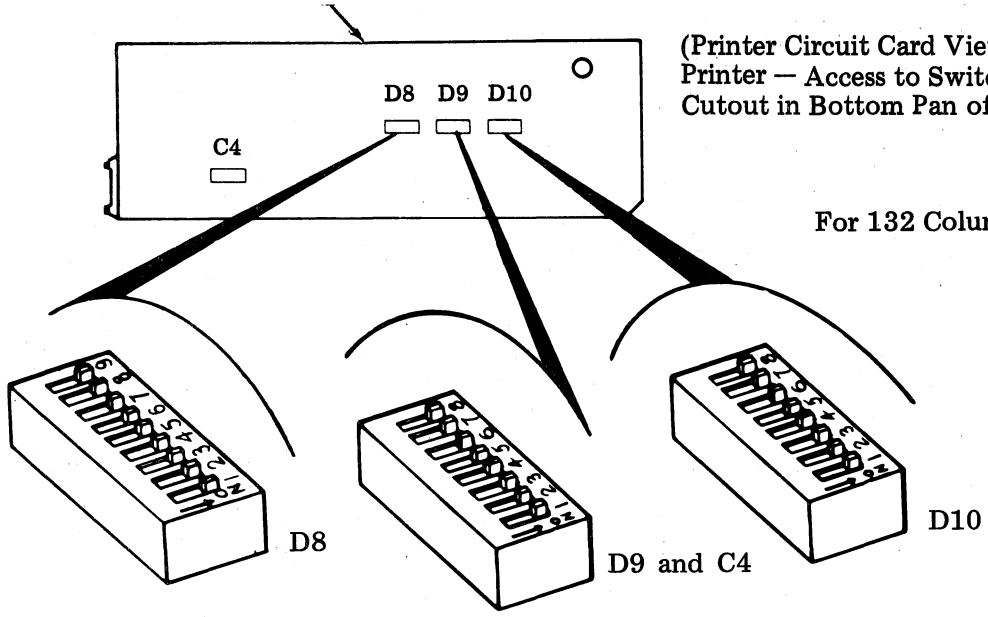
60. Aux Alarm		E5								
		1	2	3	4	5	6	7	8	
a.	Enable	—	O	—	—	—	—	—	—	
b.	Disable	—	●	—	—	—	—	—	—	*

Required selection, even for paper jam alarm.

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

4.14 Printer Option For 410072 Circuit Card (See 4.07)

410072 Printer Logic Circuit Card



(Printer Circuit Card Viewed From Beneath Printer — Access to Switches is Through a Cutout in Bottom Pan of Printer.)

For 132 Column Applications

17.	Printer Left Margin and Form Width	D8									
		1	2	3	4	5	6	7	8	9	
a.	First Printed Column — Column 1	—	—	●	●	●	●	—	—	—	*
b.(X)	First Printed Column — Column 2	—	—	●	●	O	●	—	—	—	
	First Printed Column — Column 3	—	—	●	●	O	O	—	—	—	
	First Printed Column — Column 4	—	—	●	O	O	O	—	—	—	
	First Printed Column — Column 5	—	—	O	O	●	O	—	—	—	
	First Printed Column — Column 6	—	—	O	O	O	●	—	—	—	
	First Printed Column — Column 7	—	—	O	●	O	O	—	—	—	
	First Printed Column — Column 8	—	—	●	O	●	O	—	—	—	
	First Printed Column — Column 9	—	—	O	O	●	●	—	—	—	
	First Printed Column — Column 10	—	—	O	●	O	●	—	—	—	
	First Printed Column — Column 11	—	—	●	●	●	O	—	—	—	
	First Printed Column — Column 12	—	—	●	O	O	●	—	—	—	
	First Printed Column — Column 13	—	—	O	●	●	O	—	—	—	

Unless otherwise specified, choose 17.a.

(X) — Indicates desired column number.

