Hamclock
For
Propagation Prediction

Playground Amateur Radio Club
Tom Cardinal / N2XU
tomc@gulfmail.net
https://n2xu.net

Capabilities

- Obviously … it’s a clock
  - Can be synchronized to an NTP server (pool) or your own

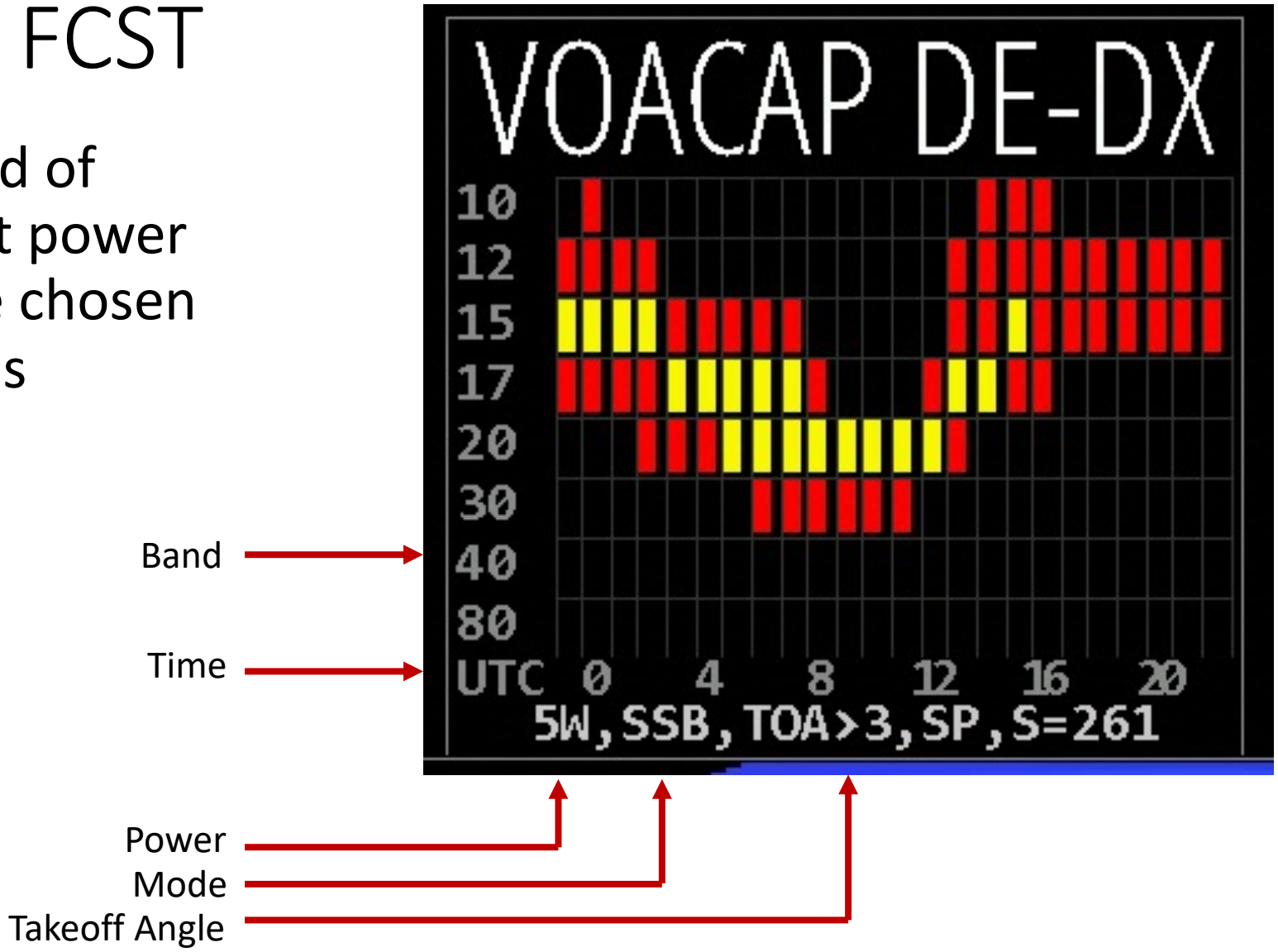
Capabilities

- It shows sunrise and sunset at your DE (your QTH) and the DX station
- It shows grid square and time zone
- It shows bearing and distance to the station

