

AVATAR Direct Sampling Test Set

June 2, 2020



AVATAR outline

- Million Dollar Question
- What is AVATAR?
- What can it do?
- In your office, home or reception area
- Let's give it a spin!
- Webinar special pricing **NEW**
- Your questions



Your host:
Chuck Kelly
VP Market Development



Special Guest:
John Lackness
Western U.S. Sales, Broadcast
Electronics



The Million Dollar Question

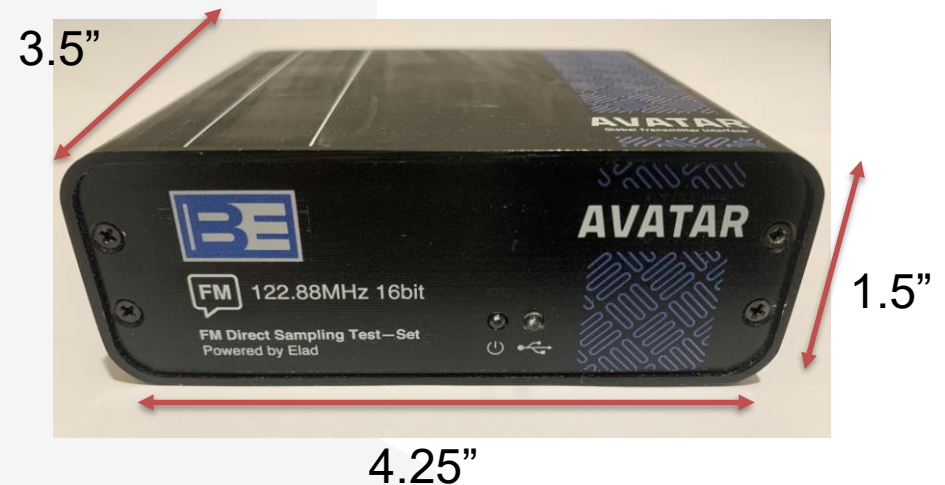


What is AVATAR?

- AVATAR is a state of the art 16 bit SDR with specialized broadcast FM analysis tools.
- Perfect for off air monitoring or direct connection by sample port on your RF line section
- Recommended signal level: up to -30dBm
- Frequency range: 100kHz to 140MHz

Operating system minimum recommendations:

- Windows 10
- 4GB RAM
- 4 core CPU running 2.5Ghz
- 10GB of Hard Drive
- A monitor screen capable of 1600x900



What can AVATAR do: See everything at a glance!



AVATAR is your second set of "ears", helping you to assess the health of your audio signal.



