MORE on PROPAGATION

Solar Flux: Affects 20 -15 -10 Daytimes 160 - 80 and 40 somewhat at Night

The 10.7 cm (2800 MHz) radio flux is the amount of solar noise that is emitted by the sun at 10.7 cm wavelengths. The solar flux is measured and reported at approximately **1800 GMT** daily by the Penticton Radio Observatory in British Columbia, Canada. Values are not corrected for variations resulting from the eccentric orbit of the Earth around the Sun.

The solar flux is used as a basic indicator of solar activity. It can vary from values below 50 to values in excess of 300 (representing very low solar activity and high to very high solar activity respectively). Values in excess of 200 occur typical during the peak of the solar cycles.

The solar flux is closely related to the amount of ionization taking place at F2 layer heights (heights sensitive to long-distance radio communication). High solar flux values generally provide good ionization for long-distance communications at higher than normal frequencies. Low solar flux values can restrict the band of frequencies which are usable for long distance communications.

A Index and K Index: Affects 160 - 80 at Night Very Little on 20 - 15 -10 Daytime

The Earth's magnetic field is continuously monitored by a network of magnetometers. These readings are converted into the A and K index values.

The K index is computed once every three hours (eight times a day @ **0100, 0400, 0700, 1000, 1300, 1600, 1900, and 2200 GMT**) and the values can range from 0 to 9, with 0 being inactive, and 9 representing an extreme severe storm condition. The values are quadi-logarithmic.

The A index is linear, and is computed from the eight previous K index values. It ranges from 0 (quiet) to 400 (severe storm).

Generally, propagation conditions are best when the K index is 3 or lower. the A index is 15 or lower. Besides causing auroral activity, high geomagnetic field conditions can affect the electrons in the ionosphere, reducing the maximum usable frequency (MUF).

SOLAR FLUX
50 - 159 = POOR
160 - 200 = SO SO
201 - 300 = GREAT

K INDEX - TODAY (1X)
9 - 4 = STORM
3 - 0 = CALM

A INDEX - LAST 24 HOURS (8X)
400 - 16 = STORM
15 - 0 = CALM