Capabilities: Propagation FCST

- It shows likelihood of making contact at power setting and mode chosen on different bands

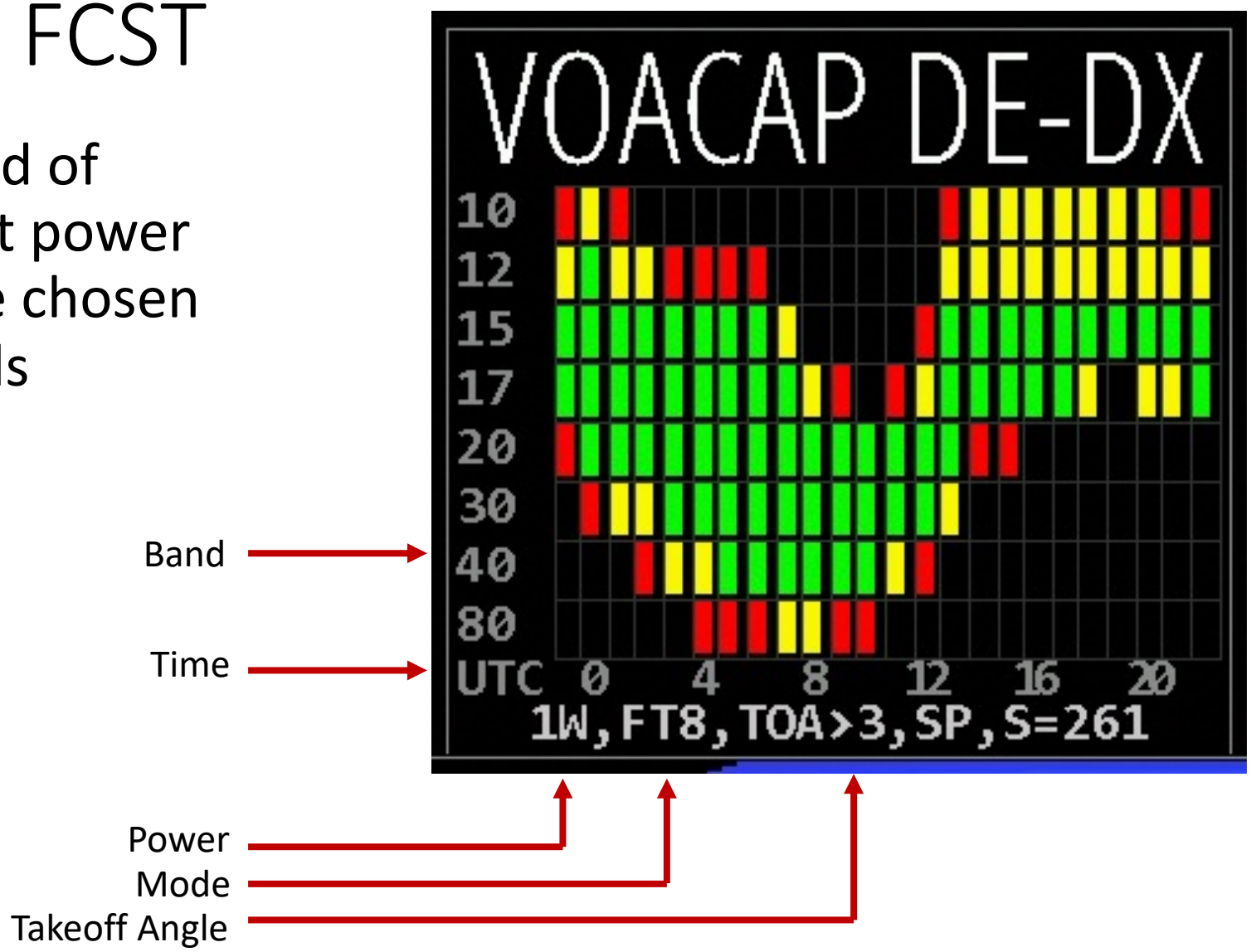
- 5W on SSB



Capabilities: Propagation FCST

- It shows likelihood of making contact at power setting and mode chosen on different bands

