



# 3550R Software Release Notes

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## Version 2.4.4

02/25/2021

### New Features

1. The 3550 Series now supports the VIAVI Instrument Programming Tool (VIP Tool™), which allows users to easily create custom test scripts and other applications. The option number for the VIP Tool is Option 847. Visit <https://viavisolutions.com/viptool> to learn more.

### Improvements

1. The TETRA BS test system is now compatible with Airbus base stations.
2. Generator and Receiver level offset range has been increased to accommodate the use of 60 dB attenuators.
3. Network socket reliability has been improved, eliminating the need for the 3550 to be rebooted if the Ethernet connection is interrupted.
4. Added support for faster data acquisition with future NEON® Signal Mapper updates.

### Fixes

1. The Frequency List Index no longer reverts to 0 when RF Generator Level is changed.
2. In the Wide Analyzer, Auto is now selectable in the Reference Level menu. Previously Auto was unavailable without disabling and enabling the Analyzer.
3. Fixed an issue with Generator Level being higher than indicated if 0.1 dB Step was enabled immediately after the RF Generator was enabled.

### Stay Connected

To help you stay informed of Radio Test Set Updates, please sign up for notifications at <https://comms.viavisolutions.com/Software-Update-Notifications>.

For suggestions or feedback, contact us at [avcomm.sales@viavisolutions.com](mailto:avcomm.sales@viavisolutions.com).



## Version 2.4.0

05/21/2020

### Improvements

1. Added new remote commands to support Store / Recall:

`:setup:settings:save "filename"`

Save the current settings as "filename".

If the file exists, it will overwrite the existing file.

`:setup:settings:recall "filename"`

Load the settings stored in "filename".

If the file does not exist, the settings are not changed.

2. Implemented new commands to support Oscilloscope high resolution traces with up to 1000 points:

`:scope:trace:highres:length?`

Get the number of points in a high-resolution trace.

0.5 ms / div horizontal scale will have 768 points. All greater horizontal scales will have 1000 points.

`:scope:trace:highres:points?`

Get a comma-separated list of Oscilloscope trace points.

`:scope:scale:horiz <Arg0>`

Set the Oscilloscope input horizontal scale.

Numeric / Return:

Arg0

4: 0.5 ms / Div

5: 1 ms / Div

6: 2 ms / Div

7: 4 ms / Div

8: 6 ms / Div

9: 10 ms / Div

10: 20 ms / Div

11: 50 ms / Div

12: 0.1 sec / Div



3. Implemented new commands for top of scale and vertical scale for Channel Analyzer and Wide Analyzer, and deprecated the command for trace length:

**:analyzer:vert\_scale <Arg0>**  
**:analyzer:vert\_scale?**  
Set/get the Spectrum Analyzer vertical resolution.  
Numeric / Return: Arg0  
0: 2 dB  
1: 5 dB  
2: 10 dB  
3: 15 dB  
4: 20 dB

**::analyzer:trace:length?**  
Get the Spectrum Analyzer graph width in points.  
This function always returns the value 1 (256 points).

**:analyzer:trace:length <n>**  
Set the Spectrum Analyzer graph width in points.  
**This command is deprecated. Do not use.**

## Fixes

1. There is an issue with newer revisions of Bird power meters not connecting via USB that has been resolved.
2. Resolved issues with zero and normalize commands, as well as added status commands:

**:rfpow:zero**  
Start the process to zeroize the power meter.  
To determine status, call the **isactive** command.

**:rfpow:zero:isactive?**  
Get the current state of the zero operation command.  
It will count down from 5 to 0. When 0 is returned, the zero operation is complete.  
Numeric / Return           5-1: Running  
                                  0: Stopped

**:normalize:run:state <Arg0>**  
Start the process to normalize the unit.  
The command takes about 20 seconds. To determine status, call the status command. Stop must be commanded before starting again.  
Numeric / Return           Arg0  
                                  1: Start normalize  
                                  0: Stop normalize



`:normalize:run:status?`

Get the current state of the normalize command.

It will count up from 1 to 5, then return 0. If normalize has never been run yet, it will return -1.

Numeric / Return

5-1: Running

0: Stopped

-1: Initial status after unit is turned on

3. Fixed an issue with the Oscilloscope state command:

`:scope:state <Arg0>`

`:scope:state?`

Set/get the Oscilloscope input state.

Numeric / Return:

Arg0

0: Freeze trace

1: Live trace

4. Added a fix to prevent the RF generator from turning off when generating a DMR signal while changing frequencies.



## Version 2.3.4

07/31/2019

### New Features

1. It's now possible to save setups from Tracking Generator and Wide Analyzer screens; previously navigating to the Store / Recall menu would close these.