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

17.	Printer Right Margin and Form Width	D8									D9								D10								
	Last Char Printed Column Number	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
e.	132	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	●	○	—	○	○	—	—	—	*
f.(X)	121 109 97 85 73	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	●	●	—	●	●	—	—	—	
	122 110 98 86 74	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	○	●	—	●	●	—	—	—	
	123 111 99 87 75	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	●	○	—	●	●	—	—	—	
	124 112 100 88 76	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	●	●	—	○	●	—	—	—	
	125 113 101 89 77	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	○	●	—	○	●	—	—	—	
	126 114 102 90 78	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	●	○	—	○	●	—	—	—	
	127 115 103 91 79	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	●	●	—	●	○	—	—	—	
	128 116 104 92 80	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	○	●	—	●	○	—	—	—	
	129 117 105 93 81	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	●	○	—	●	○	—	—	—	
	130 118 106 94 82	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	●	●	—	○	○	—	—	—	
	131 119 107 95 83	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	○	●	—	○	○	—	—	—	
	120 108 96 84	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	●	●	●	○	—	○	○	—	—	—	

To obtain counts:

121 through 132 program as shown.
109 through 120 program as shown, then operate D9 position 7 off.
97 through 108 program as shown, then operate D9 position 8 off.
85 through 96 program as shown, then operate D8 position 7 off.
73 through 84 program as shown, then operate D8 position 8 off.

(X) — Indicates desired column number.

Unless otherwise specified, choose 17.e.

18.	Printer Paper Feed Out	D9								
		1	2	3	4	5	6	7	8	
a.	No Paper Feed Out	—	—	●	—	—	—	—	—	
b.	Paper Feed Out on RM Loss — 16 Lines or One Form	—	○	○	—	—	—	—	—	
c.	Paper Feed Out on RM Loss or ETX — 16 Lines or One Form	—	●	○	—	—	—	—	—	*

Unless otherwise specified, choose 18.a. See Option 58.

19.	Printer Errored Character Symbol	D10								
		1	2	3	4	5	6	7	8	
c.	Not Printed on Parity Error	—	—	—	—	—	●	●	—	*

→Required Selection

● Indicates on.
○ Indicates off.
— Position of switch does not affect option.
* Factory optioned.

19. Character Set		D8								
		1	2	3	4	5	6	7	8	9
d.	Printers With 96-Character Set (Up-Low)	●	O	—	—	—	—	—	—	—
e.	Printers With 64-Character Set (Monocase)	O	●	—	—	—	—	—	—	—

*

Use of 400777 ( ) or 400783 ( ) type carriers, require selection of 19.d.
Use of 400780 ( ) or 400887 ( ) type carriers, require selection of 19.e.

20. Line Feed on Printer		See 4.09.											
a.	Single												
b.	Double												

*

Unless otherwise specified, choose 20.a.

21. Foldover on Printers With 96-Character Set		D9							
		1	2	3	4	5	6	7	8
a.	Lower Case and Upper Case	O	—	—	—	—	—	—	—
b.	Lower Case Prints as Upper Case	●	—	—	—	—	—	—	—

*

Consider only with selection of 19.d.
Unless otherwise specified, choose 21.a.

22. Foldover on Printers With 64-Character Set		D9							
		1	2	3	4	5	6	7	8
a.	Lower Case Prints as Error Symbol	O	—	—	—	—	—	—	—
b.	Lower Case Prints as Upper Case	●	—	—	—	—	—	—	—

*

Consider only with selection of 19.e.
Unless otherwise specified, choose 22.b.

39. Forms (Tractor Printer Only)		See 4.09.											
a.	On												
b.	Off												

*

Unless otherwise specified, choose 39.a.

48. Incomplete Form Suppresses Paper Alarm		D9							
		1	2	3	4	5	6	7	8
a.	No (Paper Out Not Gated With Form Out)	—	—	—	●	—	—	—	—
b.	Yes (Paper Out Gated With Form Out)	—	—	—	O	—	—	—	—

*

Unless otherwise specified, choose 48.b.

54. Printing of Escape Sequences Suppressed		D10							
		1	2	3	4	5	6	7	8
a.	Character After ESC Printed as Received	—	—	—	—	—	—	—	O
b.	Printing of Character After ESC Suppressed	—	—	—	—	—	—	—	●

*

Not Applicable — Position of switch does not affect operation.

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

55. SI/SO Detection		D10								
		1	2	3	4	5	6	7	8	
a.	SI/SO Detection Not Used	—	—	O	—	—	—	—	—	*
b.	SI/SO Detection Enables Printing Additional Characters	—	—	●	—	—	—	—	—	

→Not Applicable — Position of switch does not affect operation.

