APPLIED INSTRUMENTS, INC.

RF TEST AND MEASUREMENT

11/27/2013

Saving Custom Transponders in the AI TURBO S2 satellite meter

Custom Transponders

- Users may define and permanently save up to 256 custom transponders in the database of the AI TURBO S2 satellite meter.
- To enter the Custom Transponder setup screen from the main Run screen, press MENU soft-key (located near bottom right corner of LCD screen). Then use your Up or Down arrow buttons to select 'Custom Trans' near the bottom of the Main Menu list, and press the Enter button.
- Any saved custom transponders in the meters database will be shown. If none have been saved, meter will indicate that.
- If you wish to edit those already saved custom transponders, highlight a custom transponder and press Enter button.
- Press "Add" soft-key (located near top right corner of LCD screen) to add a new custom transponder.
- If you wish to delete an already saved custom transponder, highlight a custom transponder and press "Drop" soft-key (located near middle right side of LCD screen).
- If you wish to exit the Custom Transponders screen, press the EXIT soft-key (located near bottom right corner of LCD screen).
- Add or edit will take you to a screen to define the transponder parameters. The layout of the Custom Transponder parameters screen is similar to the Manual Tune screen. Use alphanumeric keypad to type in field values. After entering a value, press the Enter button. Use Up and Down Arrow buttons to navigate to the next field.

Custom Transponder Parameters Fields editable by user:

- Orbit - Specify orbital location of satellite. For satellites located west of the Prime Meridian, type a "-" in front (i.e. type -89.0 for 89.0°W)
- Sat - Specify name of satellite (i.e. Galaxy 28)
- Label - Specify transponder label (i.e. Tr 5)
- Freq - Specify frequency of transponder (i.e. 12149.625).*
- Polar - Using Left or Right arrow buttons, specify polarization of transponder (i.e. Horizontal or Vertical or Left or Right)
- Mod - Using Left or Right arrow buttons, specify signal type (i.e. DVB-S, DC2, Turbo, DVB-S2, T-ACM, DTV-S2, Other, or DSS)
- Code - Using Left or Right arrow buttons, specify Code Rate / FEC (i.e. Auto or 1/2 or 2/3 or ¾ ; Choose 8-8/9 for 8PSK modulation 8/9 FEC, choose Q-5/6 for QPSK modulation 5/6 FEC, etc.)
- Baud - Specify Symbol Rate (i.e. 2010 kSym)
- Pilot - Using Left or Right arrow buttons, if applicable, specify Pilot status (i.e. AUTO or OFF or ON)
- Optns - If applicable specify any other options relevant to the transponder
- Id - Using Left or Right arrow buttons, specify if you want this custom transponder to be used as an ID transponder for ID verification check on the satellite.**

*It is best to specify the downlink frequency (frequency direct from the satellite before down-conversion by LNB). If you wish to specify the L-Band frequency (frequency of the transponder after down-conversion by LNB), then press the "DN LINK" soft-key (located near top right corner of LCD screen) and you will see the soft-key label change to "IF Freq". Then enter the L-Band frequency. The meter will then calculate the downlink frequency based on the user's present LNB LO settings that have been defined in the System Setup menu. Modems often display the L-Band frequency of the carrier, but for this information to be useful, the user must specify the LO frequency of the LNB in use for that system.

**If there is already an ID transponder for the satellite in the meter's database, then the custom transponder would become a 2nd ID transponder used for an additional level of checking. If there is not presently an ID transponder for the satellite in the meter's database, then the custom transponder would become the default transponder and sole ID transponder for that satellite.

***Remember that the AI TURBO S2 satellite meter is only designed to measure the downlink / receive / outbound signal. Please do not enter any transponder parameters for the uplink / transmit / inbound signal, as the parameters will not be of any utility in the meter.

- Press "Save" to save the changes or the new transponder parameters.
- Press the "EXIT" soft-key (located near bottom right corner of LCD screen) if you wish to exit the Custom Transponders editing screen without saving the changes or new transponder parameters.
- The custom transponders will appear in the meter as if they are part of the Field Guide. As such, they will be usable and viewable in the Limit Scan and Proof of Performance (PoP Scan) features.
- Users may save up to 256 custom satellite transponders in the meter.
- If the custom transponder is not visible to the selected LNB and feed horn configuration, it won't appear (i.e. If you define a horizontal transponder and select a circular feed horn in the System Setup menu then you won't see it displayed. If you define a C-Band transponder and select a Ku Band LNB in the System Setup menu then you won't see it displayed)
- Custom transponders do not have any beam/footprint info so they are considered visible in all geographic regions and therefore will appear in the meter, regardless of which geographic Region is chosen in the System Setup menu and which Field Guide is loaded.