

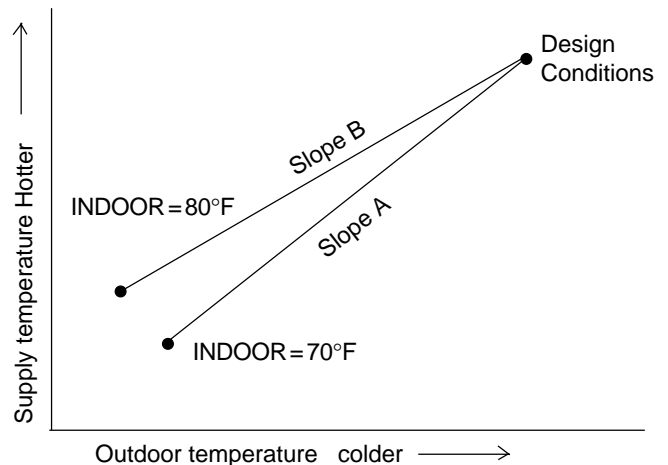
**Date:** 11/30/99, (GL)

**Subject:** -INDOOR (Boil, MIX INDR) setting Vs. ROOM (Boil, MIX ROOM) setting

This service bulletin attempts to clarify the differences between the INDOOR and ROOM settings. They are quite distinct and need to be properly understood.

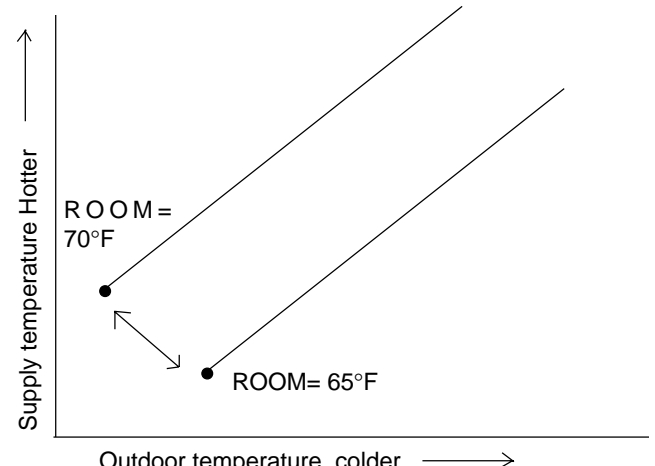
The INDOOR setting represents the **design** indoor temperature used in the heat loss calculation of the building. For example, a home is designed to maintain 70°F indoors. This setting, together with the design condition settings (OUT DSGN, Boil DSGN), is ONLY used by the control to calculate the slope of the heating curve. The slope represents the number of degrees that the supply temperature will increase for every one degree outdoor temperature drop.

Figure 1 shows how the indoor setting impacts the slope of the heating curve. As the INDOOR is increased the slope decreases.



**Heating Curve setup**  
**fig.1**

Once the INDOOR setting is programmed, the control uses the ROOM setting as the starting point of the heating curve. The ROOM setting represents the actual **desired** room temperature in the building. For example, the building indoor temperature is designed for 70°F, but the building owner likes to maintain it at 65°F. In this case the INDOOR setting remains at 70°F and the ROOM setting is set to 65°F. The design conditions will also decrease as shown in figure 2, as the heating system no longer requires as high a water temperature to maintain 70°F. The control uses the ROOM setting to determine the starting point of the heating curve, and will operate based on this setting and not the INDOOR.

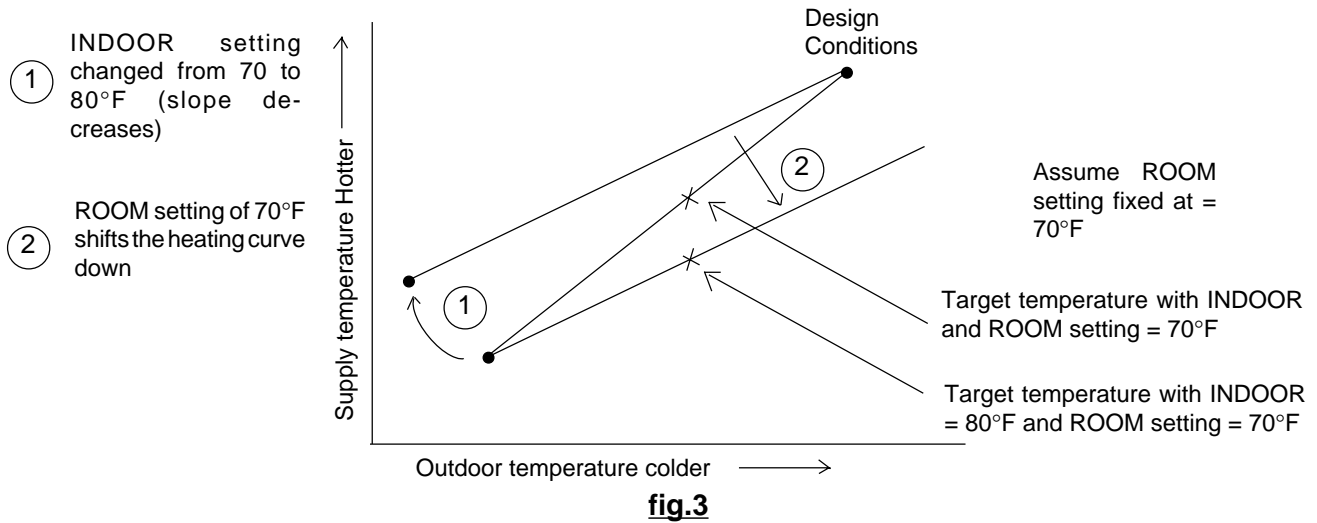


**Operational heating curve**  
**fig.2**

The net effect of changing the ROOM setting is a parallel shift of the heating curve, which translates into a shift in water temperature. The ROOM setting is used to manually fine tune the water temperature. For example, if a building feels cool and requires hotter water temperatures, the ROOM setting should be increased.

In general, the ROOM setting allows the user to increase or decrease the water temperature to the building; while the INDOOR setting is used by the installer to adjust the heating curve ratio.

The INDOOR setting should not be readjusted to fine tune water temperature, as this will affect the slope of the heating curve and cause unpredictable target temperatures. For example, if the INDOOR setting is increased, a decrease in target temperature will be experienced. This is caused due to the fact that the slope of the heating curve is decreased when this setting is increased. Figure 3 shows this effect.



If you have any questions please call your local tekmar Representative or tekmar Control Systems at (250)-545-7749

Sincerely yours,  
tekmar Control Systems Ltd.