What can AVATAR do: RF waterfall and RDS



HD lower sidebands

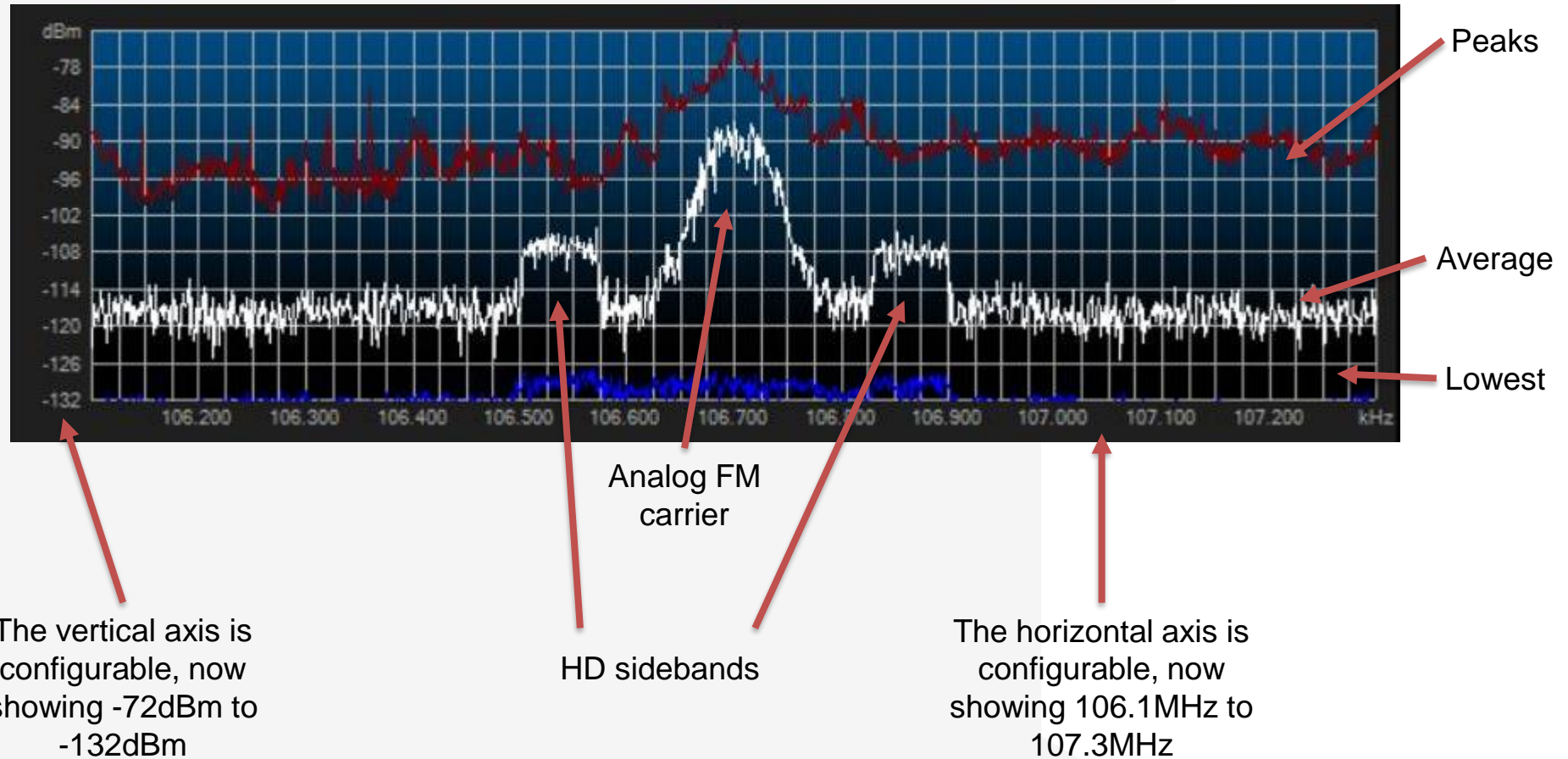
RDS info

19kHz pilot and
57kHz RDS deviation

L, R, L+R, L-R, 19kHz
pilot and RDS viewable

Frequency is the horizontal axis, time is the vertical axis with most current at the top, and signal level is brightness.

What can AVATAR do: RF spectrum analyzer



Understanding US modulation limits

In the US, FCC rule §73.1570 states:

(2) FM stations. The total modulation must not exceed 100 percent on peaks of frequent reoccurrence referenced to 75 kHz deviation. However, stations providing subsidiary communications services using subcarriers under provisions of § 73.319 concurrently with the broadcasting of stereophonic or monophonic programs may increase the peak modulation deviation as follows:

(i) The total peak modulation may be increased 0.5 percent for each 1.0 percent subcarrier injection modulation.

