



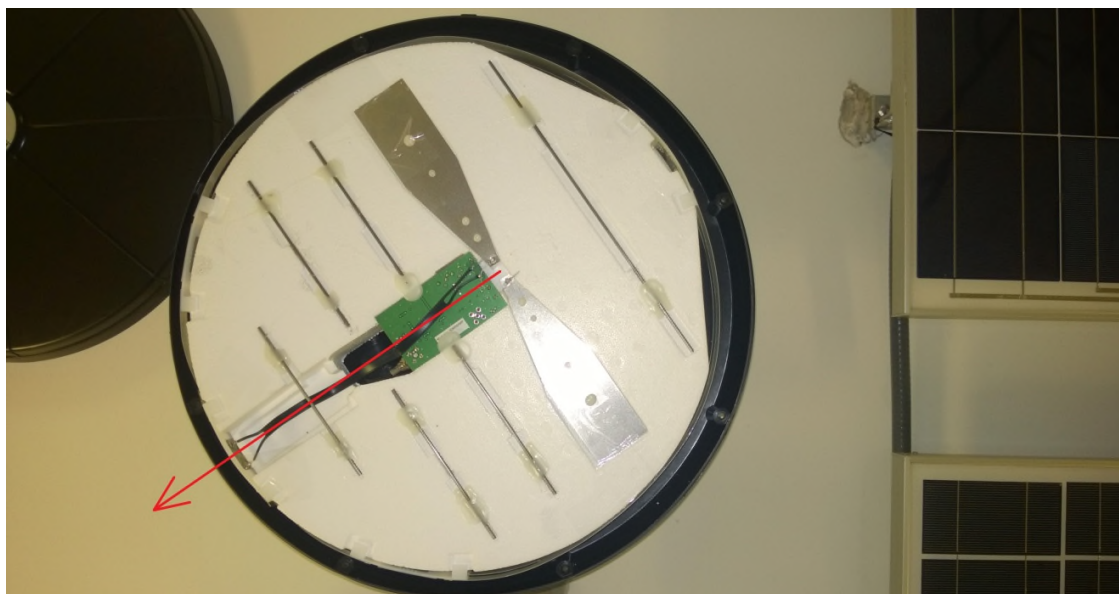
2010 43QGP Allegro Bus

5/5/2016

107 - FYI - MINI-STATE WIRELESS ANTENNA ROTATOR

NUMBERING v2. First I would like to state, IMO I along with probably most Tiffin coach owners do not understand **EXACTLY** what is meant when we see any of the **1** through **16 DIRECTION** numbers on the Mini-State wireless display.

Decided today to figure out how the orientation of the coach and the Mini-State antenna are related in locating a TV broadcast antenna. I know when installing the Mini-State antenna the installation information states, point the double arrows on the dome toward the front of the coach however what does the front of the coach mean in relation to the remote display **DIRECTION** numbers 1 thru 16 on the wireless display? With the top cover of the antenna removed the photo below shows what I saw with **DIRECTION 1** selected.



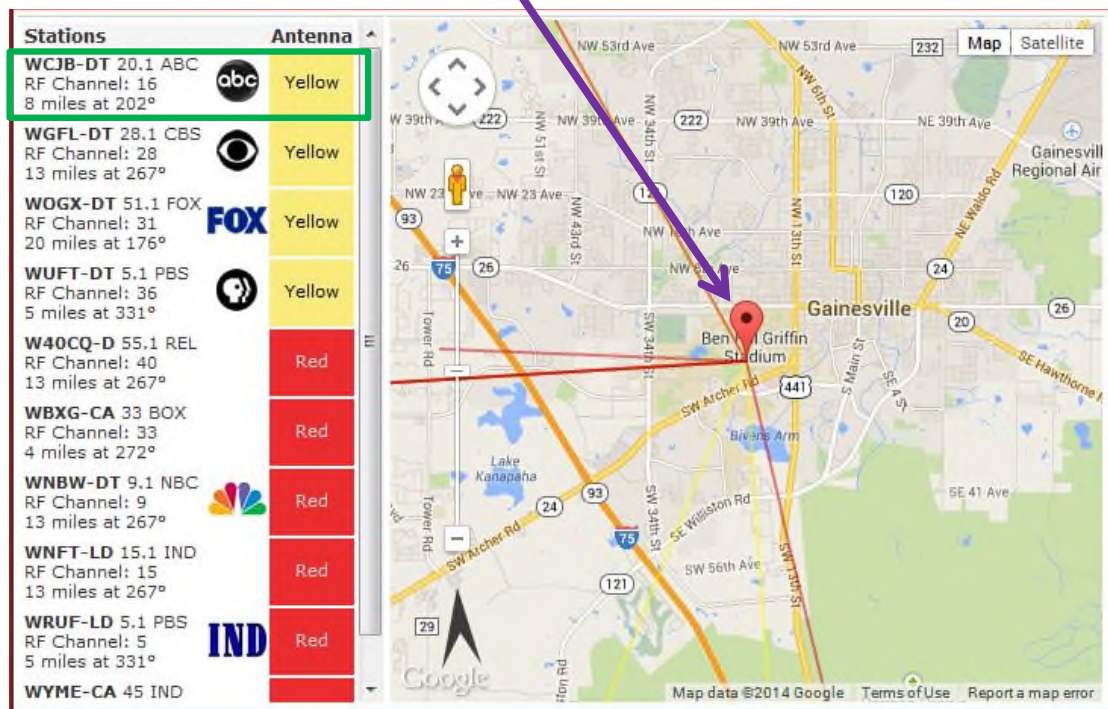
The above photo shows the actual direction (denoted by the **RED** arrow) of the Mini-State antenna when **DIRECTION 1** is selected. There are 360 degrees in a circle, with 16 Direction Numbers in the antenna circle this means there are 22.5° between each Direction number. Looking at the photo the actual number of degrees between its current pointed **DIRECTION 1** and the front of the coach are 112.5° . As previously stated with 22.5° between each number when 112.5° is divided by 22.5° the resultant number

