

OCTOPUS™

QUICK USER GUIDE FOR OCTOPUS 4G & PUBLIC SAFETY MODEL



Before You Start - Unpack and completely charge up your Octopus using the supplied power transformer and charging dock. Be sure unit is seated firmly in the charging dock so that charging LED atop unit is lit. The mini-USB port located on the side of unit can be used for trickle charge and firmware updates. Check with BVS support for latest firmware and updating instructions. Be sure to only use provided multiband antenna or other antenna authorized by BVS support. This will ensure that unit properly scans all bands, carriers and frequencies at maximum sensitivity.

Starting Up - Before powering up, connect the antenna. Power up Octopus by pressing the white button below the touchscreen. This same button is the only physical button on the unit and also powers down the unit by holding it in for a few seconds. Octopus will immediately begin scanning all nearby base stations. After about 10 seconds of a startup screen, Octopus will display the main screen of carrier choices (Octopus scans all U.S. regional carriers (over 60) but only displays those on the carrier list screen which appears next) while continuing to scan for all nearby signals. Choose your carrier of choice or all 4G. Only Octopus Public Safety model has a dedicated button and identifies all AT&T band 14 FirstNet networks. Allow at least 30 seconds for full scan to complete. Three small dots in the lower right corner of the screen indicate scanning is still in progress. Tap on the gear icon (settings menu) at any time to adjust the vibrating and audible alerts as well as check your current firmware and unit serial number. See next page of this user guide for all screens and their paths.

Scanning and Sorting - Once Octopus has finished completely scanning, you may sort all base station signals by either carrier, frequency or signal strength. 4G signal strength is measured in RSRQ (dB) and RSRP (dBm). Tapping the CARRIER, FREQ or RSRQ/RSRP buttons will sort the list by any of those choices. The orange 'FN' indicates an AT&T band 14 FirstNet network and only appears on the Octopus Public Safety model. If Octopus identifies more than 6 unique base stations, a PAGE down button appears for additional pages of base stations to search through. PAGE up button appears on the next page allowing users to move through all pages. Touch the freeze button (lower left) anytime to freeze the screen(s) to view measurements across all pages, take notes or snap a quick pic with your smartphone. This mode also saves measurement data for download to PC (see user manual). Push the same button again to resume real time measurements.

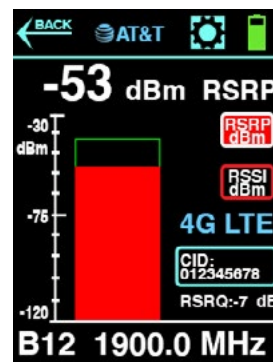
Choosing Your Base Station - Once you have located the base station of interest, touch it to take you to the active signal carrier measurement screen. From this screen you can view the channel number and real time signal strength as you move around and also to align external antennas to nearby base stations. Single measurement screen allows users to toggle between RSRP and RSSI measurements in dBm as well as view RSRQ without having to leave this screen. A thin watermark line above the vertical signal strength bar indicates peak measurement observed during the entire session. Tap the CID button to view more information about this particular base station.

Antenna Alignment - Disconnect your included omni directional SMA antenna and connect directly to your mounted (or soon to be mounted) antenna fixture while viewing the single carrier screen. Begin with broad sweeps and then turn your antenna slower to fine tune adjustment so that it is pointing directly to the base station you want off in the distance. Once your signal strength is at maximum, install and tighten your permanent antenna and connect it directly to your cell booster. You can now move on to scan more base stations and install more cell boosters if needed.

(outside U.S. & Canada) +1 732-548-3737

www.bvsystems.com

support@bvsystems.com

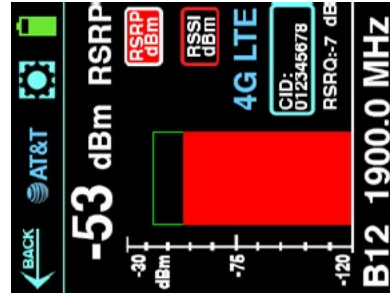


SORT THROUGH ONLY AT&T BASE STATIONS BY FREQUENCY, RSRQ OR RSRP (SHOWN)

