INSTRUCTION DATA

Dowty RFL Industries Inc. ● Boonton, New Jersey

Models 66 DE16 and 66 DE32X 1-of-16 Decoder Card and 1-of-32 Decoder Expander Card

DESCRIPTION

Models 66 DE16 and Model 66 DE32X are two of the RFL Series 66 TDMS plug-in modules. 66 DE16 has sixteen outputs, only one of which will be activated at any one time depending upon the input code. 66 DE16 can be expanded using 66 DE32X cards to decode all possible combinations for up to seven input bits. 66 DE16 has a memory option available so that both coded and decoded information may be stored. Also both units may be equipped for positive logic (true = 1) or negative logic (true = 0) outputs.

SPECIFICATIONS

Temperature Range: -30°C to +70°C.

Power: 11 to 13 Vdc @ 1mA per card.

Size: One standard one-half-inch module increment in an RFL Series 68 Chassis.

CONNECTIONS

CAUTION

These modules contain CMOS logic circuits and special handling precautions should be observed. Refer to "CMOS Handling Precautions," RFL Document 12175.

All unused input terminals or unused inputs to IC's must be returned to +V or common.

Model 66 DE16: The Model 66 DE16 Decoder Card requires a mating connector with a key between position 6 (F) and 7 (H). Edge connector terminal assignments are shown in Figure 2.

Input connections to a 66 DE16 without memory are made at the DECODE INPUT terminals, as shown in Figure 2. Terminal 21, the A input, is the least significant bit. Unused higher order bits should be tied to common. If the card is equipped with the Memory Option, then the coded inputs are connected to the MEMORY INPUT terminals, and the memory outputs are available at Terminals 15 through 21.

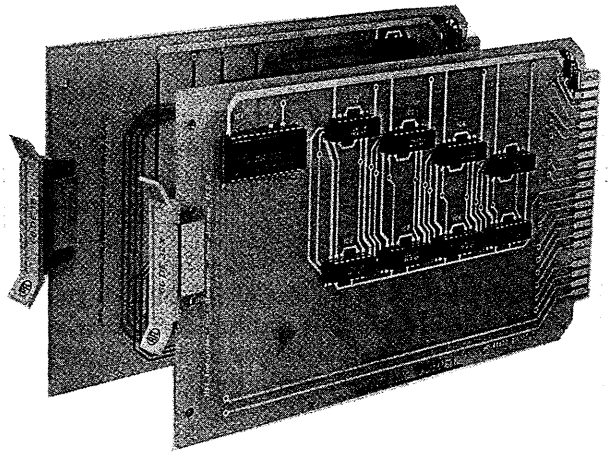


Figure 1. Model 66 DE16 left; Model 66 DE32X right.

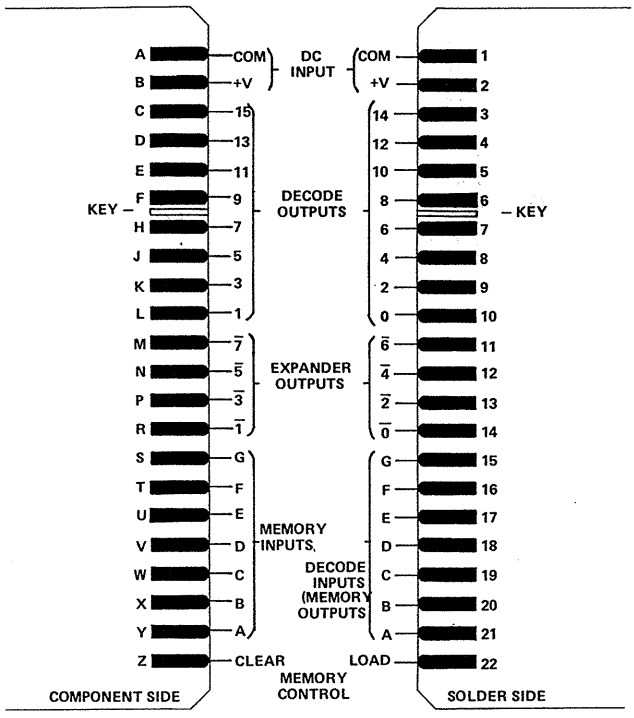


Figure 2. Edge connector terminal assignments, Model 66 DE16 1-of-16 Decoder Card.

