

Model 66 COMP DUAL 8-BIT COMPARATOR CARD

DESCRIPTION

The Model 66 COMP is one of the RFL 66 TDMS Series of plug-in logic cards. It is capable of comparing the magnitude of two eight-bit digital words for the algebraic relations greater than, equal to, and less than. Additional logic has been provided on the card for verification of a digital equality between two input words except when they both equal all zeroes or all ones. A second comparator may optionally be installed on the board to make independent comparisons between two other eight-bit words, or it may be cascaded with the first comparator circuit by jumpers.

SPECIFICATIONS

Ambient Temperature: -30 to +70°C.

Power: 11 to 13 Vdc @ 1 mA.

Size: One standard one-half-inch module space in an RFL Model 68 Chassis.

DIFFERENCE BETWEEN MODELS

66 COMP (no dash number)

Standard comparator card HB-44530, capable of comparing two eight-bit words.

66 COMP-1

Comparator card HB-44530 plus additional comparator option HB-44539. The second comparator can function independently of the first, or they can be cascaded for comparison of four eight-bit words.

PROGRAMMING AND CONNECTION

CAUTION

This module contains CMOS logic and special handling precautions should be observed. Refer to "CMOS Handling Precautions", RFL Document 12175.

All unused input terminals or unused inputs to integrated circuits must be returned to +V or circuit common.

If only Comparator 1 is required, the two input words are connected as shown in Figure 2. Bits A1 and B1 at

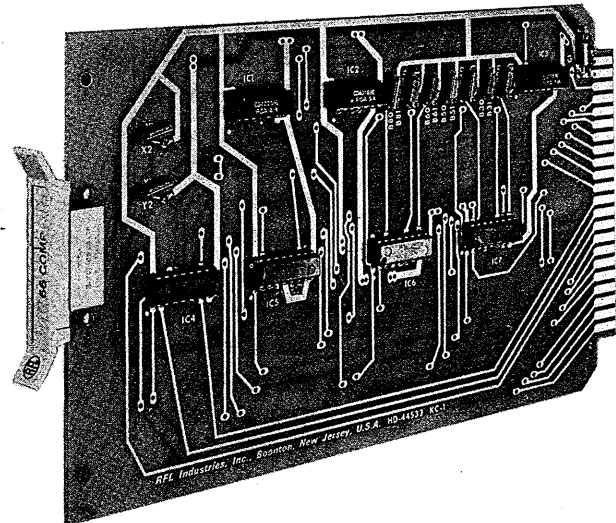


Figure 1. Model 66 COMP, 8-Bit Comparator Card.

Terminals 7 and 15 respectively are the least significant bits. Higher-order bits which are not used should be connected to Common. When the algebraic relationships associated with Terminals 3, 4, and 5 are True, the logic output level will be high. Similar terminations are used for Comparator 2 if installed.

Terminal C, VERIFY, will drop to a logic 0 when Comparator 1, Word B equals Comparator 1, Word A, but neither word is all zeroes or all ones. Correct positioning of the B jumper (Figure 3) is necessary for detection of the all ones condition. The B jumpers associated with the unused, higher-order, Comparator 1, Word B bits are installed in the B_1 positions, and all of the other B jumpers are installed in the B_0 positions. For example, if two 5-bit words were being compared, jumpers B20, B30, B40, B50, B61, B71, and B81 would be installed.

Terminal 3, ANY PT SLTD, will be a logic 1 if any of the bits in Comparator 1, Word B are high.

The optional comparator may be cascaded with Comparator 1 by installing jumpers X1 and Y1. If Comparator 2 is not installed or is to remain independent of Comparator 1, then jumpers X2 and Y2 should be installed.