### Improvements

1. The default tracking generator input has been changed from the T/R Port and the Antenna Port.
2. For P25 measurements, the RF Error Meter range has been increased from 1 kHz to 4 kHz.
3. Modulation generator stays after the reboot.
4. New remote commands for Tone Decode have been implemented. These are listed below for Tone Remote (toneremote), Tone Sequential (tonesequential), and Two Tone Sequential (twotoneseq):

```
:signaling:toneremote:decode:idle
:signaling:toneremote:decode:idle?
:signaling:toneremote:decode:lastmessage?
:signaling:toneremote:decode:message?
:signaling:toneremote:decode:source
:signaling:toneremote:decode:source?
:signaling:toneremote:decode:state
:signaling:toneremote:decode:state?
:signaling:tonesequential:decode:idle
:signaling:tonesequential:decode:idle?
:signaling:tonesequential:decode:lastmessage?
:signaling:tonesequential:decode:message?
:signaling:tonesequential:decode:source
:signaling:tonesequential:decode:source?
:signaling:tonesequential:decode:state
:signaling:tonesequential:decode:state?
:signaling:twotoneseq:decode:idle
:signaling:twotoneseq:decode:idle?
:signaling:twotoneseq:decode:lastmessage?
:signaling:twotoneseq:decode:message?
:signaling:twotoneseq:decode:source
:signaling:twotoneseq:decode:source?
:signaling:twotoneseq:decode:state
:signaling:twotoneseq:decode:state?
```

The values for the <idle/lastmessage/message/state> commands mimic the :signaling:dtmf:decode:<idle/lastmessage/message/state> commands in the signaling section beginning on page 2-1 – 2-89 of the 3550 / 3550R RCI Manual: <https://www.viavisolutions.com/en-us/literature/3550-3550r-rci-manual-manual-user-guide-en.pdf>



The `<source>` commands follow the pattern:

```
:signaling:<toneremote/tonesequential/twotoneseq>:source <Arg0>  
:signaling:<toneremote/tonesequential/twotoneseq>:source?
```

This command sets/returns the Tone Decode source.

Numeric/Return:

	Arg0
1.	EXT_AUD_IN_2_EXT_AUD_OUT
2.	DEMOD_2_EXT_AUD_OUT

## Fixes

1. Fixed a problem with the RF Generator getting disabled with DMR Sync Mode is selected.
2. Receiver offset value is now correctly applied in Channel Analyzer; previously the opposite offset value was applied.



## Version 2.3.1

07/31/2018

### **New Features**

1. A new field for temperature has been added to Option 13 Bird Thru-Line Power meter.

### **Improvements**

1. The marker frequency entries are not altered by changing the center frequency or span controls.
2. The color coding for Modulation Fidelity and FSK Error is now retained.



## Version 2.3.0

04/27/2018

### **New Features**

1. The 3550 Series now includes the TETRA BS Test Option. This enables the 3550R to test TETRA Base Stations and includes both receiver and transmitter test capabilities. The option number for the TETRA BS is Option 3550OPT022.

### **Improvements**

1. Changed operation in the generator and receiver to use the Freq Flex correction value when setting then frequency through RCI.
2. Resolved an issue with the generator level being incorrect if the generator was turned off then back on at levels between -111 and -119 dBm.



## Version 2.2.1

11/02/2017

### Improvements

1. Improved the resolution of the Distribution Plot in all systems.
2. Improved marker operation. Marker Frequency entries are no longer changed or updated by the system.
3. Resolved an issue with the RF Generator Level not being updated for PTC modulation if the generator had been cycled on / off several times.
4. Improved Store Recall system where some fields like scope routing would not always recall.
5. Resolved an issue with generating a P25 O.153 pattern when the instrument is first turned on.
6. Tracking generator no longer requires a re-calibration after recalling a stored sweep as long as the stored parameters match the current settings.
7. Some changes have been made to the Polish language translation.
8. Resolved an issue where the AM Modulation meter Limits were always checked against Pk-Pk readings even when RMS detector was selected.