Table 1
Differences Between Modules

Module Designation	Circuit Cards		Output Options				Memory Option HB-44619
			Positive Logic		Negative Logic		
	1-of-16 Decoder HB-44610	1-of-32 Decoder HB-44620	16-Output HB-44618-1	32-Output HB-44628-1	16-Output HB-44618-2	32-Output HB-44628-2	
DE16-1	●		●				
DE16-2	●				●		
DE16-3	●		●				●
DE16-4	●				●		●
DE32X-1		●		●			
DE32X-2		●				●	

Jumper A, shown in Figure 4, must be installed in the correct location, depending upon which of the eight possible groups of 16 is to be decoded. A0 corresponds to the first 16, and A7 corresponds to the last.

Model 66 DE32X: The Model 66 DE32X Decoder Expander Card requires a mating connector with a key in position 18 (V). Edge connector terminal assignments are shown in Figure 3.

66 DE32X cards require the following connections back to a 66 DE16.

66 DE32X Terminal	66DE16 Terminal
Y	21
21	20
Z	19
22	18

The EXPANDER INPUT FIRST SIXTEEN and EXPANDER INPUT SECOND SIXTEEN terminals on the 66 DE32X, shown in Figure 6, are connected to the respective EXPANDER OUTPUT terminals of the 66 DE16.

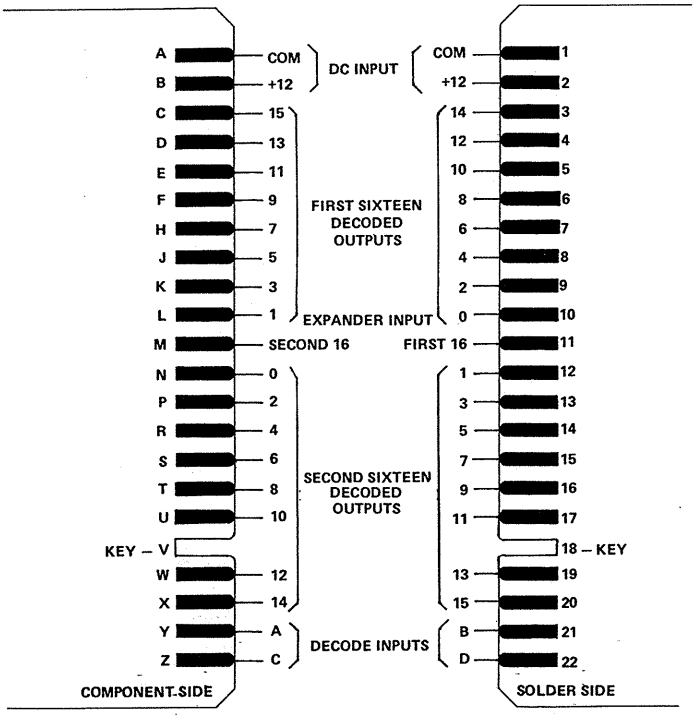


Figure 3. Edge connector terminal assignments, Model 66 DE32X 1-of-32 Decoder Expander.