is **5**. We start at 1 and add 5 making the answer 6, therefore if **DIRECTION 6** is selected the antenna will rotate and point toward the **FRONT** of the coach. The front of the coach will be relative to locating any OTA (Over The Air) TV broadcast antenna.

To locate any OTA broadcast antenna you need to find the number of degrees the coach is in reference to the TV broadcast antenna you desire to point the Mini-State antenna toward. OTA broadcast antennas can be located by clicking on the following link.

<http://transition.fcc.gov/mb/engineering/dtvmaps/>

Input the coach location Zip code or address will display this symbol. One of our frequent camping locations was used as an example the location shown is our leased camping site at Gainesville, FL home of Florida Gator Football.



I'll use the first station on the station list as the example. Our parking site just happens to be pointed NORTH the coach is also parked with the front of the coach pointed NORTH.

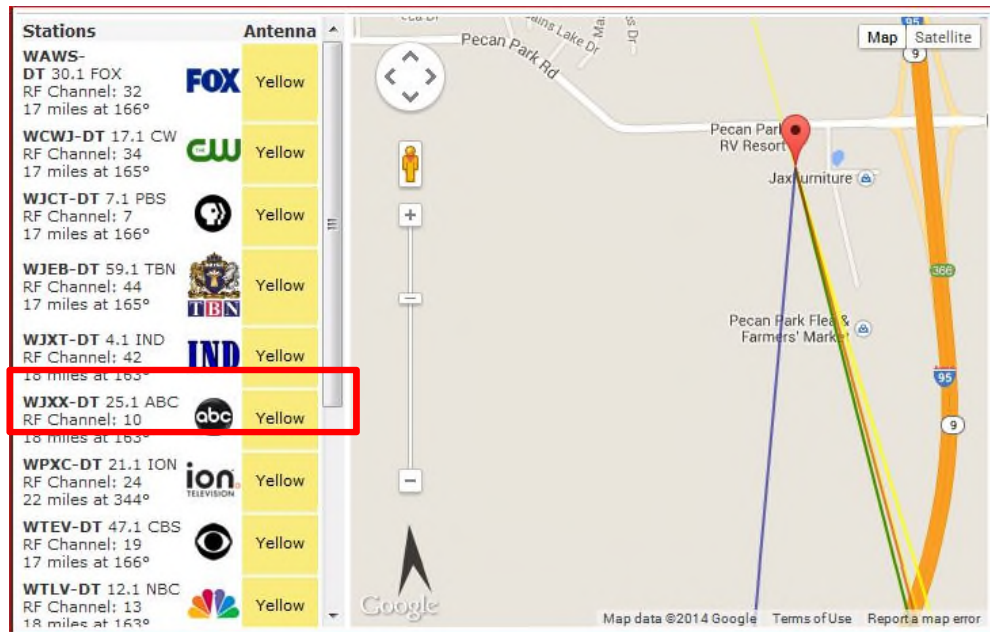
The station we are looking for is **WCJB 20.1** outlined in **GREEN** its broadcast antenna is located 8 miles at 202° from our parking site.

Based on previous information we know 22.5° is equal to ONE number in reference to antenna DIRECTION. Divide 202° by 22.5° results in 8.977777 rounding off the result to 9.

Going back to the first page of this file we know **DIRECTION 1** is 112.5° to the **LEFT** of the front of our coach, **DIRECTION 6** is straight in front of

the coach therefor $6 + 9 = 15$. Turning the antenna to **DIRECTION 15** on the Mini-State wireless display will provide our TV's with the strongest signal from **WCJB 20.1**.

Okay that example was easy now we will try another camping location where figuring transmitting antenna direction is a little harder to figure.



The above map shows the parking location (Pecan Park RV Resort) where we camp during our annual trip to Jacksonville, where the Florida Gators meet the Georgia Bulldogs in the annual match up at the Gator Bowl. This example will use **WJXT 4.1** outline in **RED** its transmitting antenna is located 18 miles at 163°, all of these locations are taken with **NORTH** being 0° or 360°. When parked at this campground our coach is pointed 045° relative to **NORTH**.