57. SSI/OEM Interface		D8									
		1	2	3	4	5	6	7	8	9	
a.	SSI	—	—	—	—	—	—	—	—	●	*

→Required Selection

58. Idle Line Motor Control		D9								
		1	2	3	4	5	6	7	8	
a.	Disabled — Motor Held On Indefinitely During Idle Line	—	—	—	—	—	O	—	—	*
b.	Enabled — Motor Turned Off After 40-Second Idle Line	—	—	—	—	—	●	—	—	

→Not Applicable. Printer motor turns off approximately 20 seconds after printout unless printing of next message begins. — Position of switch does not affect operation.

59. Speed Selection (Applies Only if Option 57.b. is Selected)		C4								
		1	2	3	4	5	6	7	8	
a.	75 Baud	●	O	O	O	O	O	O	O	
b.	150 Baud	O	●	O	O	O	O	O	O	
c.	300 Baud	O	O	O	●	O	O	O	O	
d.	600 Baud	O	O	●	O	O	O	O	O	
e.	1200 Baud	O	O	O	O	O	O	●	O	
f.	2400 Baud	O	O	O	O	●	O	O	O	*
g.	4800 Baud	O	O	O	O	O	●	O	O	
h.	9600 Baud	O	O	O	O	O	O	O	●	

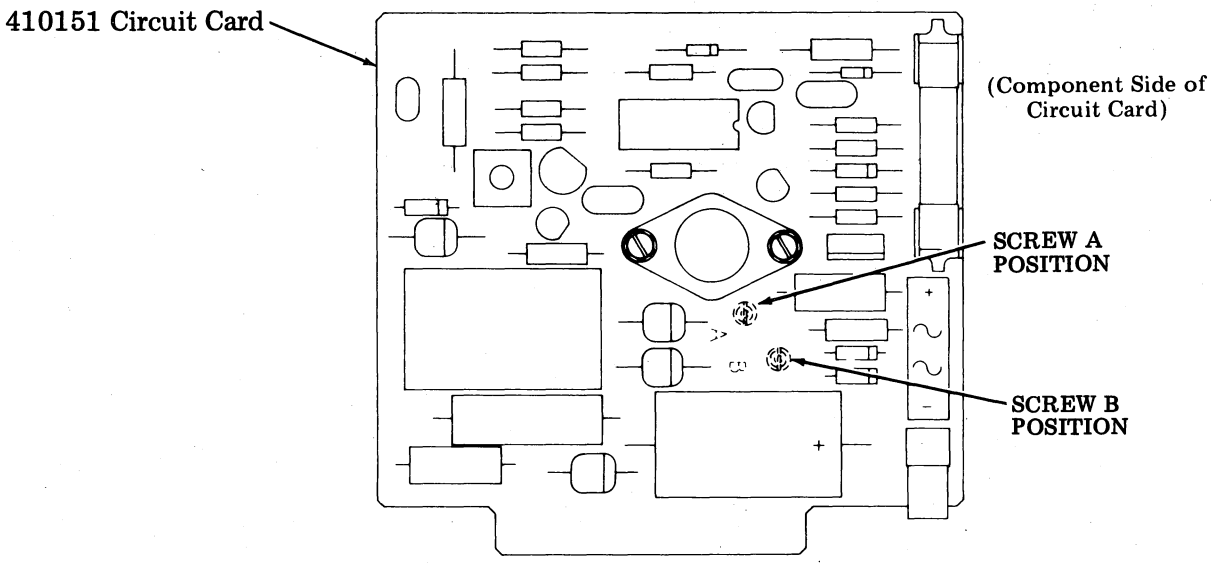
→Not Applicable — Position of switches do not affect operation.

60. Aux Alarm		D9								
		1	2	3	4	5	6	7	8	
a.	Enable	—	—	—	—	O	—	—	—	
b.	Disable	—	—	—	—	●	—	—	—	*

→Required selection, even for paper jam alarm.

● Indicates on.
O Indicates off.
— Position of switch does not affect option.
* Factory optioned.