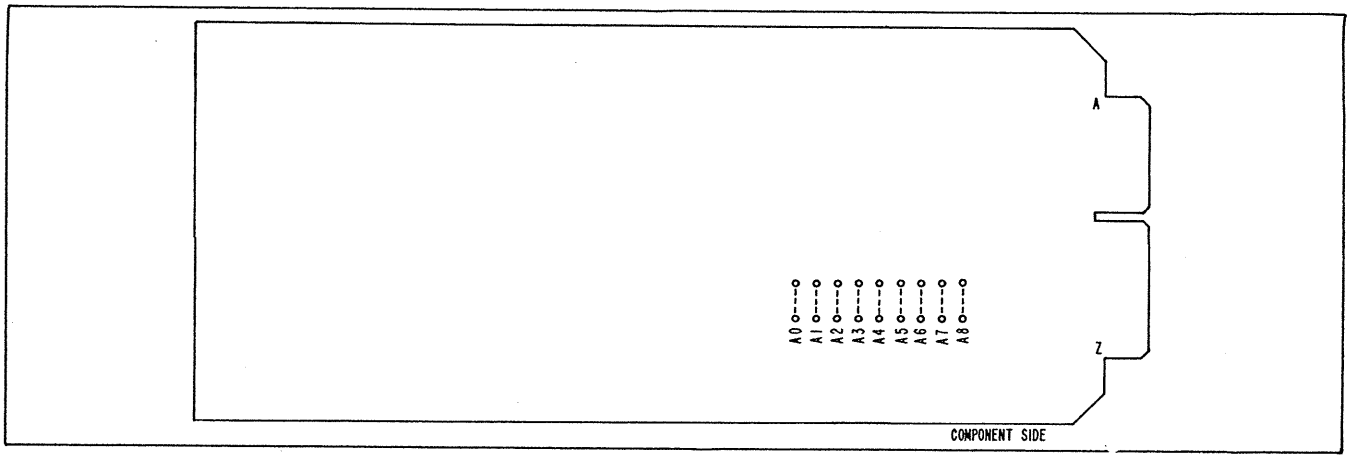


Figure 4. Location of jumpers, Model 66 DE16.

Table 2
Replaceable Parts

Circuit Symbol (See Figure 5)	Description	Part Number
	Model 66 DE16 1-of-16 Decoder Card - Assembly No. HB-44610	
C1	Capacitor, tantalum, 4.7μf, 20%, 20V, Kemet T322B475M020AS or equiv.	1007 711
IC1, 3-5	MOS quad 2-input gate: For 66 DE16-1, 66 DE16-3: quad 2-input NOR gate, RCA CD4001BE or equiv. For 66 DE16-2, 66 DE16-4: quad 2-input OR gate, RCA CD4071BE or equiv.	 0615 3 0615 24
IC2	MOS 4-to-16 line decoder, National Semiconductor MM74C154N or equiv.	0615 40
IC6, 7	For 66 DE16-1, 66 DE16-2: Not Used. For 66 DE16-3, 66 DE16-4: MOS quad D-type flip-flop, National Semiconductor MM74C173N or equiv.	 0615 43
IC8	MOS BCD-to-decimal decoder, National Semiconductor MM74C42N or equiv.	0615 47
R1	Resistor, metal film, 12.1K, 1%, ¼W, Type RN¼	0410 1392
---	Shorting bar, single, Aries LP300 or equiv.	42904

Table 3
Replaceable Parts

Circuit Symbol (See Figure 6)	Description	Part Number
	Model 66 DE32X 1-of-32 Decoder Expander Card - Assembly No. HB-44620	
C1	Capacitor, tantalum, 4.7μf, 20%, 20V, Kemet T322B475M020AS or equiv.	1007 711
IC1	MOS 4-to-16 line decoder, National Semiconductor MM74C154N or equiv.	0615 40
IC2-9	MOS quad 2-input gate: For 66 DE32X-1, quad 2-input NOR gate; RCA CD4001BE or equiv. For 66 DE32X-2, quad 2-input OR gate; RCA CD4071BE or equiv.	 0615 3 0615 24
R1	Resistor, metal film, 12.1K, 1%, ¼W, Type RN¼	0410 1392

