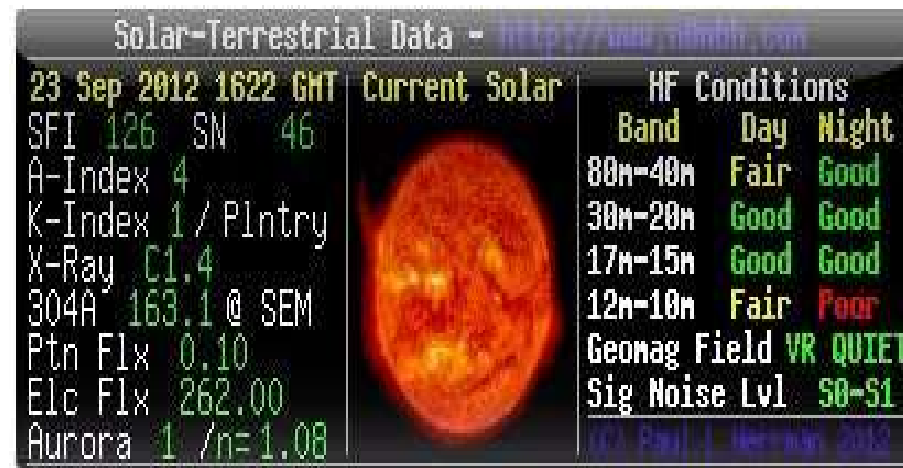
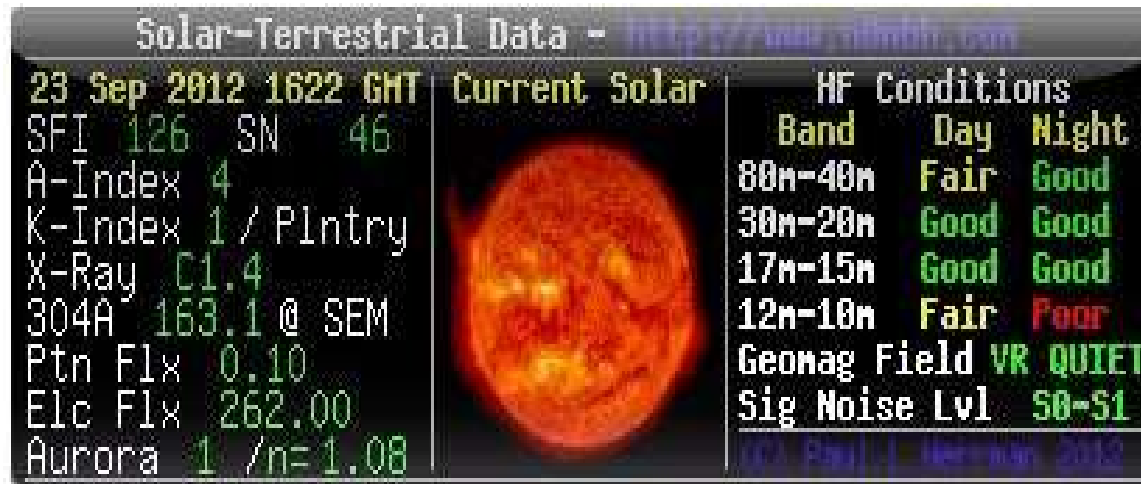


Hello and Welcome to Untangling DX Solar Info or What does this all mean ?





Just what does SFI, SN, A-Index, K-Index, X-Ray, 304A Mean ?

Icons and Meanings

- SFI -- Solar Flux Index (SFI) – **provides an indication of the level of radiation that is being received from the Sun.**
- Good for 20, 17, 15, 12, 10 Meters, predictions, not good for 160, 80, 40, & 30 Meters.
- (Scale goes from 30 to 300)
- **Readings :** 70 No Good, 80 Good, 90 Average, 100 – 150 Good 150 Ideal

- SN -- Sun Spot Number – (SN) The number of sun spots on surface of sun.
- The **higher the number** the better the conditions for **10 – 20 Meters**.
- **Low numbers** better for lower bands conditions **160 – 40 Meters**
- (Range 0 – 250)

(A) Average Geomagnetic Activity –

This is the number of Magnetic
events

over a day.

Scale : 0 – 7 Quiet,

8 – 15 Unsettled, 16 – 29 Active,

30 -- 49 Minor Storm

50 – 99 Major Storm

You want a low number for best HF conditions.

Between 1 and 5: Best conditions on 10,12,15,17,20 meter bands.

Between 6 and 9: Average conditions on 10,12,15,17,20 meter bands.

From 10 and above: Very Bad conditions on 10,12,15,17,20meter bands

(K) Geomagnetic Field Distribution

From 0 to 1: Best conditions for 10,12,15,17,20 meter bands.

From 2 to 3: Good conditions for 10,12,15,17,20 meter bands.

From 4 to 5: Average conditions for 10,12,15,17,20 meter bands.

From 5 to 9: Very bad conditions for 10,12,15,17,20 meter bands.