4.15 Printer Options For 410151 Circuit Card (See 4.07.)



61.	Regulator Grounding Circuit Gnd to Frame Gnd)	Screw A		Screw B		
		Component	Noncomponent	Component	Noncomponent	
a.	SSI	In	—	—	In	
b.	(SSI/OEM) At Printer	In	—	In	—	*
c.	(OEM) Ext to Printer	—	In	In	—	

*Either 61.a. or 61.b. must be chosen for proper operation.

DATA SET, DATA SERVICE UNIT OPTIONS

4.16 BSP References:

201C Data Set (DS), 2400 BPS — Section 592-029-ZZZ and Tech Ref Pub. 41210.

208A Data Set (DS), 4800 BPS — Section 592-027-ZZZ and Tech Ref Pub. 41209.

209A Data Set (DS), 2400 BPS, 4800 BPS, 7200 BPS, 9600 BPS — Section 592-032-ZZZ.

500A — L1/2 Data Service Unit (DSU), 2400 BPS; 500A — L1/3 Data Service Unit (DSU), 4800 BPS; and 500A — L1/4 Data Service Unit (DSU), 9600 BPS — Section 595-200-ZZZ.

4.17 The three tables that follow list options for DSs and DSUs. The SCC or MCC should be connected to the DS or DSU. After making the connection and checking the options, go to Section 582-200-501.

4.18 A 201C-, 208A- or 209A-type data set (or an equivalent of these types of modems) can be used with the station arrangement provided there is access to private line facilities with basic 3002 conditioning. The 209A-type data set also requires D-conditioning. The referenced DSU (or equivalent) can be used as described in paragraph 4.19. A Local Area Data Set (LADS) can also be used.

201 AND 208-TYPE DATA SETS

	RECOMMENDATIONS FOR DATA SET AT 40/4 STATION			
	OPTION	201C-L1	201C-L1D	208A-L1 (Note 5)
	W/OUT AUX DATA SET 828 OR 829 (Note 4)	YJ	YJ	S3C-DOWN
	NEW SYNC — NOT USED (Note 3)	YA	YA	S4C-DOWN
	600 or 900 OHM IMPEDANCE	ZQ or ZR	—	—
	4-WIRE SWITCHED CARRIER (Note 1)	XA	XA	S4B-DOWN
	EIA INTERFACE	YK, YG, YE	YK	—
	XMIT LEVEL (Optional)	ZA—ZP	—	—
	REC LEVEL (Optional)	ZU	—	—
	COMP EQUALIZER IN	ZS	—	—
	INTERNAL XMIT TIMING	YC	YC	S3A-DOWN
	DSR "ON" IN AL-MODE	—	YM	S1A-UP
	NO COMP EQUALIZER TEST ¶ (LP button will not short line signal)	—	—	S1B-UP
	RETRAIN EQUALIZER AUTOMATICALLY ¶ (Automatic check and adjustment of equalization upon receive)	—	—	S3B-UP
	1-SEC HOLDOVER ENABLED ¶ (Maintain sync during line dropouts up to 1 second)	—	—	S4A-DOWN
	EQUALIZER ADJ (Note 2) (Symetrical amplification and delay)	—	—	S2B-UP S2C-UP
	SWITCHED RTS (Note 1)	—	—	S1C-DOWN
	CONT REC BIT CLOCK IN	—	YO	—
	RECOMMENDATIONS FOR DATA SET AT CUSTOMER LCU — SAME AS ABOVE EXCEPT:			
OMIT	4-WIRE SWITCHED CARRIER	XA	XA	S4B-DOWN
OMIT	1-SEC HOLDOVER ENABLED	—	—	S4A-DOWN
OMIT	NEW SYNC NOT USED (Note 3)	YA	YA	S4C-DOWN
ADD	CONTINUOUS CARRIER	XB	XB	S4B-UP
ADD	1-SEC HOLDOVER-DISABLED	—	—	S4A-UP
ADD	NEW SYNC USED (Note 3) (If required at customer machine, insures fast reset upon incoming messages)	YB	YB	S4C-UP

¶ Required for 208A-L1.

Note 1: In a single 40/4 Station telephone channel to a customer's equipment station, continuous carrier and continuous RTS options are preferred at the station. For 208 with switched carrier, RTS to CTS delay is 48.5 ms and carrier turns off within 2 ms after RTS goes off. For 208 with constant carrier but switched RTS, RTS to CTS delay is approximately 8 ms.