## Version 2.2.0

02/07/2017

### Improvements

1. Improved DTF plots to remove false reflections and minor correction to level due to cable loss.
2. The Frequency List entry screen no longer resets information when you change list types or output level units.
3. Resolved an issue with recalling the RF Generator level from a stored setup if the level was below -99 dBm.
4. The RSSI, Modulation and Audio Level meters have been added a dBr unit to allow relative measurements to be made. The unit selection is available on all meter tiles for the respective meter.
5. Resolved an issue with the generator level being incorrect if the generator was turned off then back on at levels between -111 and -119 dBm.
6. The default value for the Generator Offset on the Receiver tile has been changed from 10 MHz to 0 MHz.
7. The Tracking Generator now supports a new “Points” entry to allow faster sweeps when tuning filters. The selections are now 100, 200 or 400 points. A selection of 100 points would result in the fastest sweep. The previous default was 200 points.
8. File names with spaces can now be copied to USB memory sticks.
9. Sample Setups files have been updated.



## Version 2.1.2

07/27/2016

### Improvements

1. Resolved an issue where the RX Frequency on the Receiver Tile could sometimes be placed into a Locked state not allowing it to be changed.
2. Modified the AGC operation if switching from DMR mode to Analog mode. The AGC will now return to AUTO mode when switching between DMR and Analog modes.
3. Resolved an issue on the RF Generator Modulator Tile that controls the AF Generator Output.



## Version 2.1.0

02/10/2016

### New Features

1. The marker table has been added to the Tracking Generator display so marker information is always visible.
2. The Receiver Tile now has a generator offset entry and Lock function to lock the generate frequency to the receive frequency.
3. The DTF Distance field on the Tracking Generator now supports user entry lengths up to 2000 feet.

### Improvements

1. The “Hold Atten” button on the generator tile has been renamed “0.1 dB Steps” to better describe what action will take place when enabled.
2. Changed the Preset “Clear Display” to be based on Factory default settings instead of DMR configuration.



## Version 2.0.0

09/17/2015

### New Features

1. New to this release of the 3550R software is a Digital Decode window. Within this window, the user can view the results of decoding the key parameters associated with each of the digital protocols supported by the 3550R.
2. The Modulation window for P25 modulation type now includes additional encode parameters. This enables the user to have greater control of the P25 control parameters that are transmitted by the 3550R. Included in this window for P25, are the Talk Group ID (TGID), Unit ID, Emergency, and Priority fields. Also included is a Reset button, which automatically sets the parameters back to the standard pattern.
3. The Modulation window for NXDN modulation types also includes additional encode parameters. For NXDN, the Modulation window now additionally includes Talk Group ID (TGID) and Unit ID.
4. The 3550R has expanded the Pass / Fail operation so that the meter reading turns green if the measurement is within the user defined pass range.
5. The 3550R now includes the Italian language translation.
6. The tone sequential window now decodes pauses, of any length, displaying a dash (-) as the indication.
7. The selection for audio level units in the AF Gen now includes dBr.
8. The directory structure for frequency list has been improved to allow the user to access sub-directories from the Freq Select window.
9. In order to improve the utilization of resources within the 3550R, active plots that are hidden behind other windows are no longer updated. This helps improve the speed of the operation when the user has many windows open at the same time.
10. Added dBuV as a selectable unit for RF Generator Levels.
11. Added an Audio Function Generator to the Generator Modulation tile where both can be enabled.
12. Added the ability to add a fixed tone to the Two Tone Sequential tile.
13. Tone decode is now supported for User1 and User2 defined codes.
14. Added additional audio filtering to the Audio Input port. These filters now match the filter set that is available on the receiver Demod tile.

### Improvements

1. Improved the RF Generator settling time when the RF Generator is enabled at a low level.
2. Improved RF Output level accuracy below -110 dBm.
3. The stability of the SINAD meter has been improved.
4. Fixed Peak Hold feature for DTF sweeps.
5. Fixed issue with averaging on the Channel Analyzer. Changing the Span with averaging enabled, would cause spikes.



6. In-Line Power Meter now stores and recalls the Duty Cycle setting on power cycles.
7. Corrected CCDF Forward Power readings for the In-Line Power sensor option.
8. Receiver cable offset entry is now saved and recalled with power cycles.
9. Sample setups are now Ready Only.
10. Tracking Generator Scale has been corrected when changing from dB to VSWR.
11. Options list is now sorted by UID Name.



