Tune-up Procedure

05/18/2016

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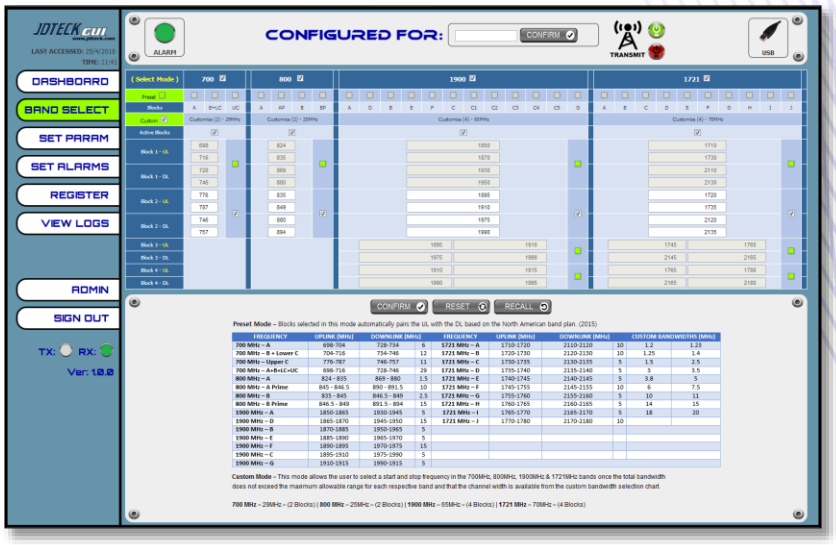
Product Name: Industrial Digital Repeater with GUI
FCC ID: SQX-DR-LCPA-27

TUNE-UP PROCEDURE

The first screen to appear is the Band Select Page. On this page, the user will select which bands they want to support. You also have the option to assign the repeater a name or ID on this page at the header.



5. Using the GUI. (BAND SELECT)

The GUI is inherently intuitive and very user friendly. The user simply selects the bands they would like to support and click confirm. They can choose from either the preset band selections or customize a selection as needed. In the custom selection mode, the user can select all the bands at the very top which will activate all the blocks within the bands. This will allow the repeater to run in wideband mode. (All Channels in All Bands). Ideal for enterprise deployments where the user would like to support all carriers.

The user also has the option to select multiple non-contagious blocks or channels they would like to support. (**2**) for 700 MHz, (**2**) for 800 MHz, (**4**) for 1900 MHz and (**4**) for AWS. These are typically used in carrier applications. No matter which options are selected, the user must remember to click **CONFIRM** for the GUI to register the selection. Please note that clicking **CONFIRM** will NOT send the repeater into transmission mode, it will only log the data inputted or selected. This allows the user to continue with setting up the parameters and alarms for the repeater even before going live with transmission.

There are several other neat features you will notice on the header as well as internal of each page. These include:

- A **MASTER ALARM** on the top left which is synced with the alarm LED on the outside / bottom of the repeater enclosure so even if the user is not logged into the GUI, they can observe if an alarm is present or not.
- A dynamic **ICON** on the top right of the GUI that indicates how the user is interfaced with the GUI. Either via USB or Ethernet.
- A **CONFIRM** button that registers the selections on each page.
- A **RESET** button which resets all the settings on that page to factory default.
- A **RECALL** button which will repopulate the fields with the last saved selection.
- Bold, easy to view, color changing navigation tabs on the left so at any time the user knows which page they are on or where to navigate to next.
- A dynamic **TX** & **RX** status indicator to show communication activity between the GUI and the repeater.

5.1 Using the GUI. (SET PARAMETERS)

The **SET PARAMATERS** page allows the user to set the high-limit *(not to exceed)* points of the repeater on the bands that were activated on the **BAND SELECT** page. Only the active band fields are editable. The user can individually adjust the **UL** and **DL** attenuation values which directly influences the Output Power for each respective band. This page also displays the status color of the respective band so the user knows which band to adjust. Once on this page, the response to the adjustment is not dynamic, so the user will need to click on the dashboard to see the effect.

Also working fixed within the program is an **Automatic Gain Control** feature (**AGC**) which dynamically adds attenuation to the respective band to maintain the output power limit set by the user for **UL** and **DL**.

Because the repeater has dynamic AGC, the status fields will only change color from Green to Orange or Red when the AGC threshold has been exceeded. An infringement that is between 1-5dB over the AGC range will change color from Green to Orange. If between 6dB and 10dB, it will change to Red. If above 10dB, the respective circuit will go into active **MUTE / Shutdown**. To get the unit out of MUTE, first add more DL attenuation to the respective circuit, power cycle the repeater's transmit circuit and then click on the DASHBOARD to see the change. The fields on this page come preset from the factory with the following values:

- ✓ **20dB** of attenuation on the **UL** and **DL.**
- ✓ **17-20dBm** Output Power Limit for the **UL.**
- ✓ **21dBm** Output Power Limit for the **DL**.

Should you require any additional assistance, please do not hesitate to contact me.

Sincerely Yours,

Dennison Jurawan

RF Design Engineer / Technical Sales Manager