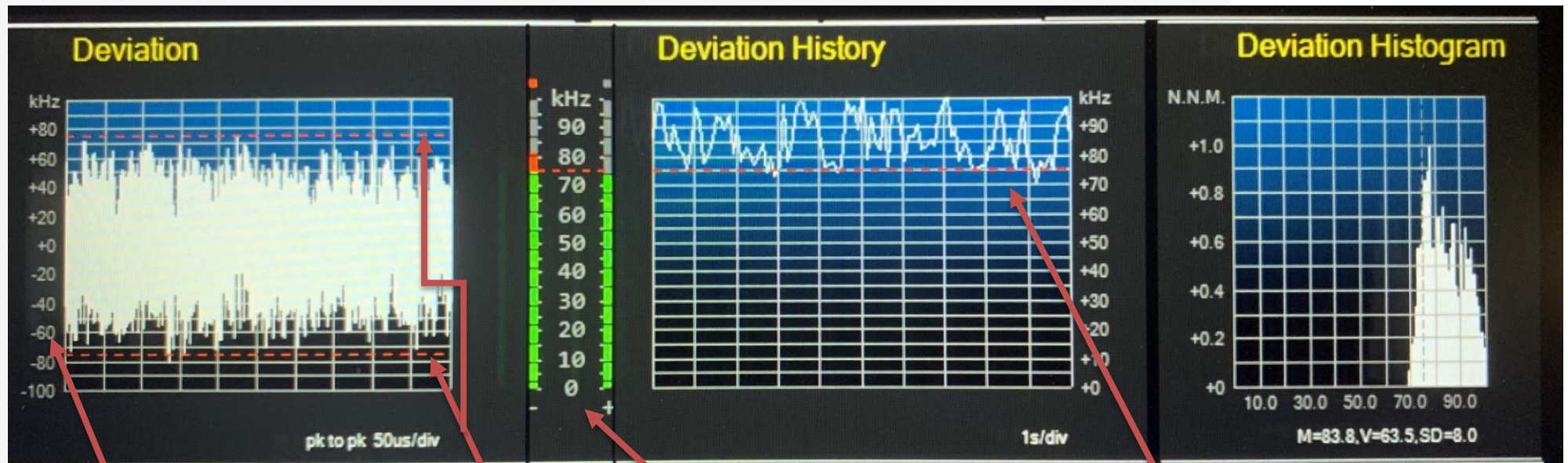
(ii) In no event may the modulation of the carrier exceed 110 percent (82.5 kHz peak deviation).

And while in the US, you no longer are required to have a modulation monitor, you are responsible for assuring that you meet FCC requirements, including modulation levels.

Checking the modulation on your stations with an Avatar could help save you from a hefty fine.



What can AVATAR do: Deviation analysis



Vertical axis is deviation

Upper and lower peak deviation

Fixed 50us per division

Peak reading LED meters corresponding to the deviation scope on left.

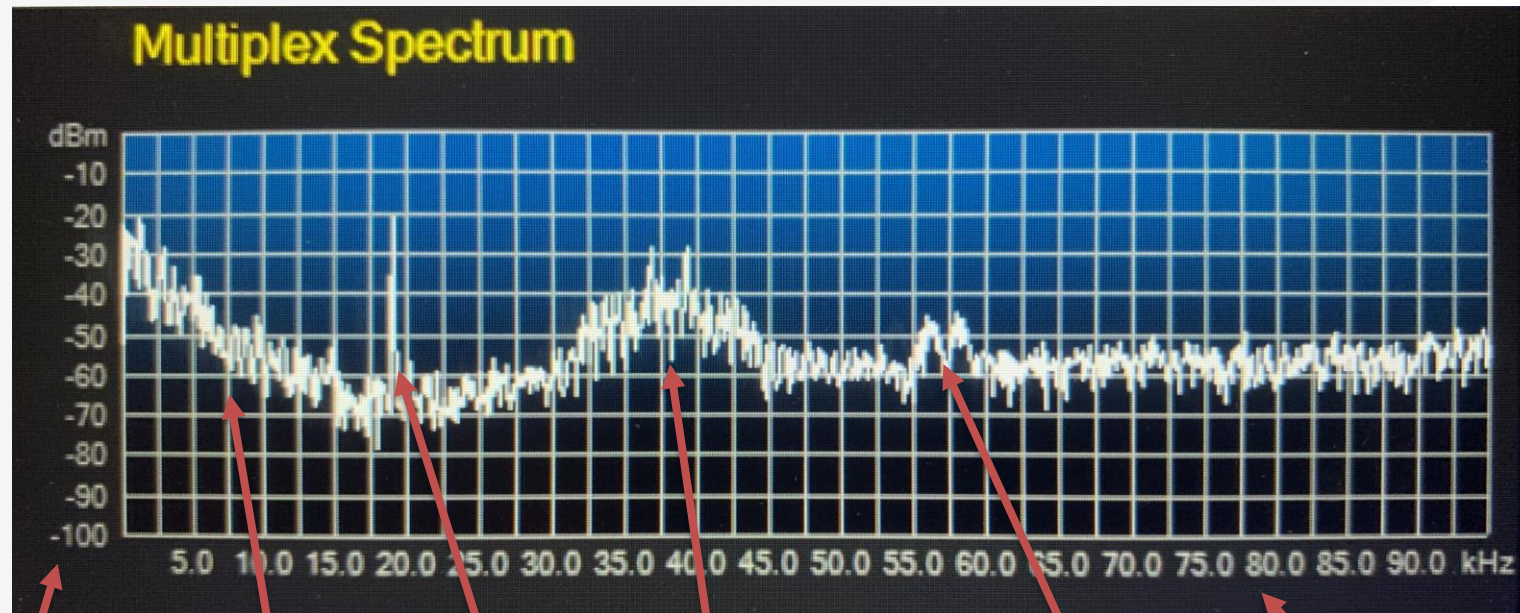
User selectable time per division, up to 1 hour