## Version 1.3.1

03/26/2015

### New Features

1. A major new addition in this release is a full screen Wideband Analyzer which has the capability of looking at spans of up to 50 MHz. This new Wideband Analyzer has span selections of 10 kHz to 50 MHz, selectable in a 1, 2, 5 selection. This new feature can be selected from the “Analyzers” selection of the top menu and is called the “Wide Analyzer.”
2. The preset operation of the 3550R has been enhanced to include the setup of several important parameters. Previously, the presets would save the windows selected, the window size and location, and the mod / demod type. The presets now also save the audio config routing, receiver IF BW, and AFBW. The pre-defined presets have been updated to take advantage of the new items that are saved as part of the presets.
3. The number of presets included in the 3550R has increased from three to ten. The first three presets are pre-defined and cannot be changed by the user but the remaining seven presets are available for the user to define.
4. A new ICON has been added that will freeze the display. This is a useful feature that will hold the display readings prior to taking a snapshot. Since it freezes the display, we made it look like a snowflake.
5. The number of markers for the Wide Analyzer, Channel Analyzer and Scope has increased from two to six. Values for Markers 1 and 2 are shown on the display when enabled allowing view without having the markers tab open.
6. Tone Sequential decode has been added as an additional feature to the Tone Decode tile.

### Improvements

1. There are several improvements in the speed of operation. Overall, the display response has improved significantly especially when expanding and minimizing tiles like the Scope and Channel Analyzer. The Channel Analyzer now has a refresh rate of about four sweeps per second improving the update rate by more than 150%.
2. The operation of the Tracking Generator in the 3550R has been improved in this release. The change to the Span control in the Tracking Generator allows the user to enter any value for Span instead of selecting from a drop down list of Spans. This also gives the user greater flexibility in setting up the Start and Stop frequencies. Also improved is the operation of Tracking Generator when the vertical units are VSWR. The VSWR points which are plotted now have greater resolution, making the plots look smoother.
3. The Tracking Generator “Port” label has been changed to “Input Port”.
4. The digits after the decimal point have been changed from RF Power to 1 for dBm and to 2 for Watts.
5. The unnecessary directories in the File Manager Screen are no longer shown.



6. The Audio Config tile now allows the Audio In port to be routed to the speaker. This allows listening to an incoming audio signal which is very useful when testing receiver sensitivity.
7. The Sample Store / Recall directories are now protected. Files can no longer be stored or deleted in these setup directories. This protects the user from accidentally changing or deleting any of the sample setups. In addition, there are new sample setups included with this release. These sample setups include Pass / Fail criteria, which will cause the meters to turn Red / Blue when the Pass / Fail limits are exceeded.
8. Fixed issue with the PTC BER measurement.
9. Fixed issue with editing the generate level when units are microvolts.
10. Fixed a graphical issue with the distribution plot that aligns the plots with the dashed lines.



## Version 1.2.1

11/07/2014

Note:

Version 1.2.1 is compatible with all 3550 and 3550R models.

### New Features

1. The digital modulation plots, which include the Constellation, Distribution, and Eye diagrams, are now available on the 3550R. These diagrams are part of the P25, DMR, NXDN, and dPMR™ modulation types.
2. The tone sequential modulation tile now also includes a tone generator to enable the user to generate a CTCSS tone while generating tone sequential.
3. User defined “Presets,” which enable the user to define the windows and modulation type, is now part of the 3550R operation. These presets can be selected from the Software selection, which can be found in the “System” drop down menu.
4. The DMR Demod window BER Pattern now includes a selection for “FRAMESYNC,” which enables the measurement on a live signal.
5. The RF Power meter now includes a selection for Average, Minimum, and Maximum that can be selected from the maximized RF Power meter window.

### Improvements

1. The suspend operation now does not turn off the display until it has entered suspend mode.
2. The software update process no longer requires the user to perform a touch-screen calibration.
3. The process of storing and recalling files was changed to reduce the number of key presses required to perform the operation.
4. The F1 key is now used during a VNC viewer session to access to the bottom system menu button.
5. The default file name used when storing a snapshot has been changed from “Newfile” to a name created from the date and time.
6. The number of horizontal positions is now eight.
7. The number of digits displayed for SINAD was changed from four to two digits past the decimal point.
8. The number of digits displayed for Distortion was changed from four to two digits past the decimal point.
9. Changed the number of digits past the decimal point for the Receiver Offset field to one.
10. Fixed issue with the FM Modulation meter to improve the accuracy when the signal included an RF Frequency error.
11. Fixed issue with the limits for the symbol clock error.
12. Fixed issue with the DTMF Hi and Low tone levels.
13. Fixed issue with expanded windows not always being on top.
14. Fixed editing issue with the dPMR Call ID and Unit ID fields.



