

Technical Note

Subject: Micro-Dim/Micro-Bright Implementation

Date: 4/5/95

All PCS products, the Multi-Modules, Lighting Modules and Smart Switches will respond to the new commands **Micro-Dim** and **Micro-Bright**.

The X-10 defined "**Hail Request**" (10001) or "**Hail Acknowledge**" (10011) commands are currently unused. These codes are defined in the TW523 spec. We are going to use those two codes to produce what we will call "**Micro-Dim**" (10001) and "**Micro-Bright**" (10011).

These commands will dim or brighten the lighting level of all of our products by 1/200, or 1/2%. This makes for a very fine adjustment and also allows very gradual yet practically step-less changes in brightness. These operation are identical to the normal Bright and Dim commands except that instead of stepping 1/16 of the total they step 1/200 (actually 1/204).

Just like the conventional BRIGHT and DIM commands, after the first set of Start Code/House Code/Device Codes you can send the **Micro-Dim** or **Micro-Bright** commands back to back without repeating the Start Code/House Code/Device Code sets.

The math works out like this: The fastest you can change the output from FULL OFF to FULL ON is $22 + 3 + 204 \cdot (22+3)$ cycles or 84.4 seconds. This would tie up the powerline for the full 84 seconds, not a good idea. The real use of this feature is for slow lighting changes.

We have had several customers request a device with the ability to simulate "sunrise" in a step-less fashion over a period of 30 minutes or an hour. Another customer is using this feature to continuously and slowly raise and lower 60,000 watts of lighting in a Las Vegas casino. He wants this change to be very gradual and practically unnoticeable.