Deviation history as shown per preselected division

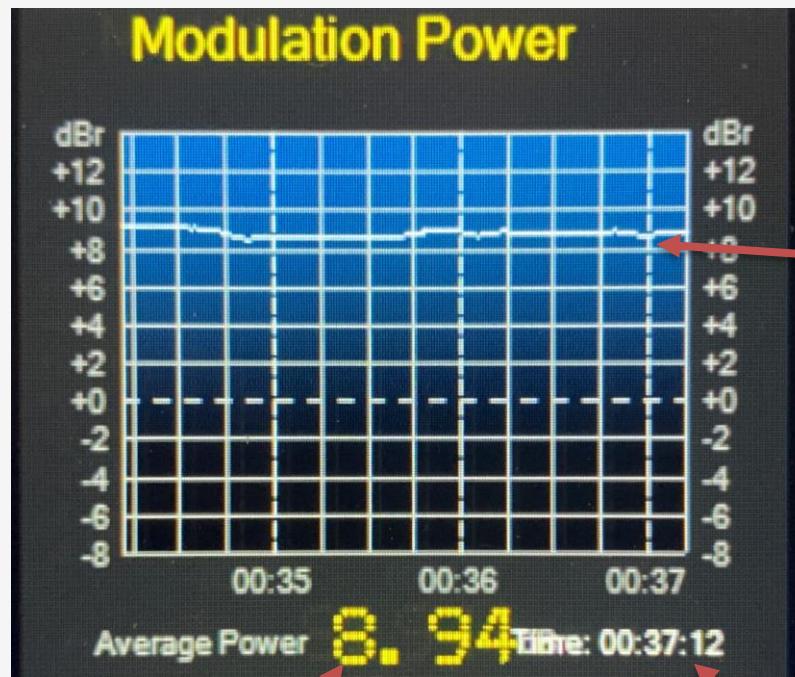
M = mean deviation
V = variation
SD: standard deviation



What can AVATAR do: Baseband spectrum analysis



What can AVATAR do: Loudness analysis



Line reference equating to the average power of 8.94 shown below, left

Average power over time measured. In general, the higher the number, the more dense / louder