15. Fixed issue with not being able to perform a “Normalize” while in the PTC system.
16. Fixed issue with limits not being stored for the RF Error meter.
17. Fixed issue with limits not being stored for the RSSI meter.
18. Fixed issue with limits not being stored for the RF Power meter.
19. Fixed issue with the Audio Level meter now showing all of the digits for the measurement when the units were “dB $\mu$ V.”
20. Fixed issue with the DMM meter not showing all of the digits for the measurement when value is over 1 amp and the units are mA.
21. Fix issue in the German language sizing of meter.
22. Remove “None” from selection for Demod in the PTC system.
23. We now blank the PTC Constellation when not receiving signal.



## Version 1.2.0

07/20/2014

Note:

Version 1.2.0 is compatible with all 3550 and 3550R models.

### New Features

1. Featured with this release of the 3550 is a new option for testing Positive Train Control (PTC) radios. With this option, the 3550 now has the capability to measure Error Vector Magnitude (EVM) and Carrier Feedthrough of the PTC modulation. In addition, the 3550 can measure the power and frequency of the TDMA bursts from a PTC radio. For receiver testing, this option includes a signal that can be used to test the receive operation of a PTC radio. Using a special test signal, the 3550 generates the pattern used by PTC radios for receiver sensitivity testing.
2. New to the P25 operation of the 3550 is the capability of measuring the Bit Error Rate (BER) of a live P25 trunking control channel or voice channel. This measurement is computed on the synchronization and NAC bits of the P25 signal. This enables the user to measure the BER of a live P25 signal instead of requiring them to put the base station into a test mode. This mode of operation is selected by choosing the FRAMESYNC pattern in the Digital Demod window.
3. Also new to the P25 operation is the ability to decode the NAC of a trunking control channel.
4. The number of tones in the tone sequence has been increased to 40.
5. We have added units of dBr to the modulation meter for both AM and FM modulation. This gives the user the capability to measure the relative amount of modulation with respect to a user set level of modulation.
6. The operation of the "Offset" field in the Generator and Receiver window has been changed. If a positive number is entered by the user, the label changes from "Offset" to "Gain" to indicate compensation for an external gain. If a negative number is entered into this field, the label changes from "Offset", to "Loss" to indicate compensation for an external loss. The range of this field has been extended to be -50 to +50 dB.
7. The 3550 now includes a new cable selection for the DTF operation of the tracking generator. This new operation is a file based system that allows the user to save and recall Velocity and Loss parameters for user defined cables.
8. The Ext RF Power meter now includes a duty cycle field to enable the measurement of average power of TDMA signals.

### Improvements

1. Fixed issue with not being able to enter the Generator RF level in uV.
2. Fixed issue with AF Counter and Audio Level meters not working after switching to a digital demodulation and then back to AM or FM demodulation.



3. Fixed issue with the Digital Demod Sym Clk Err meter reading for NXDN. The measurement was incorrect if the rate was 4800 and the units selected were ppm.
4. Fixed issue with tracking generator to prevent switching on and off quickly from causing a problem.
5. Fixed issue with tracking generator display where the displayed level would sometime indicate 10 dB lower than the actual level.
6. Fixed issue with the DMR operation, which would sometimes not work correctly after selecting the Ant-Cable Test followed by selection of the Tracking Generator.
7. Fixed issue with the Ant-Cable Test not working if the Generator RF Level was set to a value  $<-110$  dBm.
8. Fixed issue with DMR occasionally not working after going to the Ant Cable Test and the Tracking Generator.
9. Fixed issue with FM Demod occasionally not working when switching from a recalled NXDN setup to a recalled FM setup.
10. Fixed issue with DTMF decode not working consistently.
11. Fixed issue with the Oscilloscope operation, where certain setups could lead to an increasing update delay.
12. Fixed issue with analog demod operation, where a recall of an NXDN setup and then switching to analog duplex could cause the demod to not work.
13. The NAC field has been removed in P25 when the Pattern selected is O.153 since NAC is not used for this pattern.
14. Improved stability for Store / Recall operation.



## Version 1.1.8

04/30/2014

Note:

Version 1.1.8 is compatible with all 3550 and 3550R models.

