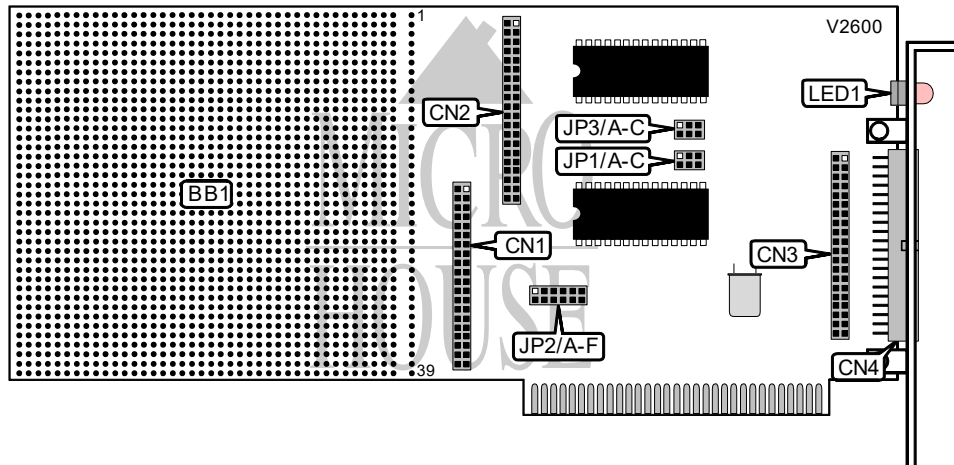# DECISION COMPUTER INTERNATIONAL CO., LTD.
8255/8254 LAB CARD

Card Type   Data acquisition
Chip Set   NEC 8255
I/O Options   Digital I/O ports (2)
Data Bus   8-bit ISA

CONNECTIONS			
Function	**Label**	**Function**	**Label**
Breadboard (see pinout below)	BB1	Unidentified	CN3
Digital I/O port 1 (see pinout below)	CN1	Unidentified	CN4
Digital I/O port 2 (see pinout below)	CN2		

BB1 PINOUT			
Function	**Row**	**Function**	**Row**
Channel 1A bit 7	1	Channel 1C bit 6	21
Channel 1A bit 6	2	Channel 1C bit 5	22
Channel 1A bit 5	3	Channel 1C bit 4	23
Channel 1A bit 4	4	Channel 1C bit 3	24
Channel 1A bit 3	5	Channel 1C bit 2	25
Channel 1A bit 2	6	Channel 1C bit 1	26
Channel 1A bit 1	7	Channel 1C bit 0	27
Channel 1A bit 0	8	Not used	28
Not used	9	Channel 1B bit 7	29
Clock signal 0 in	10	Channel 1B bit 6	30
Clock signal 1 in	11	Channel 1B bit 5	31
Clock signal 2 in	12	Channel 1B bit 4	32
Gate signal 0	13	Channel 1B bit 3	33
Gate signal 1	14	Channel 1B bit 2	34
Gate signal 2	15	Channel 1B bit 1	35
Clock signal 0 out	16	Channel 1B bit 0	36
Clock signal 1 out	17	Not used	37
Clock signal 2 out	18	I/O write register	38
Not used	19	I/O read register	39
Channel 1C bit 7	20		
Note: The breadboard is designed to prototype designs. All holes in a given row are electrically connected. Rows marked not used may be utilized by the designer for extra connections.			