CARRIER	FREQ MHz	RSRQ dB	RSRP dBm
AT&T	700.0	-9.0	-78
AT&T	700.0	-6.0	-82
AT&T	700.0	-9.0	-90
AT&T	850.0	-11.0	-92
AT&T	1900.0	-8.0	-98
AT&T	1900.0	-10.0	-102

SORT THROUGH ONLY VERIZON BASE STATIONS BY FREQUENCY, RSRQ OR RSRP (SHOWN)

CARRIER	FREQ MHz	RSRQ dB	RSRP dBm
VERIZON	887.0	-8.0	-77
VERIZON	1700.0	-6.0	-87
VERIZON	751.0	-8.0	-90
VERIZON	1700.0	-11.0	-92
VERIZON	1900.0	-8.0	-92
VERIZON	700.0	-10.0	-95



DIRECT MEASUREMENT OF AT&T 4G LTE BASE STATION IN RSRP. TAP RSSI BUTTON TO SWITCH TO RSSI MEASUREMENTS. VIEW ADDITIONAL INFO ABOUT THIS PARTICULAR BASE STATION BY TAPPING THE CID BUTTON.

VIEW THIS ADDITIONAL CID MEASUREMENTS FOR A SPECIFIC BASE STATION.

EARFON: 075	dBm
RSRP: -80	dBm
MCC: 310	
MNC: 410	
PHY CELL ID: 210	
CELL ID: 208678827	
TAC: 2958	
CELL STATUS: CELL_SUITABLE	
RSRP: -106	dBm
RSRQ: -12.0	dB
BW: 5	MHz



CHOOSE CARRIER DIRECTLY OR ALL 4G BASE STATIONS. UNIT SCANS ALL 4G IN BACKGROUND BY DEFAULT. PUBLIC SAFETY BUTTON ONLY INCLUDED IN THE OCTOPUS PUBLIC SAFETY MODEL AND DISPLAYS ONLY BAND 14 SIGNALS USED IN AT&T'S FIRSTNET.

ACCESS SETTINGS MENU AT ANYTIME TO ADJUST ALERTS

CARRIER	FREQ MHz	RSRQ dB	RSRP dBm
AT&T	739.0	-9.0	-77
AT&T FN	763.0	-6.0	-87
VERIZON	751.0	-9.0	-90
T-MOBILE	2140.0	-11.0	-92
AT&T	1967.5	-8.0	-92
VERIZON	887.5	-10.0	-95

TOUCH SNOWFLAKE BUTTON ANYTIME TO FREEZE ALL CURRENT SCREENS FOR VIEWING MEASUREMENTS AND STORING THOSE SCREENS INTO INTERNAL MEMORY. MEASUREMENT DATA CAN BE DOWNLOADED TO PC FOR FURTHER ANALYSIS - SEE USER MANUAL FOR INSTRUCTIONS. OCTOPUS' INTERNAL DATA BUFFER IS OVERWRITTEN EACH TIME YOU PUSH THE SNOWFLAKE BUTTON. YOU MAY NAVIGATE TO ANY PAGE FOR VIEWING WHILE THIS MODE IS ENGAGED. TAP BUTTON AGAIN TO RESUME REAL TIME MEASUREMENTS.

SORT THROUGH ONLY T-MOBILE BASE STATIONS BY FREQUENCY, RSRQ OR RSRP (SHOWN)

CARRIER	FREQ MHz	RSRQ dB	RSRP dBm
T-MOBILE	700.0	-9.0	-78
T-MOBILE	700.0	-6.0	-82
T-MOBILE	700.0	-9.0	-90
T-MOBILE	850.0	-11.0	-92
T-MOBILE	1900.0	-8.0	-98
T-MOBILE	1900.0	-10.0	-102

SORT AMONG ALL 4G CARRIERS BY RSRP (SHOWN), RSRQ OR FREQUENCY

CARRIER	FREQ MHz	RSRQ dB	RSRP dBm
AT&T	739.0	-9.0	-77
AT&T	1935.0	-6.0	-87
VERIZON	751.0	-9.0	-90
T-MOBILE	2140.0	-11.0	-92
AT&T	1967.5	-8.0	-92
VERIZON	887.5	-10.0	-95