### New Features

1. A screen lock function that enables the user to lock the position of the windows on the screen has been added to the 3550R. This will help prevent the windows from being accidentally moved to a new position. This screen lock function is accessed by the icons on the bottom of the display. The icon is in the shape of a padlock and indicates by showing either a locked or open padlock if the window positions are locked.
2. Also new to the 3550R functionality is a “go to back” operation. This capability has been added to the half and full screen windows and enables the user to move the position of the window to the back layer. Windows that are hidden behind other windows can be easily accessed by simply pressing the “go to back” icon in the lower right hand corner of these windows.
3. In order to make it easier to arrange the position of the windows, the 3550R now has “snap to grid” functionality. When a window is located close to one of the grids, it will automatically snap to that location. There are 8 grid locations corresponding to the 1/8<sup>th</sup> size window.
4. The dPMR operation now supports framed signaling for generate and receive operation. In addition, several new framed voice patterns have been added that are useful for transmitter and receiver testing. These patterns are name 1031, CAL1, CAL5, and SILENCE. The 1031 pattern causes a 1031 Hz tone in the received demodulated audio of the radio. The CAL 1 and CAL5 patterns are the 1031 pattern, but with a 1% and 5% bit error rate, respectively. The SILENCE pattern should create complete silence in the received demodulated audio of the radio.
5. Also new to the dPMR operation is encode and decode for the parameters that are transmitted as part of a dPMR traffic channel superframe. The parameters that can now be encoded and decoded are Channel Code (CC), Call ID, Unit ID, Comms Format, and Emergency Priority.
6. Frequency list capability is now part of the 3550R operation. This operation enables the user to create a list of generate and receive frequencies and then store the list. The user can then easily control the generate and receive frequencies from the list of frequencies. The frequency list can be created from the front panel of the 3550R, or it can be created in a .csv (comma separated values) file on a PC and then copied into the 3550R. Two new windows have been added to the 3550R to support this functionality. These windows can be accessed through the System menu and are named “Freq List” and “Freq Select.”



## Improvements

1. The input range for “Audio In” has been moved from the “Input Load” selection to a separate selection named “Input Range.” The “Input Range” can be selected to be either 3 V or 30 V (RMS). This change is part of both the Audio Config window and the Oscilloscope.
2. An issue with the “Ext RF Power Meter” is now fixed so that it always reflected power when average power is being measured.
3. A store / recall issue with the limits for the RF Error Meter is now fixed.
4. Invalid RF Power meter readings are now dashed out.
5. In the DMR Digital Demod screen, the decode fields are now blanked when the data received is not valid.
6. In the P25 Digital Demod screen, the NAC field is now blanked out when invalid.
7. Watts is now the default units for RF Power.



## Version 1.1.7

11/20/2013

Note:

Version 1.1.7 is compatible with all 3550 and 3550R models.

### New Features

1. New to the operation of the AM / FM Modulation and the AF Generator is Tone Sequential operation. This implementation allows the user to generate tone sequences of up to 16 tones. All of the standard protocols are included as well as two user defined tone configurations. Using the “-“ symbol to indicate a pause, the operation includes the ability to string multiple tone sequences together, separated by a user defined pause.
2. NXDN now includes a new pattern which is called the FSW+PN9 pattern. This pattern implements NXDN framing of payload data that is based on the 511 pattern from the ITU CCITT O.153 document.

### Improvements

1. Improvements have been made to the operation of the Channel Analyzer Occupied Bandwidth feature. The resolution of several Occupied Bandwidth measurements in the Channel Analyzer has been changed. The Percentile resolution is now 0.1%; OBW Power resolution is now 0.01 dB; and OBW Frequency resolution is now 1 Hz. Hold and Peak Hold have been added to the Occupied Bandwidth function of the Channel Analyzer. When Peak or Peak Hold is selected, the OBW measurements are made on the resulting traces.
2. Improvements have been made to the Store / Recall operation. This version fixes a Store / Recall issue with the operation of the generator in FM modulation, which previously would not operate correctly when recalled after being in DMR. Also, the Store / Recall operation now recalls windows in the same size as they are stored. There has been a directory added in Store / Recall featuring sample setups. The directory name is “Sample\_Setups”. These setups are good examples for the user to recall and can be used as starting points for the user when creating their own setups.
3. The “circle” indicator used for resizing windows was removed from windows where it did not apply.
4. The Freq-Flex icon in the status bar is grayed out when External is not available.
5. The Audio Config tile labels have been changed to clarify the operation of the fields.
6. Selection for zeroing the RF Power meter has been added to the Analog and Digital demod windows.
7. Scope and meters now display the result of the squelch. Meters will dash out when the input signal is squelched and the scope will show the squelched signal.
8. Fixed issue with measuring the BER on an NXDN 1031 pattern. The measurement now only measures the BER of the payload of the 1031 patterns.
9. Fixed issue with the SWR Center Frequency editing.