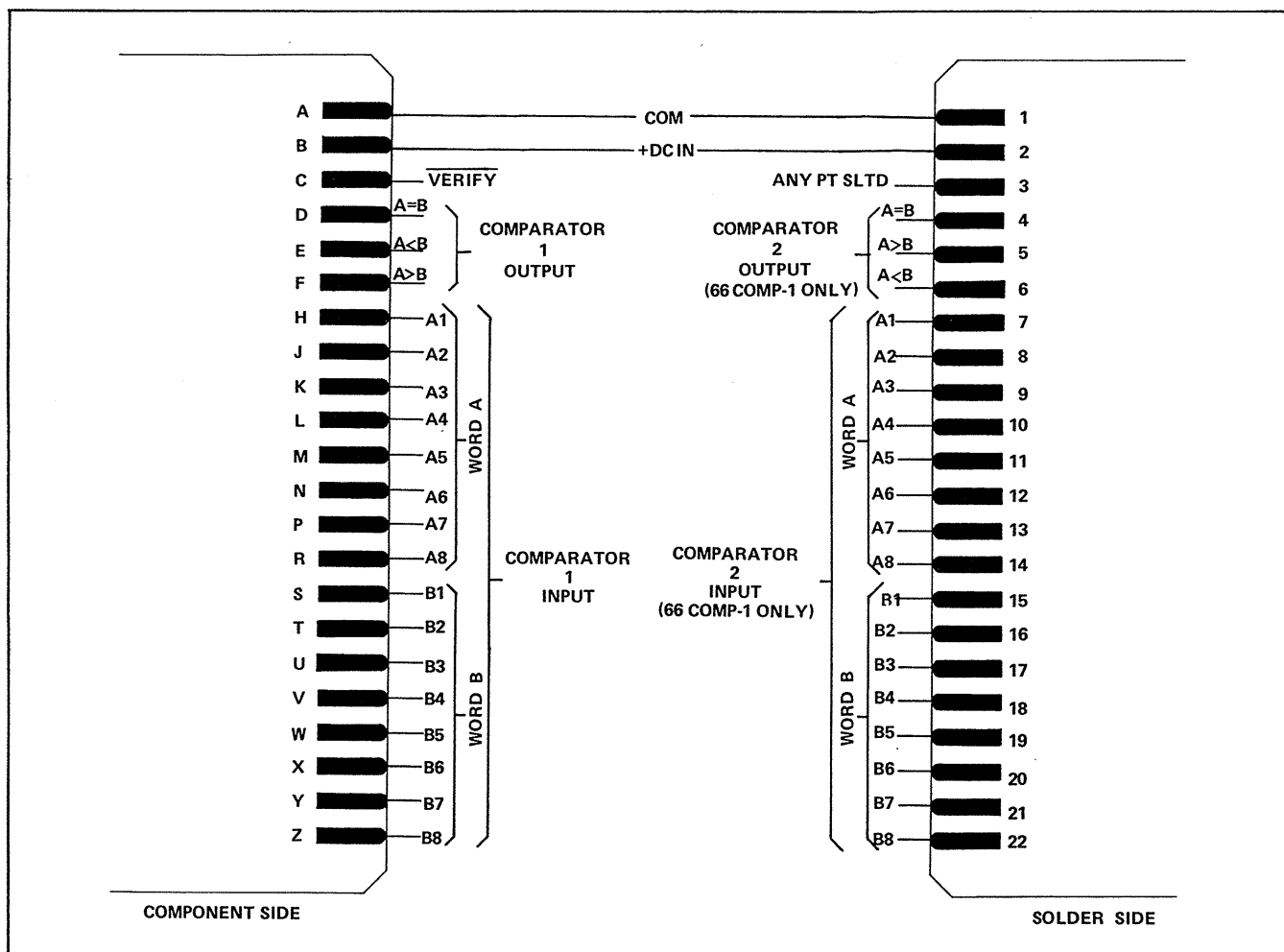


Figure 2. Edge connector terminal assignments.

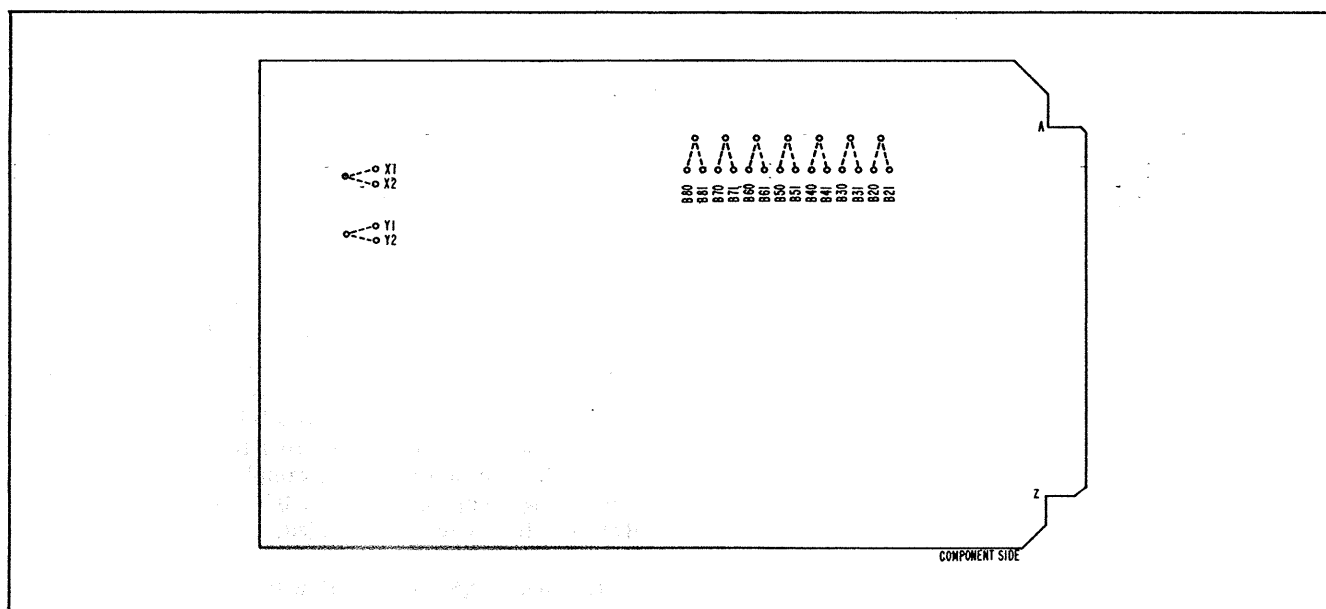


Figure 3. Location of jumpers for programming Model 66 COMP.

Table 1.
Replaceable Parts

Circuit Symbol (See Figure 4)	Description	Part Number
Model 66 COMP Dual 8-Bit Comparator Card - Assembly No. HB-44530		
Second Comparator Option - Assembly No. HB-44539		
C1	Capacitor, tantalum, 4.7uf, 20%, 20V, Kemet T322B475M020AS or equiv.	1007 711
IC1	MOS triple 3-input NAND gate, RCA CD4023BE or equiv.	0615 8
IC2	MOS 8-input NOR gate, Motorola MC14078BCP or equiv.	0615 49
IC3	MOS 8-input NAND gate, RCA CD4068BE or equiv.	0615 48
IC4, 5 (-1 only)	MOS 4-bit magnitude comparator, Motorola MC14585CP or equiv.	0615 39
IC6, 7	Same as IC4	
R1	Resistor, metal film, 12.1K, 1%, ¼W, Type RN¼	0410 1392
---	Shorting bar, single, Aries LP300 or equiv.	42904

