# APPLICATION SOLUTION MPAXCK #01

## MANUFACTURING SHIFT CLOCK ALARM APPLICATION

A manufacturing company wants to have four alarms during each of their two shifts to alert production employees of start times, break times, and the end of the shift. The morning shift will have an alarm at 9:00 am, 12:00 pm, 1:00 pm, and 4:30 pm. The night shift will have an alarm at 5:00 pm, 8:00 pm, 9:00 pm, and 1:00 am. The alarms are only for Monday through Friday. They want a panel mount 4-inch high display.

## PRODUCTS USED: EPAX0600, MPAXCK0000, PAXCDS20, EPAXPGM0

The solution is to use the EPAX0600 Extra Large PAX Display with MPAXCK0000 Real Clock Module and a PAXCDS20 Quad Setpoint Relay Card. The EPAXPGM0 is the programming box to configure the display.

## HOW IT WORKS

In module 6-SPt, all the setpoints are assigned to RTC with a time out action of 5 seconds. The setpoint values are entered with the following: 1 at 9:00 am, 2 at 12:00 pm, 3 at 1:00 pm and 4 at 4:30 pm. The outputs 1,2, 3 & 4 are paralleled to the horn. An external switch is wired into User Input 3, which is turned to PM by the night supervisor. The user input is programmed for Setpoint List, which will switch the meter from day shift (List A) values to night shift (List B) values.

The night shift works the same way as the day shift except with different values, which are stored as List B when User Input 3 is held low. List B setpoint values are entered with the following: 1 at 5:00 pm, 2 at 8:00 pm, 3 at 9:00 pm and 4 at 1:00 am. Nothing else is changed while in List B. An external switch is wired into User Input 3, which is turned to AM by the day supervisor changing the values back to day shift (List A) values at the start of their shift.

In module 8-RtC, the clock time is set. This time can be calibrated to within 5 seconds of accuracy per 30 days. In module 3-LOC, the real time display is unlocked and the preset timer is locked.

## DESIGN ADVANTAGES

The MPAXCK took the guesswork out of starting and stopping times. This greatly improved productivity. The visual display could be seen up to 180 feet.

## ADDITIONAL CAPABILITIES

Additional MPAXCK systems can be installed throughout the plant. The MPAXCK system with the setpoint card would be the master and all the remote clocks would be slaves to the master, keeping everyone on the same time. One of the additional MPAXCK units can do the AM/PM value switching on the master. Enclosures are available to hang up the systems to improve maximum viewing.

## DIP SWITCH OR JUMPER SETTINGS

All are at factory settings.

## PROGRAMMING (Only non-factory settings shown)

**2-FNC**
USEr–3 : LISt

**3-LOC**
t-dSP : LOC (Lock timer display)
rtC-t : rEd (Read real time clock)

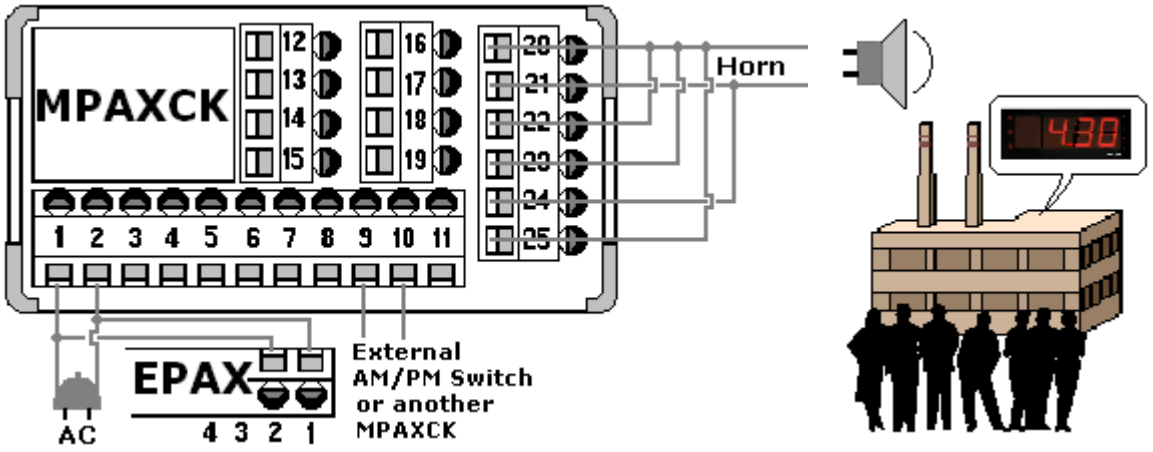
**Pro 8 (8 – rtC)**
Time and date and format are set here.

**6-SPt**
**SPSEL : SP-1**
ASN-1 : rtC
Act-1 : t-Out
SP–1 : 09-00a **List A**
SP–1 : 05-00p **List B**
TOUt-1 : 00.05.00 (5 second time out)

**SPSEL : SP-2**
ASN-2 : rtC
Act-2 : t-Out
SP–2 : 12-00p **List A**
SP–2 : 08-00p **List B**
TOUt-2 : 00.05.00 (5 second time out)
**SPSEL : SP-3**
ASN-3 : rtC
Act-3 : t-Out
SP–3 : 02-00p **List A**
SP–3 : 09-00p **List B**
TOUt-3 : 00.05.00 (5 second time out)
**SPSEL : SP-4**
ASN-4 : rtC
Act-4 : t-Out
SP–4 : 04-30p **List A**
SP–4 : 01-00a **List B**
TOUt-4 : 00.05.00 (5 second time out)

## WIRING DIAGRAM

All wiring must be according to the installation guidelines listed in the product's specifications. For the setpoint outputs to function an external isolated voltage source (not shown below) must be connected in series.




This application note is intended to be an example. Your specific application may require changes in products, programming and/or wiring. For specific assistance, you may contact your local Red Lion products supplier or Red Lion Controls Technical Support at 717-767-6511.