10. Changed the location of the “Cancel” button on the keypad window to prevent it from being accidentally pressed during editing.
11. Improved the operation of DTMF to include a selection of the mode of control. The user can now select between controlling the deviation of each of the DTMF tones, or the user can select the “Twist” and the “Level” of the DTMF tones.
12. Improved the performance of making off-air measurements in NXDN by adding additional selectivity filtering.
13. Fixed issue with Power Meter Limits not working when units were in Watts.
14. Added capability to stop the tone remote sequence before the sequence was finished.
15. Added Y Unit selection to the DTF operation in the Ant-Cable Test screen. The Y Unit selection controls the vertical axis units. The possible selections for the vertical axis as dB and VSWR.
16. The size of some of the Window names were changed to prevent them from being cut-off by the window control icons.
17. Fixed issue with the tracking generator level sometimes being incorrect.
18. Fixed issue with external modulation not being on if not enabled when the RF Generator was already enabled.
19. Fixed minor issue with recalling traces in the DTF screen.
20. Fixed issue with Analog Demod window audio level units.
21. Change the label in the AF Gen window from “Audio Out” to “AUDIO OUT Port”.
22. The marker operation has been changed so the frequency location of the marker remains the same, even if the center frequency or span is changed, as long as it is still a valid frequency for the display.
23. The Set Ref Level indication in the tracking generator is now green when the reference level is set.
24. In the Analog Demod window, the RF Error can now be displayed in Hz as well as kHz.
25. The minimum Menu timeout delay has been reduced to two seconds.
26. Fixed issue with the RF Gen Level when units were uV and the level was 0.5 or less.
27. Fixed issue with the NXDN 9600 baud 1031 pattern.
28. Several improvements have been made to the DTMF operation.
29. The look of the Option screen is changed to make it easier to read and understand the options installed.
30. Fixed issue with RF Power Meter not taking into account the External Attenuation value from the Receiver window.



## Version 1.1.6

08/23/2013

Note:

Version 1.1.7 is compatible with all 3550 and 3550R models.

### New Features

1. The 3550 now includes Tone Remote encode as part of the Modulation and AF Gen operation.
2. Two Tone encode has been added to the Modulation and AF Gen operation. Two Tone decode is now part of the Tone Decode receiver operation.
3. A new option for measuring the occupied bandwidth is now available in the 3550. This option adds the occupied bandwidth measurement to the channel analyzer. With this option, the user selects the percentage of power and the 3550 measures the bandwidth and the power level.

### Improvements

1. The AF Gen level can now be set in dBm.
2. The marker frequency can now be set directly with a numeric keypad.
3. The RF Error meter now has the option of displaying in PPM as well as Hz.
4. Fixed issue with being able to recall generator levels less than -110 dBm.
5. The maximize symbol has been removed from tiles where it did not apply.
6. Fixed editing issue with numeric entries so that it is easier to differentiate between insert mode and normal mode.
7. Fixed issue with the slider bar, which is used for incrementing / decrementing numeric entries. The slider bar now opens up so that it is not obscured by the status bar.
8. Fixed issue with coming out of suspend mode. The date / time and battery life full screen indication are no longer left open.
9. Fixed store / recall issue with scope input selection.
10. Fixed issue with audio level, SINAD, and Distortion meter limits.
11. The units displayed will now match the units that the user enters when editing.
12. The AF Gen level can now be set in dBm.
13. The AF Gen tile now includes a field for selecting the routing for Audio Out.
14. The DTMF generator now includes live entry operation.
15. The Receiver tile Frequency field location was moved so that it is easier to use when the location of the tile is the top of the screen.
16. Fixed display problem in the RF Power meter that occurred when the language selected was Spanish.
17. The home button menu now includes a selection of Hide / Show menus.
18. The Status bar, located at the bottom of the screen, can now be minimized to a single transparent icon.
19. A query for the user has been added before performing the System Reset operation.



20. The font size for the Generator, Receiver and Meter screens have been changed to allow the labels to be fully displayed.



## Version 1.1.5

07/16/2013

Note:

Version 1.1.5 is compatible with all 3550 and 3550R models.

### New Features

1. The 3550 is now able to set the generator level in 0.1 dB steps. This was implemented by adding a mode to the Generator that allows the Level to be reduced by up to 6 dB in 0.1 dB steps, when the “Hold Atten” mode is selected.

### Improvements

1. The fields for setting the AF and IF filter are removed from the Receiver window when the modulation is not AM or FM.
2. Fixed issue with using the Enter key in the slider bar to enter values.
3. Fixed issue with not being able to enter RF Gen level values below 0.224 uV.
4. Fixed issue with the slider function for setting the RF Gen level.
5. Made adjustments to size of System menu to allow enough room for the bottom selection to be selected.
6. Fixed issue with snapshot filenames created with names that included spaces. If a filename includes spaces, they will automatically be replaced with underscores.
7. Fixed issue with the Freq Flex calibration being erased during a System Reset.