Time that modulation is measured



What can AVATAR do: Audio spectrum analyzer



Audio is measured from 0 to 16kHz

Red is maximum hold of peak

Green is your L+R audio

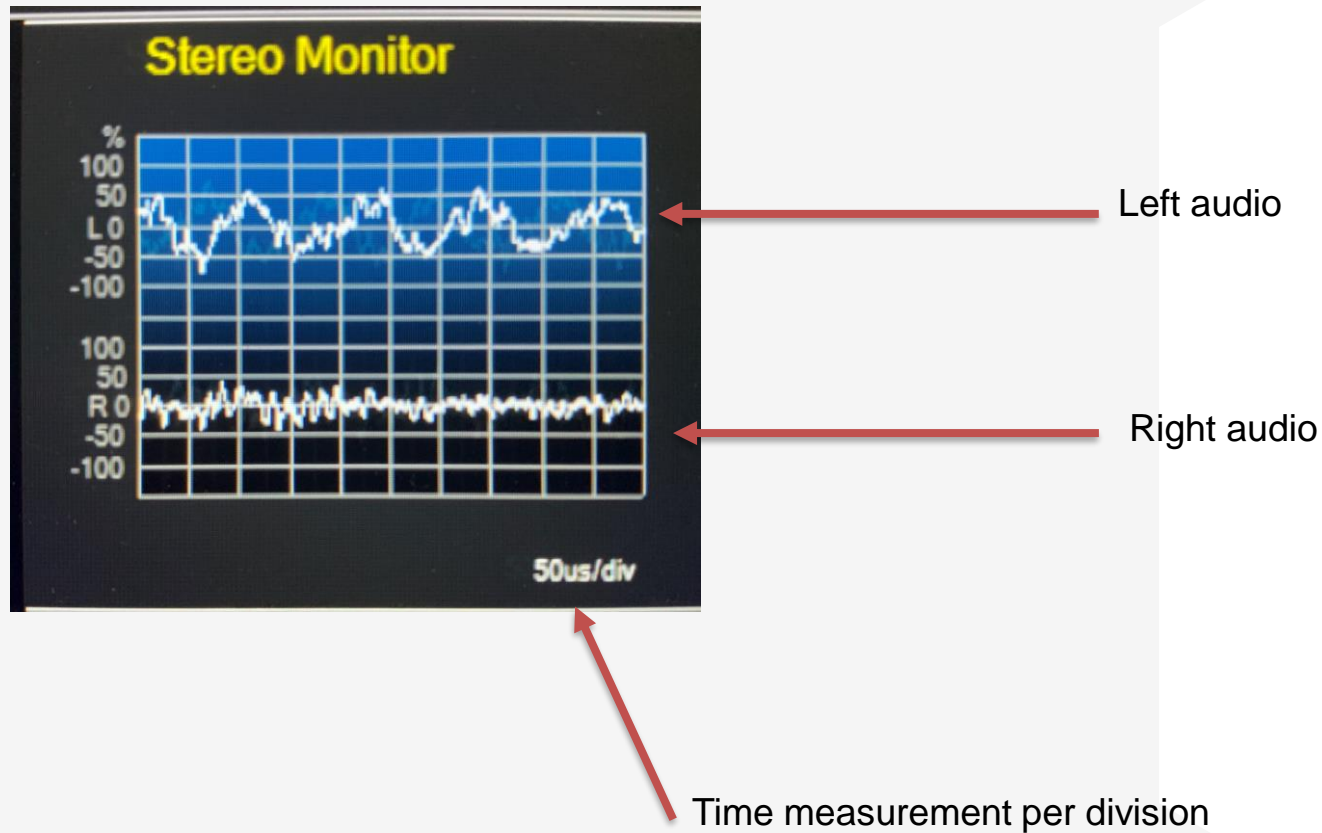
White is averaged audio

Blue is minimum hold audio

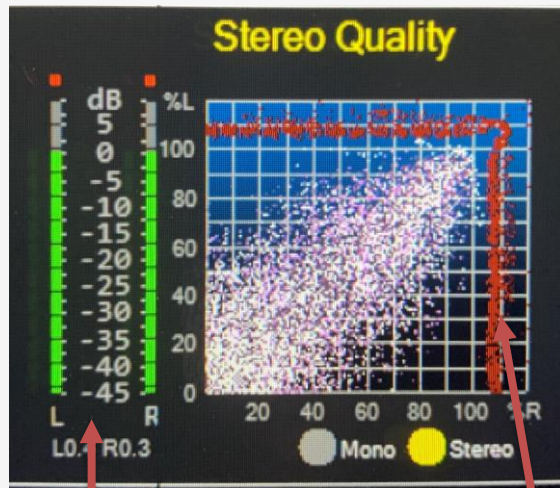
User defined settings along bottom



What can AVATAR do: Stereo dual trace scope



What can AVATAR do: Lissajous stereo analysis



Just your typical L and R VU

Red outline shows the hold of maximum. This can be deselected if wanted



Mono only showing Red maximum hold indication removed

Let's look at what you can see live



Eye candy for your reception area or studios



Summary

- AVATAR is a small, compact SDR test set that you can take everywhere to help you keep your signal the best it can be.
- Monitor from your office, or take it to your transmitter site and connect to the sample port
- Monitor up to 10 FM stations in your market
- Full spectrum analysis of your signal as well as others in your market, covering everything from your audio separation to HD mask to RDS information and much more
- 16 bit accuracy – more accurate than most modulation monitors



New BE Webinar Special Pricing:

