Bi Ra Systems, Inc.

MODEL 3224

DUAL 24 BIT OUTPUT REGISTER

OPERATION MANUAL

May 1984

COMMAND SUMMARY

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F 0.AO     Read Register Ø complement, 24 Bits, Q=X, =1
F 0.A1     Read Register 1 complement, 24 Bits, Q=X, =1
F 6.AO     Read ID = 224 decimal
F16.AO     Write Register Ø, 24 Bits, Q = X = 1
F16.A1     Write Register 1, 24 Bits, Q = X = 1
F18.AO     Selective Set Register Ø on W = 1, Q = X = 1
F18.A1     Selective Set Register 1 on W = 1, Q = X = 1
F21.AO     Selective Reset Register Ø on W = 1,  Q = X = 1
F21.A1     Selective Reset Register 1 on W= 1, Q = X = 1
F25.AO     Generate Strobe Pulse on Register Ø connector
F25.A1     Generate Strobe Pulse on Register 1 connector
```

1.0 Description

The Bi Ra Model 3224 is a single wide CAMAC Module with two independent 24 bit output registers. Each register may be written and read as a 24 bit entity. In addition, each bit may be controlled with selective set and selective reset commands. Each bit is controlled by setting the appropriate CAMAC write lines during an F18 or F21 command. When ordered, the display option provides a visual indication of each registers contents.

The 3224 will generate a 5uS output strobe on a CAMAC F25 command. This may be conveniently used as a Data Ready strobe or latch signal.

Each register is accessed via the front panel through a Cannon 2DA31P type connector.

2.0 Output Configurations

The 3224 may be ordered in several configurations. In each case, a logical "1" written by the CAMAC write lines causes the appropriate output to be "on". This means that an open collector module's output transistor will be on pulling the output line to ground and a TTL module will have a logical 1 voltage (2.4-4.7 volts) at the output connector.

If the display option is ordered, an LED will display the current status of each output line. The LED will correspond to the appropriate value whether the module is open collector or TTL.

The basic open collector output is capable of sinking 300ma and tolerating 50V maximum open circuit voltage. When driving inductive loads (i.e. a relay), the output protection diode option should be ordered to prevent excessive open circuit voltages. The cathode of the protection diodes may be tied to + 5, + 24, or an external voltage provided via the front panel connector.
When TTL compatibility is desired, the output transistors are pulled up to +5V with a 4.7k resistor.

All outputs share a common return path.

Any desired output configuration may be ordered. (i.e. TTL level with display, =3224BD).
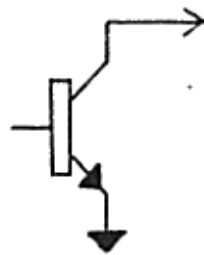
Model
     3224A = open collector
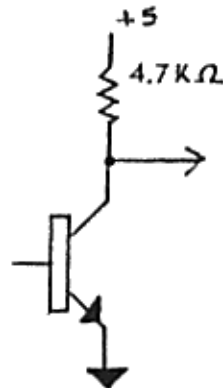   3224B = TTL level
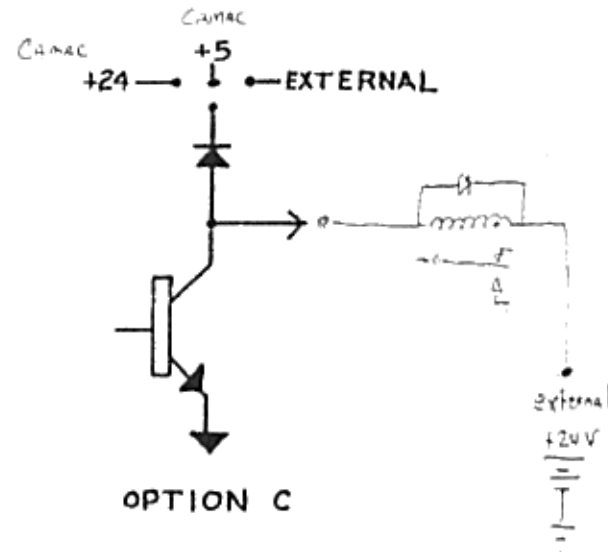Option
     C = output protection diode
     D = output display

3224-A   3224-B   OPTION C

3.0.   Front Panel Connector Pin Assignment

1	-	Data Bit 1	16	-	Data Bit 16
2	-	Data Bit 2	17	-	Data Bit 17
3	-	Data Bit 3	18	-	Data Bit 18
4	-	Data Bit 4	19	-	Data Bit 19
5	-	Data Bit 5	20	-	Data Bit 20
6	-	Data Bit 6	21	-	Data Bit 21
7	-	Data Bit 7	22	-	Data Bit 22
8	-	Data Bit 8	23	-	Data Bit 23
9	-	Data Bit 9	24	-	Data Bit 24
10	-	Data Bit 10	25	-	STROBE OUT
11	-	Data Bit 11	26	-	Ground
12	-	Data Bit 12	27	-	Ground
13	-	Data Bit 13	28	-	Ground
14	-	Data Bit 14	29	-	Ground
15	-	Data Bit 15	30	-	Ground
			31	-	External Voltage In

4.0   JUMPERS
  Post to Post

        S∅ - L = R∅ Strobe = Active Low
        S∅ - H = R∅ Strobe = Active High

        S1 - L = R1 Strobe = Active Low
        S1 - H = R1 Strobe = Active High

CLAMPING DIODES TIED TO

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1   to 2  =  + 5
       3  =  +25
       4  =  EXTERNALLY SUPPLIED VOLTAGE

5   to 6  =  + 5
       7  =  +24
       8  =  EXTERNALLY SUPPLIED VOLTAGE
```