## Version 1.1.4

05/08/2013

Note:

Version 1.1.4 is compatible with all 3550 and 3550R models.

### New Features

1. Screen shots can be easily captured using the new “camera” icon that is permanently available on the display.

### Improvements

1. The 3550 automatically recalls the previous display state (meters, analyzers, etc.) upon boot-up.
2. The Simplified Chinese GUI now has an improved translation and formatting.
3. The test set no longer defaults to the English language GUI upon boot-up; it recalls the selected language GUI used prior to shut down.
4. AF Counter Resolution is now 0.1 Hz.
5. Zero and Normalize function issues were resolved when operating the test set in the Simplified Chinese language GUI.
6. Fixed oscilloscope warning message error when input voltage exceeded the maximum level.



## Version 1.1.3

04/05/2013

Note:

Version 1.1.3 is compatible with all 3550 and 3550R models.

### New Features

1. New precision power meter option is now available using a USB thru-line power meter.
2. Tracking generator now includes capability to measure Return Loss (RL), Voltage Standing Wave Ratio (VSWR), and Distance to Fault (DTF).
3. A new feature is now available in the Oscilloscope, Channel Analyzer, and Tracking Generator that enables the user to store multiple traces that can later be recalled and displayed alongside the live trace.
4. A new fast sweep mode is now available in the Oscilloscope.
5. A Suspend mode is now available to put the 3550 into a low power mode. This extends the battery operation time to almost 8 hours. This operation is available by pressing the home button and then selecting Suspend. To end suspend mode, the user simply presses the home button.

### Improvements

1. The channel analyzer is immediately active when selected from menu.
2. Fixed issue with upper / lower limits for RSSI and RF Power meters.
3. Corrected issue with the Power Bandwidth Measurement.
4. Fixed issue with selecting Peak hold in the FM Modulation meter.
5. Fixed several store / recall issues.
6. The power button LED changes from white to red when the power down sequence is started to indicate that the unit is powering down.
7. Fixed issue with markers causing the 3550 to lockup.
8. Added the range settings to the meter tiles.
9. Ext Atten value now adjusts the range of the generate level.
10. Fixed issue with the Delta Marker level value.
11. Fixed issue with the Auto selection for range in the meters.
12. The tracking generator units are changed from dBm to dB. The output level in the tracking generator is a relative level that is reference to the maximum output level of the 3550 generator, which is about 0 dBm.
13. A prompt that instructs the user to reboot has been added to the license install operation.
14. Audio counter routing selection is added to the Audio Config tile.
15. Fixed issue with RF Power meter units.
16. Fixed issue with Audio level meter units.
17. Fixed issue with RSSI meter units.
18. Fixed issue with Distortion meter limit settings.
19. Fixed issue with SINAD meter limit settings.



20. The grid displays for CH Analyzer, Oscilloscope, and Tracking Gen will only display the green crosshairs when markers are enabled.
21. Fixed issue with marker operation occasionally causing the 3550 to lockup.



## Version 1.1.2

01/21/2013

Note:

Version 1.1.2 is compatible with all 3550 and 3550R models.

### Improvements

1. Fixed issue with the Audio Squelch slider.
2. Fixed issue with the Preamp setting.
3. Fixed issue with DCS Edit and encode.
4. Fixed issue with selecting NXDN and DMR.
5. Stability fix in Store / Recall.



## Version 1.1.1

12/20/2012

Note:

Version 1.1.1 is compatible with all 3550 and 3550R models.

### New Features

1. Added Backlight control to the HOME key menu.
2. Added Freq Config tile for configuring the Freq Find operation. This is available from the System Menu.
3. Added Audio Routing tab to Audio Config tile.

### Improvements

1. Fixed issues with DCS decode.
2. Improved Snapshot stability.
3. Improvements to RSSI Normalize stability.
4. DTF stability improvements.
5. Removed the "Percent Complete" indicator from the tracking generator.
6. Improved DMR stability.
7. Improvements to battery monitoring indicator.
8. Fixed issue with setting RF Generator below 1 micro volt.
9. Improvements to Tracking Generator Reference mode operation.
10. Changed the Ext Attenuator field to accept 0.1 dB steps.
11. Generator tile improvements.
12. Frequency find stability improvements.
13. File Manager Improvements.
14. Improved Freq Flex Calibration Stability.
15. Digital Demod tile RF Power Meter issue fixed.