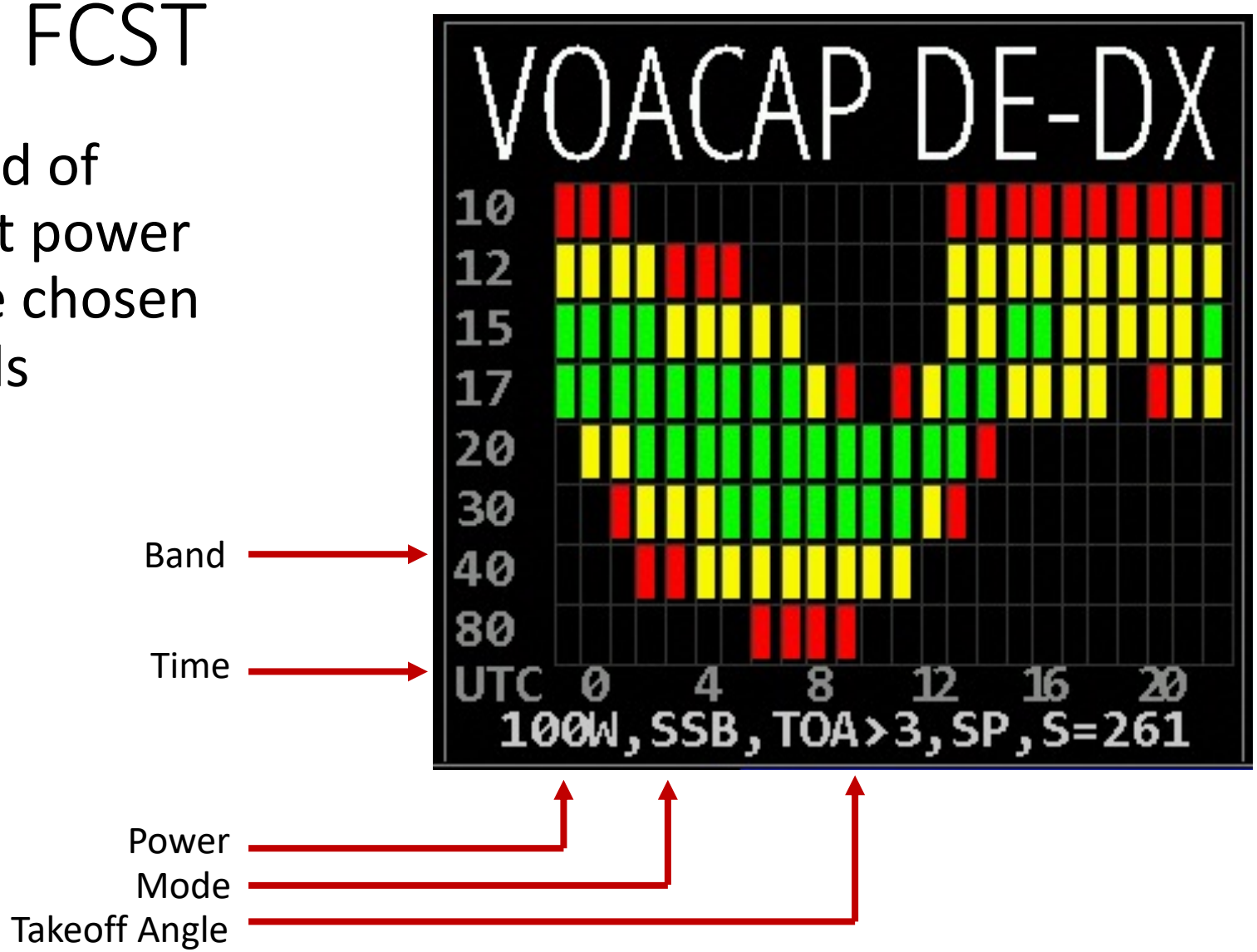
- 1W on FT8



Capabilities: Propagation FCST

- It shows likelihood of making contact at power setting and mode chosen on different bands