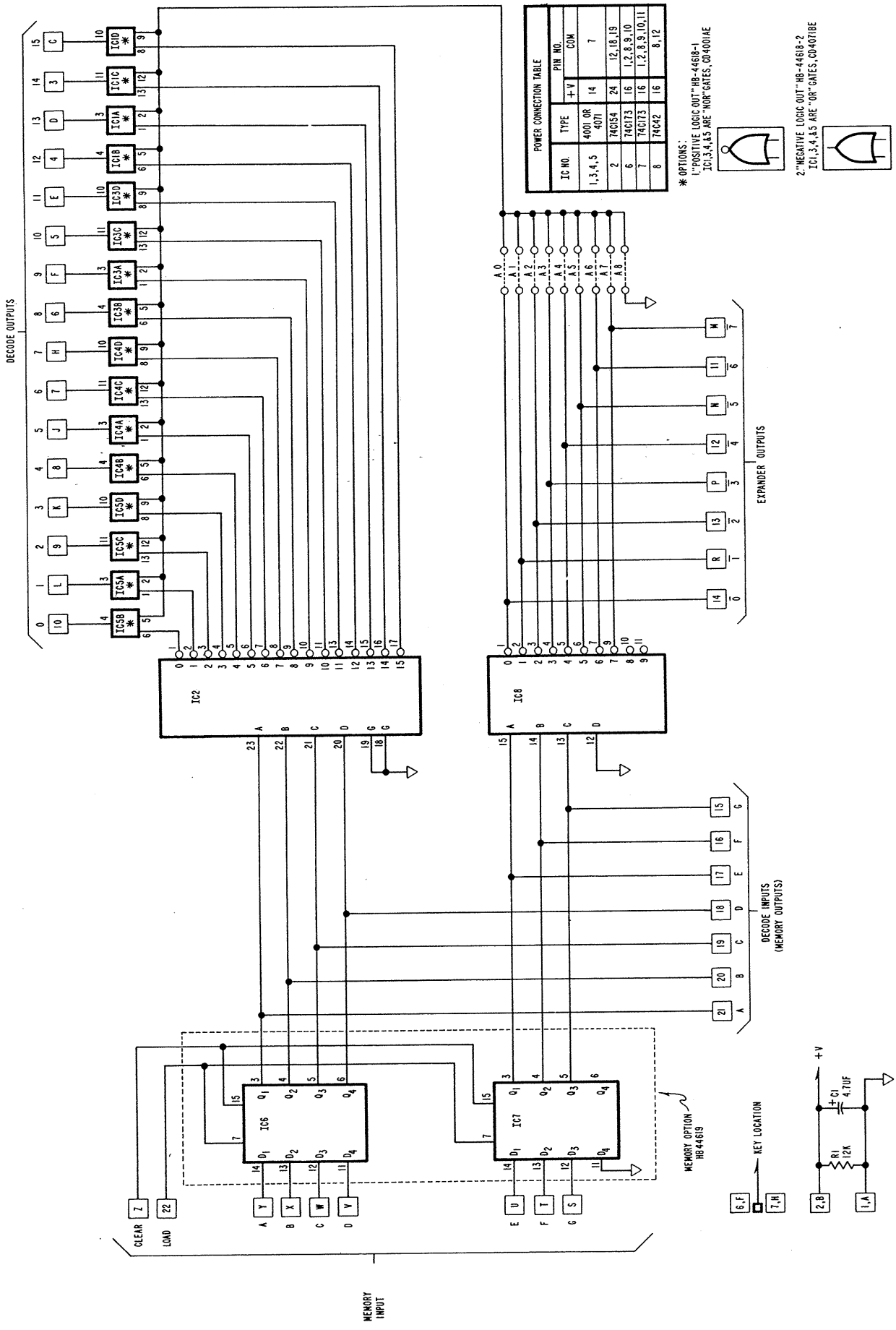
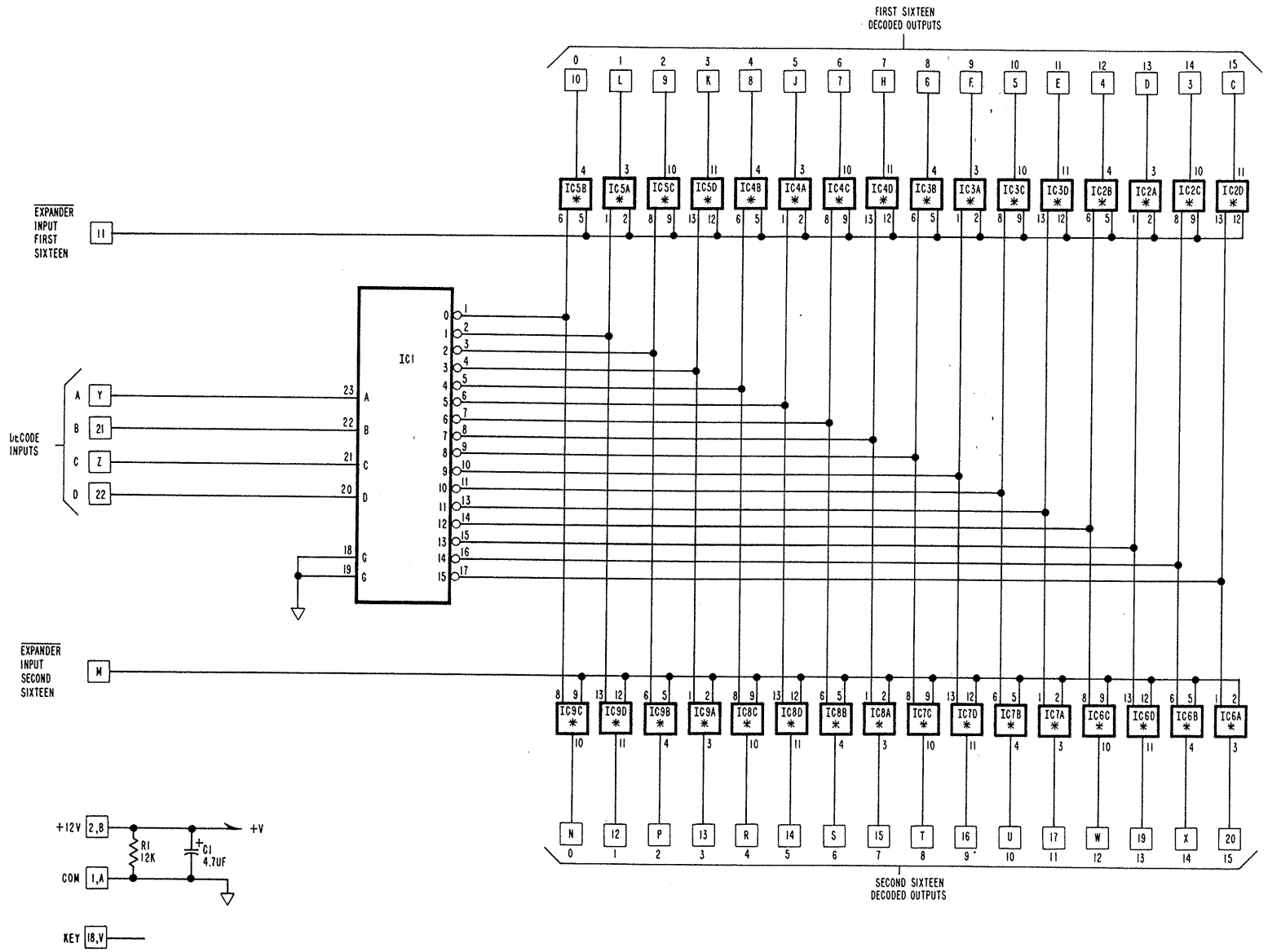
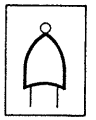


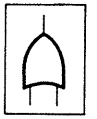
Figure 5. Schematic - Model 66 DE16 1-of-16 Decoder Card (HE-44614).



* OPTIONS: 1."POSITIVE LOGIC OUT", HB-44628-1
IC2-IC9 ARE "NOR" GATES, CD4001AE



2."NEGATIVE LOGIC OUT", HB-44628-2
IC2-IC9 ARE "OR" GATES, CD4071BE



POWER CONNECTION TABLE			
IC NO.	TYPE	PIN NO.	
		+V	COM
1	74C154	24	12,18,19
2,3,4,5, 6,7,8,9	EITHER 4001 OR 4071	14	7

Figure 6. Schematic - Model 66 DE32X 1-of-32 Decoder Expander Card (HE-44624).