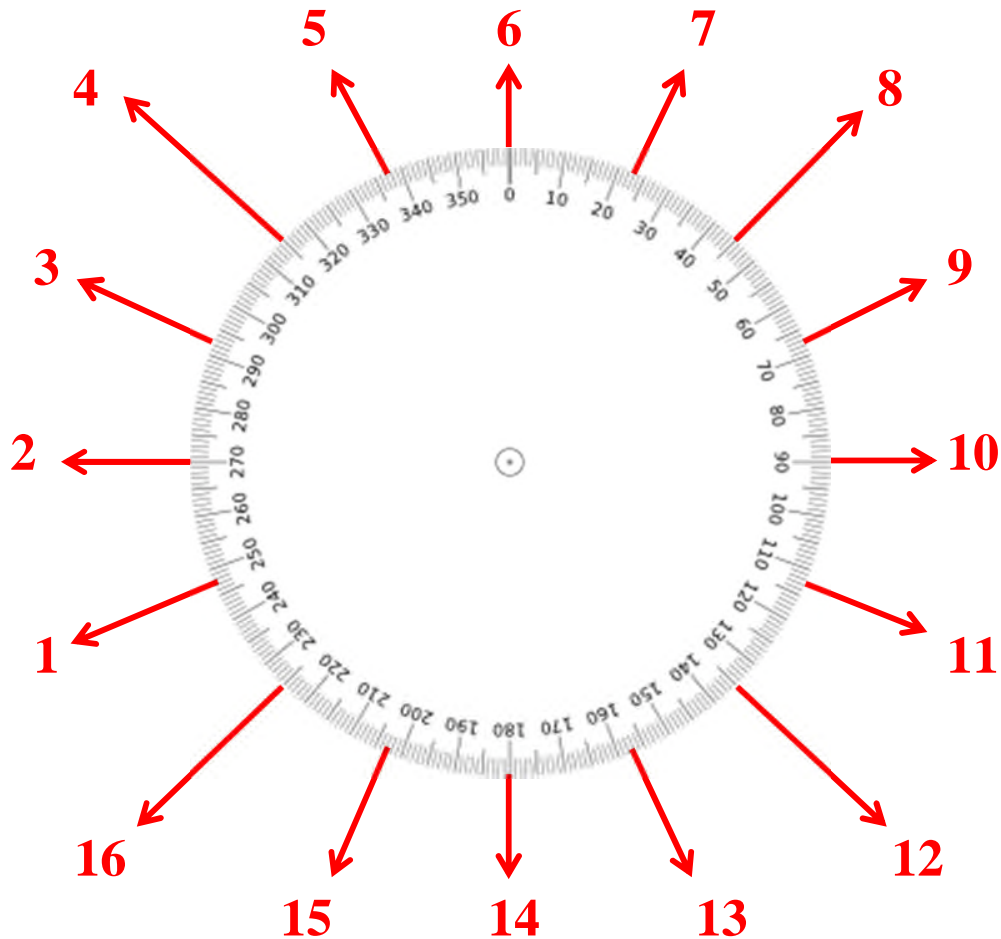
Using the front of our coach as the reference (045°) the direction we desire to point the antenna is 163° from **NORTH**, we need to subtract 045° from 163° leaving 118° as the result.

We know based on the previous information the front of our coach is the same as **DIRECTION 6** on the Mini-State antenna, to point the antenna to 163° we need to move the antenna to the **RIGHT** 118° ($118/22.5 = 5.2444$ or rounded **DOWN** to 5), therefor pointing the antenna from **DIRECTION 6** (straight in front of the coach) adding 5 numbers equals **DIRECTION 11**. Turning the Mini-State antenna to **DIRECTION 11** will provide our TV's with the strongest signal from **WJXT 4.1**.

Since none of the TRVN members caught my mathematical mistake, I found and corrected the mistake myself.

I decide to add to this file the following information which is correct for my coach and based on at least one other member the information is correct for their coach also.

After disassembly of both the 9000 and 9100 Mini-State antenna's the 9000 is set to align the midpoint as straight in line with the arrows. The 9100 if installed with the arrows forward will match the following compass.



The above compass has been marked to show sixteen **DIRECTION NUMBERS**, each number is equally spaced with 22.5° between numbers. This depicts how the Mini-State Wireless antenna is installed on our coach. The front of our coach corresponds with **DIRECTION 6** which I set as 0° or 360° on the above compass hoping to simplify locating the TV broadcast antenna you will be trying to point the coach antenna toward. As the TV broadcast antennas found using the below web site will reference your coach location to NORTH as 0° or 360° .

<http://transition.fcc.gov/mb/engineering/dtvmaps/>

Thanks go out to Larry (TRVN username) LP520 for providing the above updated OTA (Over The Air) Broadcast Antenna Locator.