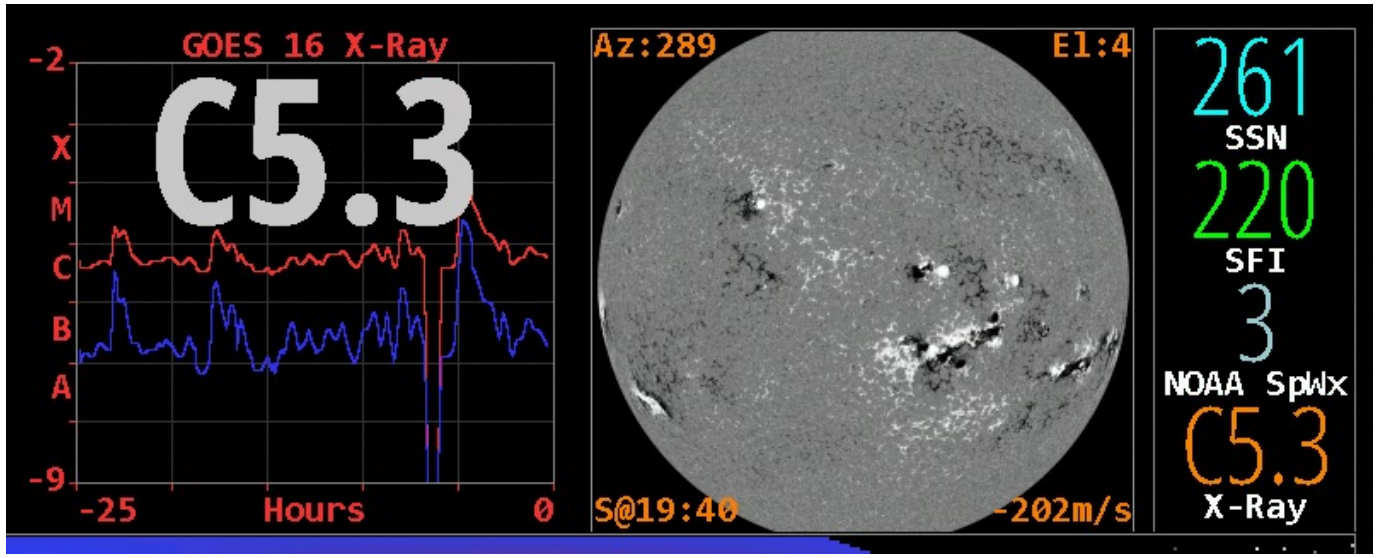
- 100W on SSB

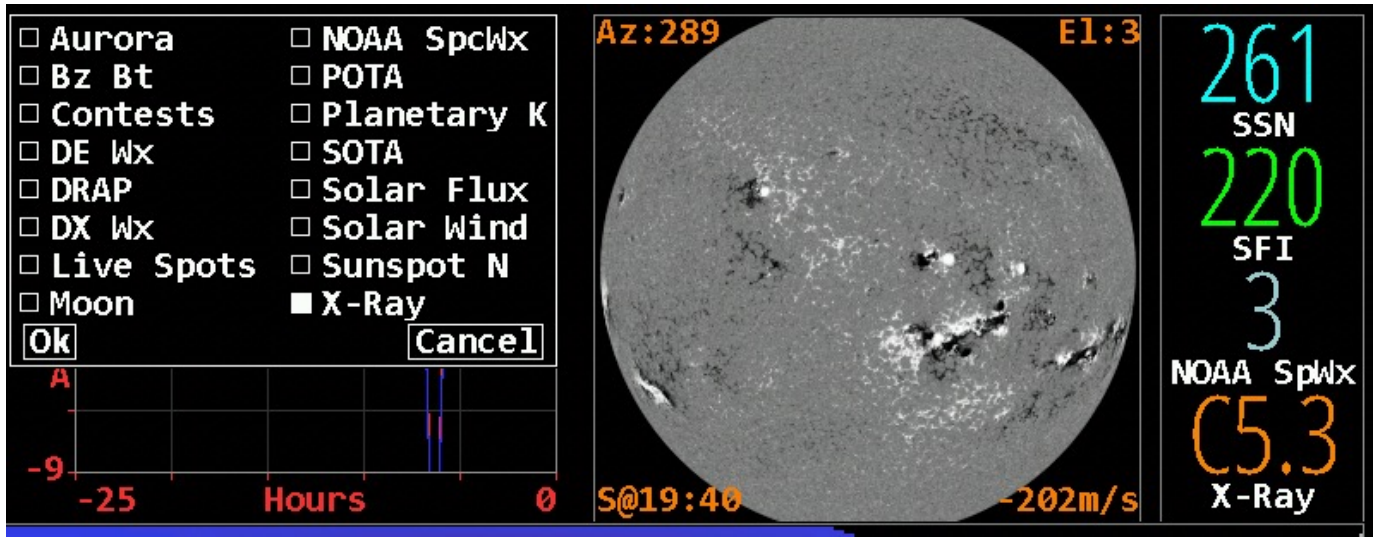


Capabilities: Solar Indices

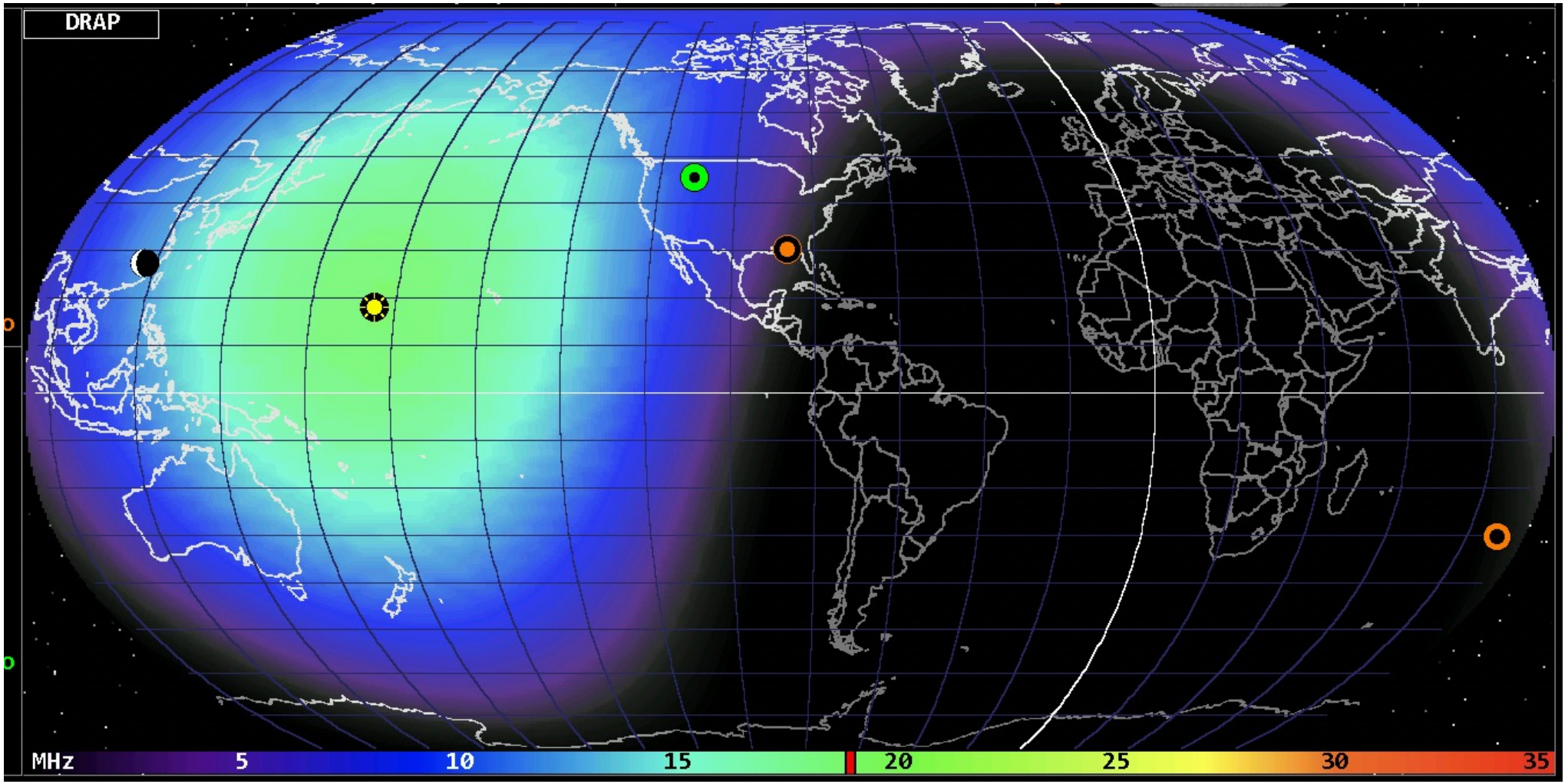
Customizable panes

- 2 large panes
- One small pane

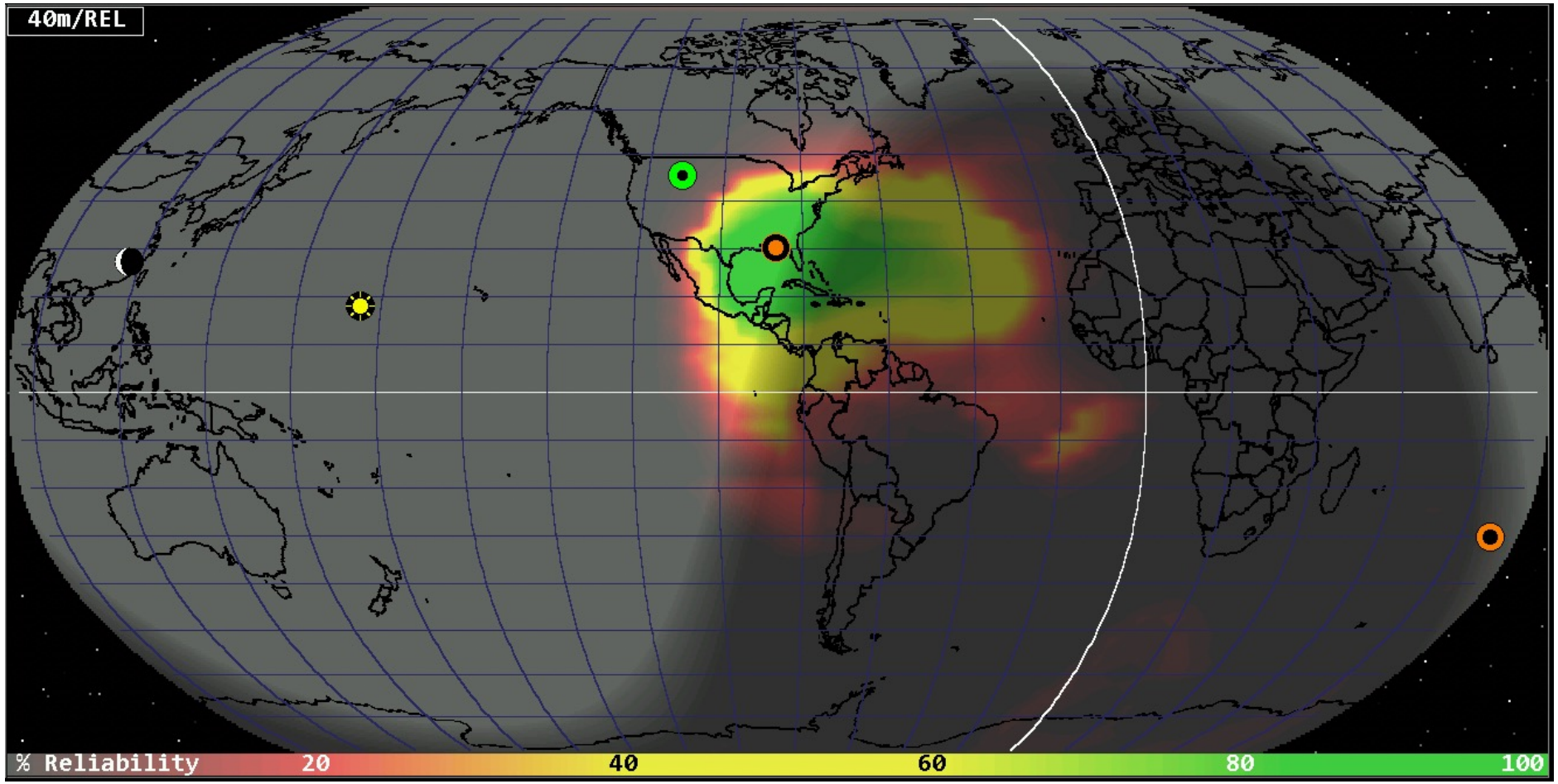




Capabilities:
Prediction Maps

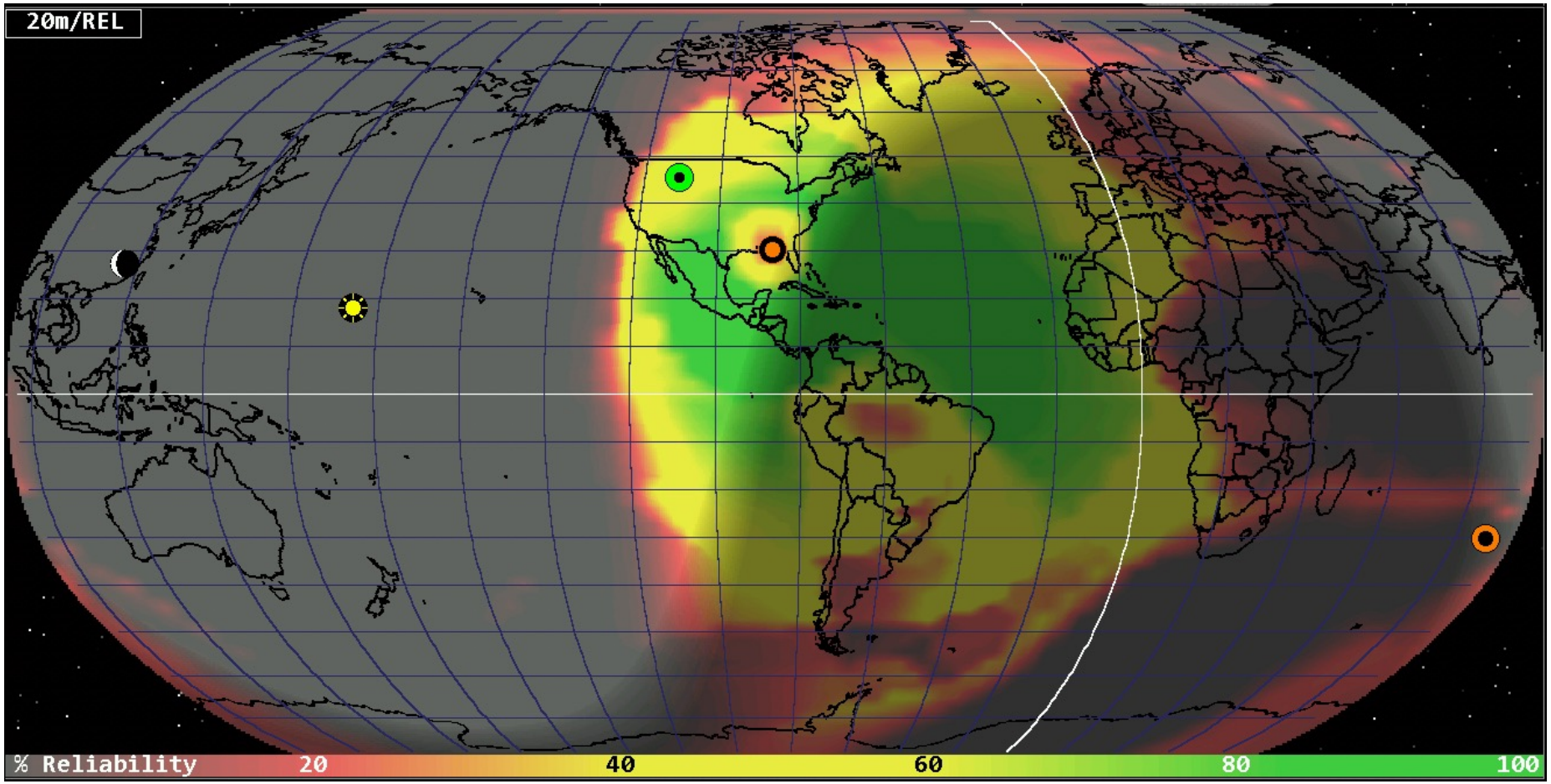


Capabilities:
Prediction Maps



1w FT8

Capabilities:
Prediction Maps

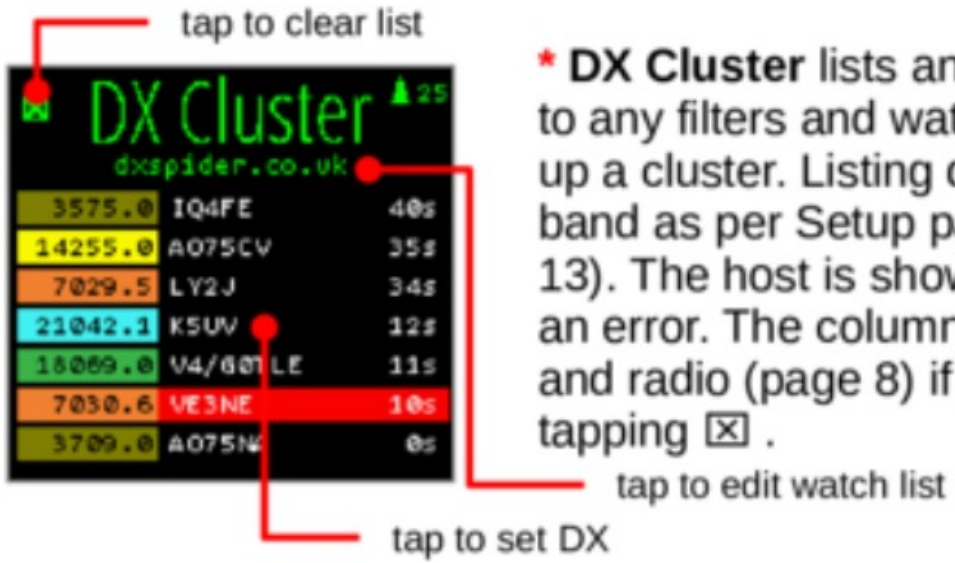


100W SSB

Capabilities:
Satellite Tracking

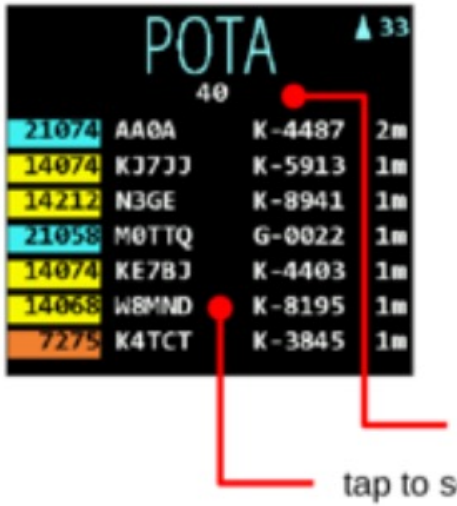