(other notes on next page)

Note 2: For switched carrier operation, correct setting of the compromise equalizer must be determined using the Compromise Equalizer Test in Section 592-027-500.

Note 3: In multipoint station arrangements, the data set at the customer LCU may use NEW SYNC OPTION to quench timing signals in the data set and condition the receiver for the next message — if required, refer to customer LCU requirements. Not required at LCU for point-to-point station arrangements.

Note 4: When 828 or 829 is used, Option YI should be installed. (For 208A-L1: S3C-UP.)

Note 5: The 208 will be equipped with switches or push-on straps. Strap positions correspond to switch positions:

1A	3A
1B	3B
1C	3C
2A	4A
2B	4B
2C	4C

209A DATA SET

RECOMMENDATIONS FOR DATA SET AT 40/4 STATION			
OPTION		DESCRIPTION OF OPTION	INSTALL SWITCH OR STRAP
WN		Compromise Equalizer Receiver Phase Out	S1-2
WK		Compromise Equalizer Receive Slope In	S1-4
WS		Compromise Equalizer Transmitter Phase Out	S1-7
WF		Elastic Store Enable 3 Out	S2-4
WH		Elastic Store Enable 4 Out	S2-8
WP		Compromise Equalizer Transmitter Slope In	S3-1
WB		Elastic Store Enable 1 Out	S3-4
WD		Elastic Store Enable 2 Out	S3-6
YJ		828 or 829 DAS Not Used	S3-8
YM		DSR On in AL Mode	S5-1
XI		4-Wire Continuous Carrier (Continuous RS) and Automatic Retrain	S5-8
YX		1-Second Holdover In	S5-5
YC		Internal Timing	S6-2
WJ		Slave Out	S6-4
RECOMMENDATIONS FOR DATA SET AT CUSTOMER LCU — SAME AS ABOVE EXCEPT:			
OMIT	XI	4-Wire Continuous Carrier (Continuous RS) and Automatic Retrain	S5-8
	YX	1-Second Holdover In	S5-5
ADD	XG	4-Wire Continuous Carrier (Switched RS) and Automatic Retrain	S5-6
	YW	1-Second Holdover Out	S5-4

4.19 A 500A-type Data Service Unit (DSU) can be used with a station arrangement provided there is access to a synchronous digital data system. The 500A-L1/2 operates at 2400 BPS and uses the HN1 and HP1 circuit cards. The 500A-L1/3 operates at 4800 BPS and uses the HN2 and HP1 circuit cards. The 500A-L1/4 operates at 9600 BPS and uses the HN3 and HP1 circuit cards.

Note 1: Option WV required only under guidelines of Section 886-100-115 when local cable pairs are too short for proper operation of receiver.

Note 2: DSUs are not capable of near-end analog loopback.

Note 3: Refer to Section 595-200-ZZZ for details.

500A-TYPE DSUs

CIRCUIT OPTIONS	OPTION	FEATURE	SWITCH	SWITCH POSITION	CP
	WV	Fixed line build-out network installed (Note 1)	S1A	3	HN1 or HN2 or HN3
			S1B	5	
			S1C	9	
	WW	Fixed line build-out network removed	S1A	2	
			S1B	6	
			S1C	8	
	YK††	Signal ground connected to frame ground	S2	IN	
	YL	Signal ground disconnected from frame ground		OUT	
	YS ‡‡	Continuous request-to-send (permanent RTS)	S3A	2	HP1
	YT††	Switched request-to-send		3	
	YQ	Circuit assurance installed (Note 2)	S3B	6	
	YR††	Circuit assurance removed		5	
	XK	System status installed (Note 2)	S3C	9	
	XL††	System status removed		8	
PHYSICAL OPTIONS	XM	Switch LED assembly installed to rear			HN1 or HN2 or HN3
	XN††	Switch LED assembly installed to front			
	XO††	LL spring clip installed			
	XP	LL spring clip not installed			

††Recommended Options

‡‡(1) In a point-to-point station arrangement, it is recommended that continuous RTS (YS) option be selected instead of switched RTS (YT).

