Emulating JAGXTREME Multi-Continuous 1 Using a Template To Drive Multiple ADI310 Scoreboards

Applications may sometimes require the JAGXTREME to send Multi-Continuous 1 to ADI310 scoreboards while sending other Continuous data to another device such as a computer. Due to the overhead required for either Multi-Continuous mode, only one Continuous output connection can be made on any port in the JAGXTREME. Reference Advanced Topic *JAGXTREME COM Ports and Ethernet Connections* for more information. Emulating Multi-Continuous 1 using a template allows other Continuous output connections to be made on other ports. There are some limitations, however, that will be detailed below.

The Template

To emulate Multi-Continuous 1 for the typical 3 deck truck scale, use the following template. Note that the status bytes are fixed characters indicating pounds/gross and will not reflect status changes such as units switching or gross/net mode switching. More importantly, the minus sign will not be shown when the scale is under zero, nor will overcapacity be indicated. The fixed characters can be changed to indicate other fixed status information. If kg was needed, for example, the status byte B would be changed from a “space” (20h) to a “0” (30h).

(1) {SOH}	Scale A address (01h)
(2) 1	Status byte A: XXXXX0, x2 (31h)
(3) space	Status byte B: Gross, Pounds (20h)
(4) space	Status byte C (20h)
(5) wt102 Right just., width=6	Displayed weight
(6) ws102 Right just., width=6	Tare weight
(7) {CR}	Carriage Return (0Dh)
(8) {STX}	Scale B address (02h)
(9) 1	
(10) space	
(11) space	
(12) wt202 Right just., width=6	
(13) ws202 Right just., width=6	
(14) {CR}	
(15) {ETX}	Scale C address (03h)
(16) 1	
(17) space	
(18) space	
(19) wt302 Right just., width=6	
(20) ws302 Right just., width=6	
(21) {CR}	
(22) {ENQ}	Scale E address (05h)
(23) 1	
(24) space	
(25) space	
(26) wt502 Right just., width=6	
(27) ws502 Right just., width=6	
(28) {CR}	
(29) End of Template	

Refer to the JAGXTREME Technical Manual Appendix 1 for a complete definition of all the individual bits within the 3 status bytes. The only status bits used by the ADI310 are shown below.

Status Byte A			
Decimal Position	Bit 2	Bit 1	Bit 0
X	0	1	0
0.X	0	1	1
0.0X	1	0	0
0.00X	1	0	1

Status Byte B	
Function	Bit
Gross / Net, Net = 1	0
Under Zero, Negative = 1	1
Over Capacity = 1	2
Motion = 1	3
Lb / Kg, kg = 1	4

Dynamic status bytes can be generated using a JagBASIC program and are beyond the scope of this document. Example status byte code appears in the JagBASIC Programmer's Guide. The dynamic status bytes can then be included in the template.

JAGXTREME Setup

Setup the JAGXTREME serial connection for the desired COM port, Serial Out, Scale A (not scale E), Continuous, Template *n* (use the template number that contains the template shown above). Note that sending a template continuously is at a rate of 3 Hz instead of the higher data rates of 17, 10, or 5 Hz depending on the load cell technology and process setting. Therefore, sending a template continuously is generally not suitable for dynamic applications such as filling.

ADI310 Setup

Setup the ADI310's for Mettler-Toledo mode (option 2 = on) if tare and units switching are not used. Otherwise set option 2 = off to disable the units and net/gross indication. Setup the multi-drop address, option 11 = 1, 2, 3, and 5 respectively, for each of the scales to be displayed.

Metrological Considerations

Handbook 44 states that all indications, both displayed and printed, must agree in commercial applications. This is an issue when using fixed status bytes as described in this document. Using the described setup provides an instrument that has the ability to "facilitate the perpetration of fraud," and is not legal for trade. To be legal, a JagBASIC program is needed to generate the dynamic status bytes.