Low K values between 0 and 1
indicate **quiet magnetic conditions**
and would give rise to virtually
no degradation in HF band radio
communications conditions

Kp-index is The planetary **3-hour-range index Kp** is the mean standardized K-index from 13 geomagnetic observatories between 44 degrees and 60 degrees northern or southern geomagnetic latitude.

The scale is 0 to 9

The Kp-index value can be interpreted
as follow:

Between 0 and 1: Best conditions
expected on 30,40,80,160 meter
bands.

Between 2 and 4: Good conditions
expected on 30,40,80,160 meter
bands.

Between 5 and 9: Bad conditions
expected on 30,40,80,160 meter
bands.

Kp values between 0 and 1
indicate quiet magnetic
conditions and would
give rise to **virtually no**
degradation in HF band radio
communications conditions.

Signal Noise Level -- NOAA uses a five-level system called the S-scale, to indicate the severity of a solar radiation storm. This scale ranges from S1 to S5, with S1 being **the lowest level** and S5 being the highest level.

(S0 = great / S4 = fair / S7 = horrible)

The lowest S number gives you the best conditions.

Intensity in Ionosphere (X-Ray) --
X-ray level: This may vary from
A - B (very low), **C** (low to
moderate), **M** (moderate to high)
to **X** (high to extremely high), the
higher the number after the letter,
the stronger the X-ray radiation.

So an X 0.1 is stronger than an M 9.9.
High amounts of X-ray radiation causes
intense ionization of the D-layer,
resulting in strong absorption of HF-
signals.

Solar flares are commonly measured in
the amount of **X-ray radiation.**

You want **low X-Ray numbers for best
propagation.**

Total Solar Radiation @ 30.4 nm.

304A: NOAA reported value from 0 to unknown. Relative strength of total solar radiation at a wavelength of 304 angstroms (or 30.4 nm), emitted primarily by ionized helium in the sun's photosphere.

80 Poor **150** Good **240** Outstanding

Bz – Magnetic Field perpendicular
to plane of Earth's Orbit.

(Values 50 to – 50)

20 = good, **2** = ok,

- 2 = not ok, **- 20** = Disruptive

Solar Winds - Average speed of solar wind particles in km/s, with **figures greater than about 500 impacting HF communication.**

Values range from 0 to 1000, updated hourly.

**(100 = good 500 = moderate
700 = disruptive)**

It simply boils down to this,

For DX

You want High SFI, SN,

304A, & Bz

Low A, K, Signal Noise, X-Ray,

For 20 thru 10 meters DX.

For the low bands, you want almost the same, but you want :

Low SN & Kp,

for 160 thru 40 meters

**This was put together using
information from :**

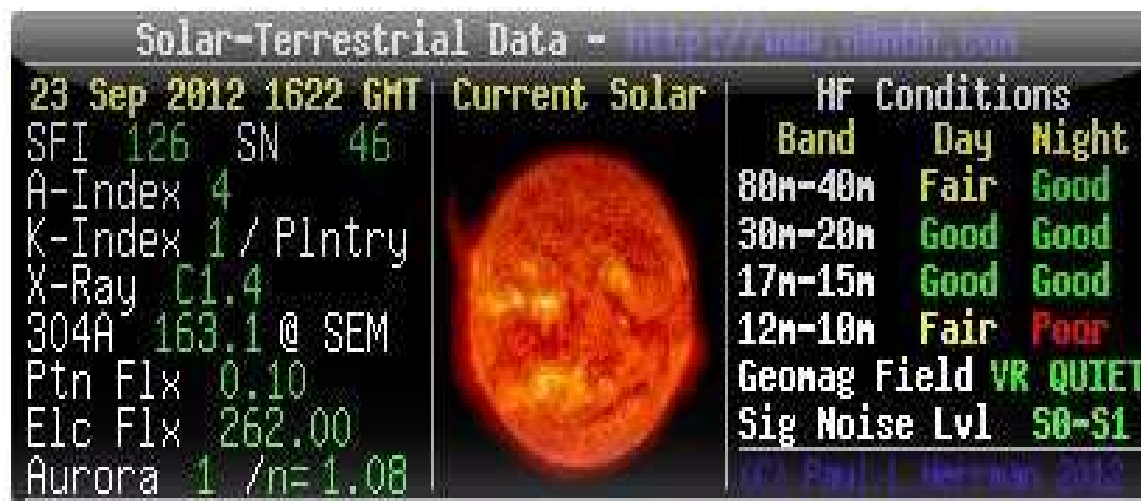
NOAA,

Brass Tacks, Noji Ratzlaff, KNØJI

(kn0ji@arri.net)

Propagations Tools,

Paul L Herrman, n0nbh@n0nbh.com



DX conditions ?

20 Meters and Even 15 Meters

Look Good

80 Meter/40 Meters ?

Looks Good Also

My Favorite Places for DX Conditions :

[DX MAPS.COM](http://DXMAPS.COM)

hamradiofornontechies.com

DXMaps.com (Left to Right)

Upper left: click LF-HF

Next : North America

Next: Band YOU want

Next you have all types of options.

Modes : Click on Phone, check conditions, click off phone.

Click on CW, check conditions,

Yes, CW is the best no matter what conditions !!!

Questions ?