(2) Continuous RTS (YS) option should always be chosen at customer LCU regardless of whether system is in point-to-point or multipoint environment.

5. ADJUSTMENTS

5.01 The only adjustments in the station are in printers, printer cabinets, and monitors.

5.02 Printer adjustments are given in Section 582-210-250.

5.03 Printer cabinet adjustments are given in Section 582-210-700.

MONITOR ADJUSTMENTS

5.04 Make monitor adjustments during station installation only when one of the conditions below exists when the attendant brightness is fully turned up and characters are displayed (you may have to enter characters from the keyboard);

- Raster is too bright or not visible at all.
- Characters are not in focus.
- Characters not of uniform size as gauged by eye.
- A line of characters is not parallel to the top and bottom of the tube face as gauged by eye.
- After a three minute warm-up, 80 columns by 24 lines is displayed as 11-1/4 inches ±1/4 inch by 5-1/4 inches ±1/8 inch as gauged by eye.

Danger: Wear safety glasses when the monitor housing is removed, and observe all safety precautions to avoid accidental electrical shock or breakage of the cathode ray tube. Insure that nothing can fall out of your pocket and strike the tube.

5.06 Make adjustments by following the procedures of Section 582-213-700.

6. TOOLS AND SUPPLIES (ALL STATIONS)

6.01 The following tools and supplies may be required for installation or servicing of DATASPEED 40 apparatus. Most of these items should normally be present in standard maintenance tool kits.

6.02 Tools

Carrying Case for 40/4 Circuit Cards		405900
Wrench	3/16" socket	125752
Wrench, open end	3/8"	125765
Wrench, open end	3/16" and 1/4"	129534
Wrench, open end	5/16" and 3/8"	152835
Wrench, open end	3/4"	129537
Nut driver	Handle	135676
Nut driver	1/4"	89954
Nut driver	5/16"	89955
Nut driver	1/4"	135677
Nut driver	5/16"	135678
Screwdriver	1/8", 2" blade	95368
Screwdriver	1/4", 6" blade	100982
Screwdriver	(blade less than 5/32")	94647
Allen wrench	0.062	124682
Tweezers		151392
Spring hook (pull)		142554
Spring hook (pull)		75675
Spring hook (push)		75503
Scales, spring (802)		110443
Ruler, 6"		95960
Cleaning brush (type face)		151394
Long-nose pliers		108285
Cutting pliers		108286
Retaining ring pliers		160396
Terminal extractor (data set type connector)		341983
Keyswitch extractor		346257
Keytop extractor		346260
Static ground strap		346392
Gauge (Friction Feed Printer)		400610
Gauge (Tractor Feed Printer)		402617
Cable tag (orange)		405242
Cable tag (yellow)		405243
Blank label		405247
Cable tag (white)		405249
Terminal extractor (40-type connector) (MOLEX HT2285)		402840

6.03 Supplies

All purpose grease — 145867
Oil — KS7470
Thermal compound — 402640
Ribbon — 402444
Paper (friction feed) — standard 8-1/2" wide, 5" dia roll
Paper (tractor feed)
Degreaser (Trichlorotriflorethlyene) — KS20406 L-1

7. PREPACK (REQUIRED PREPARATION OF COMPONENTS PRIOR TO SHIPMENT)

7.01 In general, packing should be in original factory cartons, if possible, or locally provided equivalent packing (when available). Prepare the station for packing following a service disconnect by partial dismantling as given in this part. See Section 582-200-290 for further details.

Controllers

7.02 The controller, if mounted in a pedestal, may remain mounted in the pedestal.

7.03 By deviation, cables (not stub cables) that interconnect an SCC and DCCs may remain with the SCC. If stub cables interconnect an SCC and DCC, keep the SCC stub with the SCC, and the DCC stub with the DCC. Section 582-200-290 specifies that cables be separated from controllers.

7.04 By deviation, cables (not stub cables) that interconnect a DCC (or MCC or SDS) and devices may remain with the DCC (or MCC or SDS). If stub cables are used to interconnect a controller to a device, paragraph 7.03 applies to the stub cables.

7.05 By deviation the data set cable (or data auxiliary set cable) may remain with the SCC (or MCC or SDS).

Circuit Cards

7.06 When a loose circuit card is to be shipped, place in an antistatic bag. Do not place paper in the bag. Monitor circuit cards are the exception; they do not require this protection.

