REM-64

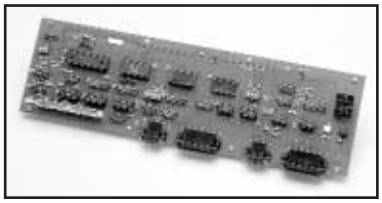
Remote/Serial Driver Board For the METRABUS

FEATURES

- **Interfaces the METRABUS to any RS-232 or RS-422 communications port**
- **Fully compatible with Keithley's COM-422 RS-232/422 board for the IBM PC XT/AT**
- **Allows METRABUS systems to be located up to 4000 feet from the controlling computer**
- **Provides multi-drop capability, up to 16 REM-64s can be connected to a single communications port**
- **Up to 19.2 kbaud data transfer rate**

Functional Description

The REM-64 interfaces a METRABUS industrial control/data acquisition system to any standard RS-232 or RS-422 serial data port. The serial control information is brought in through a 25 (RS-232) or 9 (RS-422) pin D connector. The REM-64 then interfaces to the METRABUS system with the standard METRABUS 50-pin ribbon cable. A multi-drop/party-line scheme has been implemented allowing up to 16 independent REM-64 systems per serial communications port. Use of the RS-422 bus capability allows a single computer to control METRABUS systems up to 4000 feet away.



The REM-64 has been designed to allow maximum flexibility in connections to the RS-232 or RS-422 buses. A set of DIP switches on the board allow the user to set RS-232 or RS-422 operation, which bus control signals to enable/disable (e.g., clear to send, ready to send, data terminal ready etc.), baud rates, parity, and board address.

A watchdog timer system has been implemented assuring that the REM-64 is operating properly. The REM-64 has been designed (along with all other METRABUS boards) to be easily mounted in standard 19-inch rack mounts such as Keithley's RMT-02 or RMT-04.

Software

The REM-64 is extremely flexible and easy to use due to the simple nature of the command syntax. Eight ASCII command codes can be sent in upper or lower case and the transmission of illegal commands generates an error message describing the type of error made (e.g., unrecognized command syntax, data out of range).

Programming

The example program is written in interpreted Basic for the IBM PC/XT/AT and compatibles. Similar routines can be written in other languages and on other computers. The routine assumes an asynchronous communications board, i.e., the Keithley COM-422, is set up as "COM1."

The program reads the digital inputs of the MII-32, commands a proportional output voltage output by the MAO-8 analog output board, tests for an alarm condition and if the alarm condition is met, turns off the system and turns on an alarm.

Example Program

```
10    /***REM-64 SAMPLE PROGRAM
20    /***SET BOARD ADDRESSES
30    MEM8=4                          'set address of MEM-8
40    MAO8CHO=16                      'set address of MAO-8 channel 0
50    MAO8CH1=17                      'set address of MAO-8 channel 1
60    MII32=0                         'set address of MII-32
70    OPEN "com1:9600,E,7,1" AS#1     'opens COM1 PORT. SELECTS 9600 baud, even parity,
                                       7 data and 1 stop bit
80    PRINT #1 "B";1                  'selects REM-64 with board address 01
90    PRINT #1, "C"                   'clears the currently accessed METRABUS system
100   PRINT #1, "A", MEM8             'selects the MEM-8 relay board
110   PRINT #1, "W";1                 'write 001 to MEM-8, turning on relay number zero
120   PRINT #1, "A";MII32             'select the MII-32 digital input board
130   PRINT #1, "R"                   'command the REM-64 to read the digital input
140   INPUT #1, DAT                   'read the digital input
150   PRINT #1, "A";MAO8CHO           'select MAO-8 (analog output board) channel 0
160   PRINT #1, "W";DAT               'sends the "W" and then the ASCII representation of
                                       the data in DAT
170   PRINT #1, "A";MAO8CH1           'select MAO-8 output channel 1
180   PRINT #1, "W";DAT               'write data to analog output channel 1
190   IF DAT <=212 THEN GOTO 100      'if input was less than 212 continue with control routine
200   '                ***            alarm routine
210   '                ***            if the program reaches this point, the system
220   '                ***            should be turned off and an alarm sounded
230   PRINT #1, "A",4                 'select address of relay board
240   PRINT #1, "W",128               'write 128 to the MEM-8 relay board-this turns off
                                       relay 0 (and so turns off system) and closes relay 7
                                       (sounds alarm)
250   CLOSE
260   END
```

SPECIFICATIONS

METRABUS ADDRESS SPACE

Provides 64-bit space

POWER REQUIREMENTS

+5V: 285mA typ, 325mA max
+15V: 30mA typ, 45mA max
–15V: 30mA typ, 4mA max

ENVIRONMENTAL

OPERATING TEMP: 0 to +70°C
STORAGE TEMP: –40 to +100°C
HUMIDITY: 0 to 95% non-condensing

PHYSICAL

DIMENSIONS: 16in L × 4.74in W (40.63cm × 12.06cm)

ORDER	DESCRIPTION
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