The **DX** panel can be repurposed to show details of the next satellite pass as viewed from DE. Below the satellite name is the time until the next Rise or Set event. Both events are based on the satellite passing above or below the ideal geometric horizon without regard to refraction. The format will be **HHhMM** if the event is more than an hour away otherwise **MM:SS**. A schematic representation shows how the pass will appear in the sky above DE oriented as shown by the compass directions in each corner. Faint lines are drawn at 30° and 60° elevation and every 30° in azimuth. The setting end of the pass is marked with an **S**. Midway along the pass are shown the **duration** as MM:SS and **maximum elevation** in degrees. Tap anywhere in the circle for a menu of additional options.

Capabilities:
DX Cluster



* **DX Cluster** lists and maps spots from the cluster host defined in Setup page 2, subject to any filters and watch list engaged there. See page 10 for more information on setting up a cluster. Listing direction may be set in Setup page 5. Frequencies are colored by band as per Setup page 6. Rows matching a Red: **watch** list are colored red (see page 13). The host is shown in yellow while connecting, green while functional or red if there is an error. The columns are kHz, call and age. Tap any row to set DX and rotator (page 7) and radio (page 8) if configured. Tap the host name to edit the watch list. Clear the list by tapping ☒ .

Capabilities:
SOTA & POTA Spots



* **POTA** and * **SOTA** have separate panes for displaying a list of their current spots. Below the title is the total count of spots in the list. The table columns are kHz, call, location code and age. Rows may be filtered using a **watch** list (see page 13). Frequencies are colored by band as per Setup page 6. Tap the count to select sort and edit watch list. SOTA only has room for one text position for age so any spots older than 9 minutes are marked with a plus **+**. Tap a spot row to set DX and control radio (page 10) and rotator (page 8) if used. Spot locations are plotted but paths are not because the spotter location is not available.

Demonstration

Installation

- On a raspberry pi open a terminal and do:

```
cd
curl -O http://www.clearskyinstitute.com/ham/HamClock/install-hc-rpi > install-hc-rpi
chmod u+x install-hc-rpi
./install-hc-rpi
```

Questions

?

Links

- Hamclock home page:
  https://www.clearskyinstitute.com/ham/HamClock/

- My home page:
  https://n2xu.net
  (these slides are there)