Sital Technology's enhanced BC Sequencing.

Message Sequencing

The minor-major frame mechanism used in DDC components is not a systolic design. Systolic design is such that maintains its size as complexity rises. Following is a systolic solution for the same requirement.

Instead of the message-length stack entry for each message, Sital's BC sequencing requires a stack entry for each message that specifies the rate of that message. For practicle reasons, the rate would be expressed as ½, ¼,… (negative power of two) of the fastest rate. If the frame rate is 50Hz, then ½ of it would be 25Hz, ¼ of it would be 12.5Hz, and so on.

Message sequencing would be automatically assigned as seen in the following table:

Frame Rate	Frame Hertz	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	50																		
½	25																		
¼	12.5																		
1/8	6.25																		
1/16	3.13																		

In practice, message of rate 1/N where, N is a power of 2, would initially be transmitted in frame #N/2, then in N+N/2, then in 2N+N/2…
As seen, a message with rate 1/8, would be transmitted in frame #4, #12, and cyclic onwards.

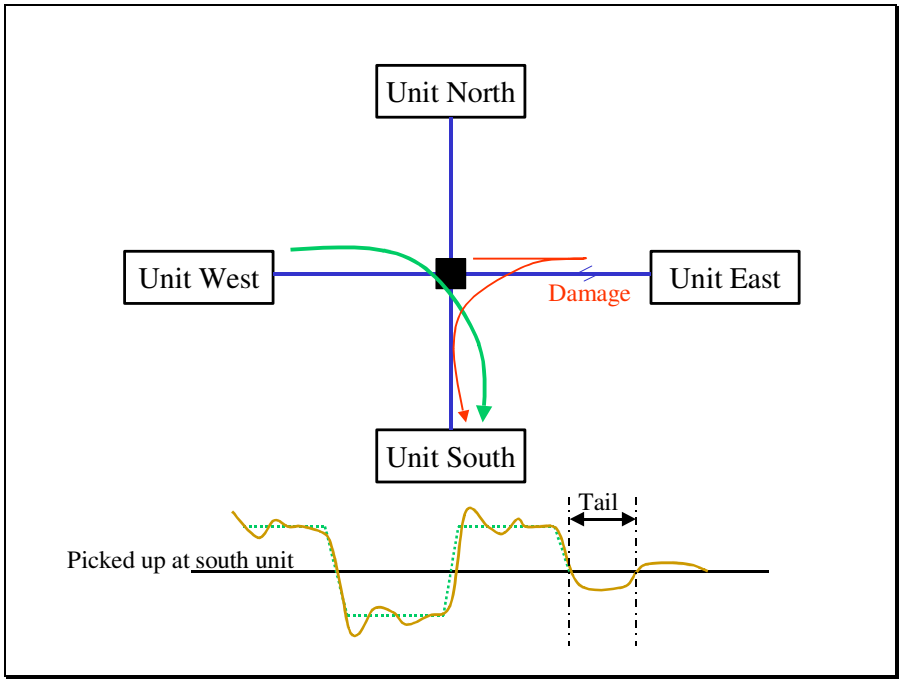
Message Skewing.

As seen above, each frame accommodates only the 50 Hz rated messages, and one, and only one, of the other rates, but not more than two rate types. This characteristic is very useful, and spreads the bus load evenly. Well, not always!
There could be many messages in the ICD that are running at 25Hz. There could be so many and long 25Hz messages that along with all the 50Hz messages, produce a frame longer than 20 ms (frame #1, #3…). On the other hand, the following frame, #2, serves the 12.5Hz messages that could be very short. So you would want to be able to skew some of the 25Hz messages from frame #1 to frame #2. These messages would also be transmitted every two frames, but in the even frames rather than the odd frames in the above example.
For lower rate frames, the frame skew can be 1, 2, 3 or even more frames. Sital's enhanced BC sequencing allows for up to 16 frames skew.

Sital Technology's Tails Code Key

"Tails Code Key" enhances maintenance of system buses infrastructure.

"Tails Code Key" is a technology that measures bus signals that are normally considered noise and filtered out by most bus units.
"Tails Code Key" looks for the left over signal on a bus and measures it. The distances between the bus fault and the transmitters directly affect the left over signal length in time.
"Tails Code Key" produces a list of tails from various transmitters on the bus, and derived from that list, a precise geometrically location of the bus fault can be found.



By comparing the list of tail lengths to a reference list of a particular bus, a system implementing "Tails Code Key" technology would be able to warn about a bus problem before it fails functionality, deliver a physical location of that problem on the bus even if it happened only once during the operation of the system.

The "Tails Code Key" technology is patent pending and is available with Sital Technology's IP cores.

Listen to the echoes, they have something to ~~tell~~ tail us…