Data Set

7.07 The data set should be packed separately. Keep the data set power cord with the data set.

Monitor

7.08 The monitor should be separated from the cabinet (or monitor base). The snap panel should be removed (and kept with unit). Install a shipping clip if monitor is equipped with an early style tilt lever. Pull tilt lever forward to storage position if monitor is equipped with a late style tilt lever.

KD Opcon

7.09 The opcon should be separated from the cabinet (or opcon base). Depending on available pack, either remove keyboard top cover or install shipping brackets on the opcon latches.

Cabinet, Monitor Support (Attached KD)

7.10 The cabinet should be separated from monitor and opcon. It should be packed separately. If stub cables interconnect the cabinet and DCC (or MCC), the cabinet stub may be kept with the cabinet by deviation.

Base, Monitor (Free-Standing KD)

7.11 The base should be separated from the monitor and packed separately. If stub cables interconnect the base and DCC (or MCC), the base stub may be kept with the base by deviation.

Base, Opcon (Free-Standing KD)

7.12 The base should be separated from the opcon. Pack opcon base separately.

Printer and Printer Cabinet

7.13 The printer should be packed separately from the cabinet. The paper should be removed, but the paper spindle retained (friction). The form-out belt should be left installed (tractor). If stub cables interconnect the printer and DCC (or MCC), the printer stub may be kept with the printer by deviation. Remove and discard the used ribbon. Tighten immobilizing screws on bottom of printers. A printer cabinet must be shipped separately from a pedestal.

Pedestals

7.14 Remove tops from pedestals. By deviation tops may be left on pedestals unless pack will not allow.

SSI Cables Made On-Site

7.15 The decision to ship SSI cables that were made on-site is subject to local consideration. SSI termination boxes require a separate decision. If shipped, these items should be shipped separately.

Packing Material

7.16 When available, the original container should be used. For packing material see Section 582-200-290.

8. WORKING STATION CONSIDERATIONS

8.01 This part applies when complete stations, sets, or components are returned from service to WECO with Returned Material tags designating "Working Station" (WS).

8.02 Cables can also be sent to WECO. SSI cables made on-site are excluded from this requirement except by local deviation.

8.03 Part 7 applies to all stations, including "working stations".

8.04 If any "WS" part fails at WECO, the entire component reverts to unrepaired C stock.

8.05 The requirements given in the following paragraphs are included to demonstrate the criteria of a working station. It can be assumed that a station that has recently been providing service needs no further checking other than for obvious damage. It is the intention of "WS" to have WECO return the units of the station to Telco substantially as received from Telco.

Mechanical Requirements

8.06 The tube tilt mechanism on the monitor should operate freely. The display tube should remain in position when the tilt control is released. When the monitor cover is removed, the monitor should automatically latch to prevent movement.

8.07 The 40-style printer cabinet cover should latch in the closed position. The printer, when in the cabinet, should latch securely in the operating position (all printers) and the maintenance position (except forms access). When the cover is closed, the printer should be able to operate.

Operating Requirements

8.08 As specified in Section 582-300-501, the station should be capable of being operated on a 4-wire half-duplex communication link.

8.09 The appropriate character should be displayed or function performed for each keystroke of every nonblocked keyswitch on each keyboard.

8.10 Each monitor should be able to clearly display characters. When the monitor brightness control is turned to full intensity, the raster should be barely visible. A character (such as E) should be approximately equal in horizontal and vertical size in the four corners of the display. The display should be centered on the screen and should not be noticeably tilted. After a three minute warm-up period, overall size of the full data display area should be 11-1/4 (± 1/4) inches wide and 5-1/4 (±1/8) inches high.

8.11 Controller ventilating fans should circulate air when power is turned on. When a printer cabinet is equipped with a ventilating fan, the fan should circulate air when power is applied to the printer.

8.12 Each printer should be able to print characters.

8.13 Paper winders should take up slack paper at the maximum printing line feed rate and should not affect the uniform line spacing on printed copy.

Mandatory Requirements

8.14 The properly rated fuses should be present.

8.15 If the printer cabinet lid is opened when the printer motor is running, the motor should stop.