Purpose:

To advise customers of the situation regarding year 2000 compliance of ORMEC products.

Definition of Compliance:

ORMEC’s definition of Year 2000 compliance is:

- Dates later than December 31, 1999 must not be interpreted or displayed as dates between 1900 and 1999
- Date entry fields require the entry of all four digits of the year.
- Date display fields always show all four digits of the year.
- Calculations and equations using dates after December 31, 1999 provide correct results.
- The year 2000 is recognized as a leap year.
- The year 99 or 1999 or the date 12/31/99 are not used as end of file markers.

Program Development Tool Compliance:

These tools include MotionDESK 1.x, MotionDESK 2.x, QuickDesigner, QuickDeigner II, MotionPRO and MAX II.

The above ORMEC program development tools are fully Year 2000 compliant to the extent of the computer hardware and operating system on which the customer installs them. This is typically a standard IBM-PC compatible with Microsoft MS-DOS, Windows 3.x, 95 or NT.

MotionBASIC® 3.x and 4.x (Used on Orion® controllers only)

MotionBASIC® 3.x and 4.x operating on ORION controller hardware are fully Year 2000 compliant. However, it is possible for customers to write programs that are not compliant, displaying years as two digit numbers for example. If you have questions about the compliance of programs written in MotionBASIC®, please contact your program developer. This statement applies to model numbers ORN-30/xxxx, ORN-50/xxxx and ORN-70/xxxx with associated ORN-DSP-xx/xxxx DSP modules.
MotionBASIC® 1.x and 2.x (Used on Generation III controllers only)

These versions of MotionBASIC® operating on Generation III controller hardware are not fully Year 2000 compliant. The following non-compliances have been noted:

- The DATE$ variable returns dates with the year being a number representing the number of years later than 1900. The following example shows how certain dates will be displayed:
  
<table>
<thead>
<tr>
<th>Date</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1, 1900</td>
<td>01-01-00</td>
</tr>
<tr>
<td>January 1, 1999</td>
<td>01-01-99</td>
</tr>
<tr>
<td>January 1, 2000</td>
<td>01-01-100</td>
</tr>
<tr>
<td>January 1, 2038</td>
<td>01-01-138</td>
</tr>
</tbody>
</table>

- The application program may assign dates that are later than December 31, 1999 up to December 31, 2099 to the DATE$ variable as long as all four digits of the year are included. Failure to include all four digits, or assigning later dates, results in an error 1212, "Parameter out of range".
- At the transition from year 1999 to 2000, the internal DATE$ variable changes from "12-31-99" to "01-01-100" without causing any anomalies in MotionBASIC® operation.
- At 3:14:08 am on January 19, 2038, the time and date counter will stop counting and display a time of "00:00:00" and date of "01-01-70".
- The year 00 and the year 100 are both recognized as leap years.
- The application program's response to dates later than December 31, 1999 will depend on how the program developer uses the DATE$ variable.

On reviewing the above non-compliance in the light of the facts listed below, ORMEC does not anticipate releasing an update to address this non-compliance.

1. An extremely small number of applications using these versions of MotionBASIC® make any use of the DATE$ variable.
2. Controllers using these versions are not equipped with a time-of-day clock or date calendar. Every time power is cycled or the controller is reset, the date is reset to January 1, 1980.
3. These versions of MotionBASIC® have been superseded by versions 3.x and 4.x.

The above statement applies to model numbers GN3-20/xxxx and GN3-40/xxxx with associated GN3-DSP-xx/xxxx DSP modules.

MMI-QP and MMI-QP2 TouchScreens

These units use an embedded operating system and when displaying or setting date information supplied by the MotionBASIC® application program, they are Year 2000 compliant to the same extent as MotionBASIC®.

These units also have a resident calendar which is used solely for the built in alarm logging function. This calendar is not Year 2000 compliant. The following observations have been made:

- Dates are displayed with the year in a two-digit format, i.e. "MM-DD-YY".
- Immediately after turning power on, the numeric data entry button method of setting the year will not accept the Year 2000 as input. This may be circumvented
using the "year" data entry button by first enter a year other than 2000 (e.g., 1997, 2015, etc.) then enter the year 2000.

- The transition from the year 1999 to 2000 does not cause any anomalous behavior.
- The year 00 is recognized as a leap year.

On reviewing the above non-compliance and in the light of the facts listed below, ORMEC does not anticipate releasing an update to address this non-compliance.

1. The only use of the TouchScreen's internal calendar is for display purposes and alarm date stamping in the alarm log screen. Both uses are non-critical.
2. MotionBASIC® 4.0, provides an alarm logging software tool which uses MotionBASIC®’s date functions and is therefor Year 2000 compliant, and;
3. Dates after December 31, 1999 will be displayed accurately and will be correctly interpreted by operators.

MMI-840 and ITM-270 Operator Interface Terminals

These operator interface terminals do not contain real-time calendars or other date related logic and will be unaffected by the year 2000.

Motors and Servodrives (model numbers MAC-xxx and SAC-xxx)

None of ORMEC’s standard catalog motors and servodrives include real-time calendars or date related logic. They will not be affected by the Year 2000

Legacy Products:

ORMEC's legacy products include MCS single axis controllers and PMC single axis control boards and their associated option boards. These products do not contain any date-related logic and will not be affected by the year 2000.

Questions:

If you have any questions about this bulletin, please contact ORMEC Service Department or your local Sales Representative.