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CN1 PINOUT			
Function	**Pin**	**Function**	**Pin**
Ground	1	Channel 1C bit 6	21
Ground	2	Channel 1C bit 7	22
Ground	3	Channel 1C bit 4	23
Channel 1A bit 3	4	Channel 1C bit 5	24
Channel 1A bit 1	5	Channel 1C bit 1	25
Channel 1A bit 2	6	Channel 1C bit 0	26
Clock signal 0 in	7	Channel 1B bit 7	27
Channel 1A bit 0	8	Channel 1C bit 2	28
Gate signal 0	9	Channel 1B bit 6	29
Clock signal 0 out	10	Channel 1C bit 3	30
Clock signal 2 out	11	Channel 1B bit 5	31
Clock signal 2 in	12	Channel 1B bit 0	32
Clock signal 1 in	13	Channel 1B bit 4	33
Gate signal 2	14	Channel 1B bit 1	34
Clock signal 1 out	15	Channel 1B bit 3	35
Gate signal 1	16	Channel 1B bit 2	36
Channel 1A bit 5	17	+5V power	37
Channel 1A bit 4	18	-5V power	38
Channel 1A bit 7	19	+12V power	39
Channel 1A bit 6	20	-12V power	40

CN2 PINOUT			
Function	**Pin**	**Function**	**Pin**
Ground	1	Channel 2C bit 7	21
Ground	2	Channel 2C bit 6	22
Ground	3	Channel 2C bit 5	23
Ground	4	Channel 2C bit 4	24
Ground	5	Channel 2C bit 0	25
Ground	6	Channel 2C bit 1	26
Ground	7	Channel 2C bit 2	27
Ground	8	Channel 2B bit 7	28
Ground	9	Channel 2C bit 3	29
Ground	10	Channel 2B bit 6	30
Ground	11	Channel 2B bit 0	31
Ground	12	Channel 2B bit 5	32
Channel 2A bit 0	13	Channel 2B bit 1	33
Channel 2A bit 1	14	Channel 2B bit 4	34
Channel 2A bit 2	15	Channel 2B bit 2	35
Channel 2A bit 3	16	Channel 2B bit 3	36
Channel 2A bit 4	17	+5V power	37
Channel 2A bit 5	18	-5V power	38
Channel 2A bit 6	19	+12V power	39
Channel 2A bit 7	20	-12V power	40

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USER CONFIGURABLE SETTINGS		
Setting	**Label**	**Position**
í Counter 0 uses internal clock source	JP1/A	Closed
Counter 0 uses external clock source	JP1/A	Open
í Counter 1 uses internal clock source	JP1/B	Closed
Counter 1 uses external clock source	JP1/B	Open
í Counter 2 uses internal clock source	JP1/C	Closed
Counter 2 uses external clock source	JP1/C	Open

BASE I/O ADDRESS						
Setting	**JP2/A**	**JP2/B**	**JP2/C**	**JP2/D**	**JP2/E**	**JP2/F**
000h	Closed	Closed	Closed	Closed	Closed	Closed
010h	Closed	Closed	Closed	Closed	Closed	Open
020h	Closed	Closed	Closed	Closed	Open	Closed
030h	Closed	Closed	Closed	Closed	Open	Open
040h	Closed	Closed	Closed	Open	Closed	Closed
í 2A0h	Open	Closed	Open	Closed	Open	Closed
3B0h	Open	Open	Open	Closed	Open	Open
3C0h	Open	Open	Open	Open	Closed	Closed
3D0h	Open	Open	Open	Open	Closed	Open
3E0h	Open	Open	Open	Open	Open	Closed
3F0h	Open	Open	Open	Open	Open	Open

Note: A total of 64 base address settings are available. The jumpers are a binary representation of the decimal memory addresses. JP2/A is the Most Significant Bit and jumper JP2/F is the Least Significant Bit. The jumpers have the following decimal values: JP2/A=512, JP2/B=256, JP2/C=128, JP2/D=64, JP2/E=32, JP2/E=16. Open the jumpers and add the values of the jumpers that are open to obtain the correct memory address. (Open=1, Closed=0)

WAIT STATES			
Setting	**JP3/A**	**JP3/B**	**JP3/C**
0	Closed	Open	Open
1	Open	Closed	Open
2	Open	Open	Closed

DIAGNOSTIC LED(S)
The function of the LED is unidentified.