

Circuit Type	Line Symbol	Voltage Ref.	Voltage Levels (Nom)	
			Positive	Negative
Current Switching (N)	± N	0	+ 0.8	- 0.8
Current Switching (P)	± P	-6	- 5.2	- 6.8
CTRL (N)	± R	+6	12.0	0.0
CTRL (P)	± S	-6	0.0	-12.0
CTDL (N)	± T	0	+ 6.0	- 6.0
CTDL (P)	± U	-6	0.0	-12.0
Indicators	M	-	0.0	-36.0
Relay	± W	-	0.0	±48.0
Tube	± X	-	+10.0	-40.0
Voltage Mode	± Y	-	0.0	- 6.0
Core	± Z	-6	+ 6.0	- 6.0
Special	± V	-	-	-

Figure 13. ALD Line Type Symbols

### Mode

The third line contains symbols indicating the mode or type of input and output lines that connect the logic block. Figure 13 is a table listing the alphabetic letters used for the various line types. Each symbol represents a reference voltage with approximate swings for plus and minus line types. In most logic block configurations, the circuit type, voltage reference and swings, and translations are noted in the third printing line.

**Input lines** (Figure 14). A maximum of eight input lines can be shown entering the left side of the logic block. If the inputs are of the same line type, the appropriate symbol for the line type is indicated in the first printing position of line 3. To indicate multiple inputs of different line types, the input lines are grouped such that the first symbol on line 3 indicates the line type of the upper input(s) and the second symbol on line 3 indicates the lower input(s).

**Output lines** (Figure 14). A maximum of eight output lines can be shown leaving the right side of the logic block. Outputs from the upper half of the block indicate an out-of-phase signal, while outputs from the lower half of the block indicate an in-phase signal. In many blocks the in-phase and out-of-phase outputs are of the same line type and are indicated by the appropriate symbol in printing position 4. In blocks having multiple outputs of different line types, the symbol in printing position 3 indicates the line type of the upper output and the symbol in printing position 4 indicates the line type of the lower output.

The number, phase, and line types of the outputs are dependent upon the block representation.

### Card Location and Engineering Change Level

Positions 1, 2, and 3 on line 4 and positions 1, 2, 3 and 4 on line 5 note the location of the component card in the system (Figure 12). Figure 15 relates the location infor-

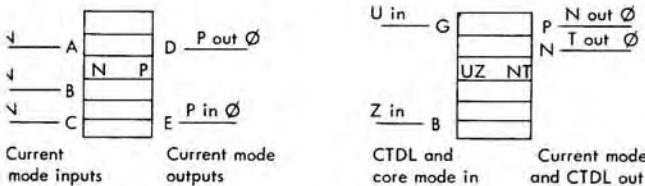


Figure 14. Examples of Line Coding

ALD Block	Line Position	4	4	5	5	5
		1-2	3	1	2	3-4
Modular I	Frame	Module	Gate	Column	Row	
	01-99	A, B	1-8	A-F	01-26	
Modular II	Frame	Gate	Chassis	Row	Column	
	01-99	A, B, C, D	1-4	A-K	01-28	

Figure 15

mation found in the logic blocks to the two types of SMS packaging used in a system. To locate the various components in the SMS packages, the numbering system follows two rules: (1) All the numbering starts at the hinge and progresses out. (2) The numbering is from the top to the bottom of the machine. Therefore, a given location can be identified by the same method from either side of a gate.

The fourth printing position of line four indicates the engineering change level (EC) of the logic block. A "tag" letter (A, B, C) is assigned to indicate the changes in EC level. This 'tag' letter indicates that the block was affected by an engineering change made to that logic page.

### Card Code and Cap Connection

The first two letters of line 6 indicate a card code that is assigned to a particular SMS card. The card codes are assigned from AA to ZZ, in that order (omitting the I and O groups). Positions 3 and 4 of line 6 indicate the cap connections used and are assigned from ZZ to AA in that order (again omitting the I and O groups). If cap connections are not used, dashes (-) are shown in positions 3 and 4. A card code and cap connection designation is required to identify each circuit configuration on that particular card.

### Logic Block Terminal Pins

Input, output, and tie-down terminal pins are indicated alphabetically, in the two character spaces between the logic block and the input or output line, as shown in Figure 16. The input and output pins are the terminals that are wired to the signal lines. Tie-down pins are terminals that are jumpered by back panel wiring to the input or the output pins. Coaxial shields or twisted-pair reference wires tied to a terminal pin are also indicated in Figure 16.

### Examples of ALD Block Configurations

#### BASIC BLOCKS

A large variety of logic blocks are used to perform the functions in the systems pages. Some of the most common block configurations used are illustrated in Figure 17.

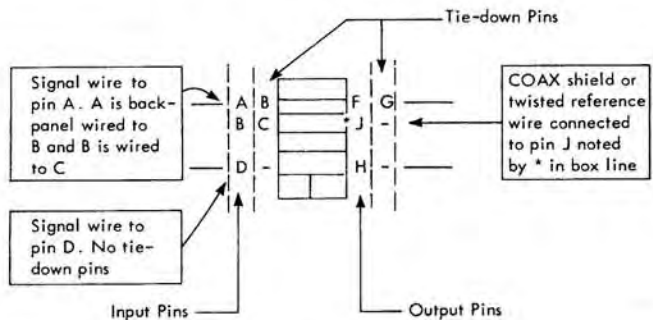


Figure 16. Logic Block Pin Connections