List price: \$2,500.00

Limited time webinar special:
\$1,499.00 and free delivery within
the USA*

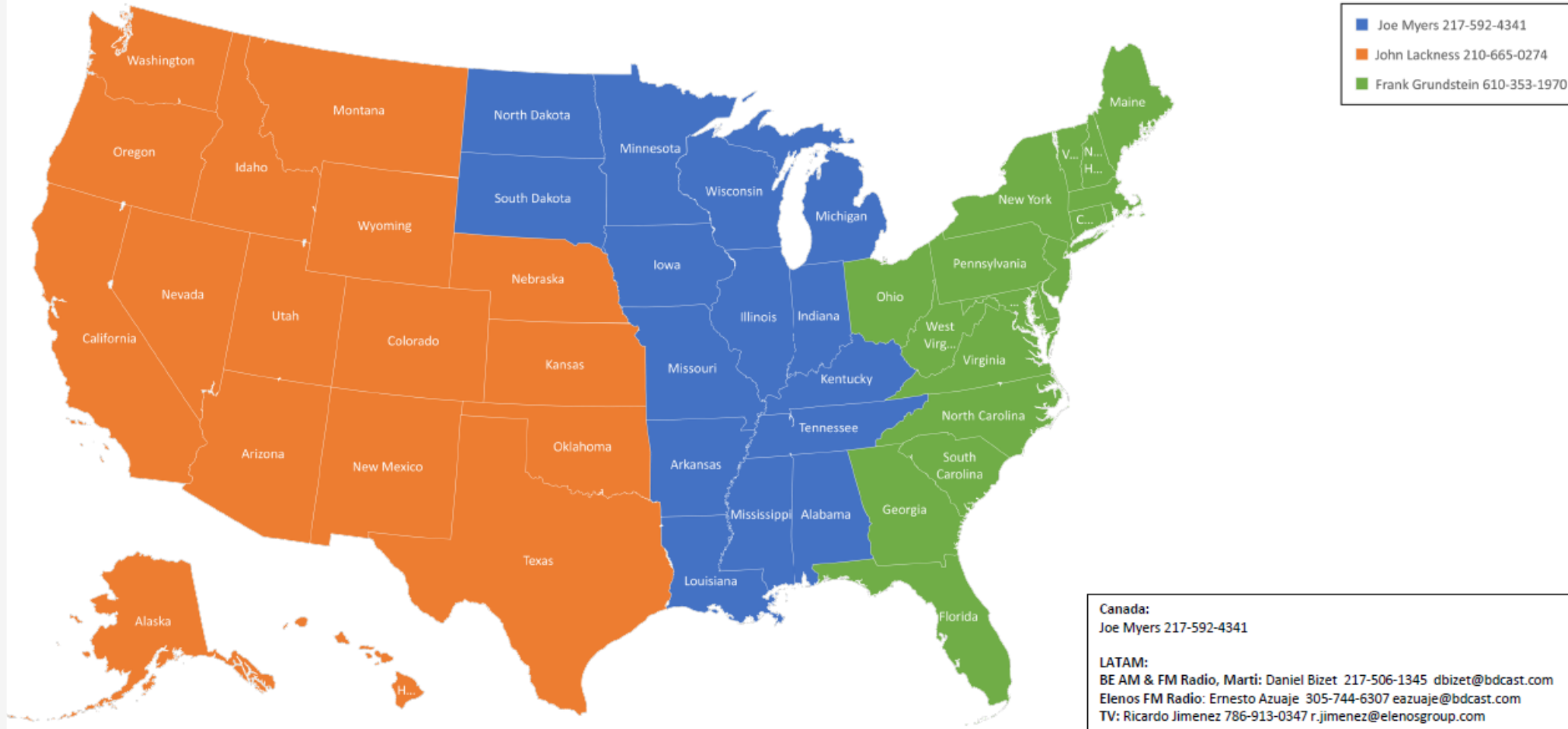
Also... in July 2020, this will be
included FREE of charge (not
including shipping) with any 5kW or
higher Elenos or BE FM transmitter
purchase*

** See your BE sales representative
for details.*



Contacts in your area for more info on AVATAR

Broadcast Electronics Territories





Your Questions?

Questions? We'll try to answer them all here, but, if we can't, we will email you.



Thank You



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We know how valuable your time is, and we are honored that you chose to spend time with us.

For further information, contact your regional Broadcast Electronics sales professional:

Joe Myers – Central U.S. – jmyers@bdcast.com

Frank Grundstein – Eastern U.S. – fgrundstein@bdcast.com

John Lackness – Western U.S. – jlackness@bdcast.com

Daniel Bizet – Latin America – dbizet@bdcast.com

Ernesto Azuaje - Brazil – eazuaje@bdcast.com

Chuck Kelly - ckelly@elenosgroup.com

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