## **General Caution**

-----

Please use a USB Memory Stick for firmware updates.

Suitable firmware can be found on Anritsu's web site under the instrument library tab.

If there is a firmware update question, please contact Anritsu service support at www.Anritsu.com, and then click on "Technical Support" for further information.

#### **General Features**

-----

- The parameter being edited is now displayed in a larger white color font for better readability in poor lighting
- Some improvements to the speed of switching modes (varies with modes).
- Power Offset is now a shared parameter across modes.

#### Spectrum Analyzer

\_\_\_\_\_

- Overhaul of the User Interface
  - More setup information is now displayed on the left edge of the screen.
  - Amplitude menu
    - Reference Level Offset is now more consistent with 'Power Offset' used in other modes.
      - It now accepts 'Gain' or 'Loss' as terminators and the value is shared with other modes by default.
  - BW menu
    - RBW and VBW values are now maintained separately for zero-span measurements.



- The default value of Span/RBW is now 100.

- A new button to change VBW average type to Log.

- Marker menu

- A 'Large' setting is now available for the Marker table to view marker readout in a large font.

- Trace menu

- A new Trace Info button is now available in the Trace menu to show a concise listing of all parameters

for the selected trace.

- 'Reset Sweep' button has been renamed to 'Reset Trace' and moved to the Trace menu.

- Sweep menu
  - 'Manual Trigger' is now called 'Sweep Once'.

- A new 'Sweep n Averages' button has been added to allow a full set of averages to sweep when the sweep

is set to Single.

- A new 'Auto Sweep Time' button has been added.
- Trigger sub-menu has been revamped with the ability to add hysteresis to the video trigger level.
- Gated Sweep Setup (Option 90) is now more responsive and has separate controls for gate view (zero span).

- Improvements and bug fixes to the Field Strength measurement.

- Fixed a bug where the instrument could lock up during preset.

Interference Analyzer

-----

- New Interference Mapping capability added.

- Fixed a bug where the 'Save' window would also be saved when saving to jpeg from Spectrogram measurements.

**Channel Scanner** 

-----

- Fixed several bugs related to Script Master.



CDMA Analyzer

-----

- Improved the Pilot Scanner's Ec/lo sensitivity to about -35 dB when 'Meas Speed' is set to slow.

As a result of this improvement, the y-axis for this view has been increased to 45 dB.

Mobile WiMAX Analyzer

\_\_\_\_\_

- Added 'Timing Error' result to Modulation Summary view

- Fixed a bug where Manual DL-MAP settings would cause an error message while performing modulation analysis

What will the Customer See in this release? MS2717B Application Package V4.03 11-19-2010

Spectrum Analyzer

-----

- Fixed Powermeter Auto Scale error.

- Fixed a bug regarding display in IA Spectrogram Measurements.
- For Gated Sweep Option 90, fixed the display in Channel Power and Occupied BW Measurements.

DVB-T/H

- Fixed bug where the displayed TPS data was not being scaled correctly in the Constellation measurement view.
- Fixed bug where the Spectrum Monitor Zone Channel would be off by 1 relative to the Channel parameter.
- Fixed bug where opting to keep the recalled BER settings would sometimes cause a Fatal Hard Error to be reported.



- Fixed bug in Center Frequency recall (both from power up and recalled file states)

- Fixed problem where text was not being translated in the Japanese language setting in the BER measurement view.

DVB-T/H SFN

-----

- Fixed bug where unit could hang if a Trigger Sweep operation is performed immediately after a Detect Parameter operation.

- Fixed bug in Center Frequency and Reference Level recall (both from power up and recalled file states)

#### ISDBT

-----

- Implemented more intuitive preset behavior for Custom, Easy and Batch modes.

- Fixed bug in Center Frequency recall (both from power up and recalled file states)

#### ISDBTSFN

-----

- Fixed bug where unit could hang if a Trigger Sweep operation is performed immediately after a Detect Parameter operation.

- Fixed bug in Center Frequency and Reference Level recall (both from power up and recalled file states)

General



- Added ability where a user can still acquire an IP address if Ethernet cable is not plugged in at boot-up (takes 15-20 seconds after plugging in cable)

- New File menu with significant overhaul of save/recall
- New signal standards menu with "Favorites" feature
- "/usr" is no longer the default directory when saving to external drives
- Added a feature to allow Shared center frequency across modes
  - By default, this feature is ON
  - Can be toggled at System->System Options->Center Freq Share
- Improved ability to delete multiple user files

## WCDMA

#### -----

- HSDPA view has improved code marker behavior
- Speed enhancements
  - 3x improvement to multipath
  - 2x improvement to scanner

# **Channel Scanner**

\_\_\_\_\_

- Various fixes to scriptmaster
- High Accuracy Power Meter

\_\_\_\_\_

- Fixed bug where sensor would not work if plugged in prior to switching into mode

ISDBT, ISDBTSFN



- New filter mask for Brazil channel maps

MS2717B Application Package V4.00 02-23-2010

What will the Customer See in this release?

Starting with V4.00, the MS2717B packages will support Units with Option 17 (GPIB) and units without option 17.

#### **General Enhancements**

-----

Antenna factors for several Japanese antennas corrected in default file

Added new USB firmware - Users will now be able to update the instrument firmware via a USB memory stick after this firmware update

Added new arrow style to application buttons with sub-menus - Will be solid and shown all the time

Added LTE channel information to the Signal Standards list

Support for new High Accuracy power sensors (requires option 19)

- o MA24104A Inline High power sensor 600 MHz to 4 GHz
- o MA24108A Microwave USB power sensor 10 MHz to 8 GHz
- o MA24118A Microwave USB power sensor 10 MHz to 18 GHz
- o MA24126A Microwave USB power sensor 10 MHz to 26 GHz

Spectrum Analyzer Enhancements

\_\_\_\_\_

New integrated code which includes the Spectrum Analyzer, Interference Analyzer, Channel Scanner and Power Meter



o This greatly speeds up mode switching between these four measurement modes

General Spectrum Analyzer bug fixes

- o Fixed W and V issue in Field Strength measurement
- o Fixed Zero Span and Counter Marker incompatibility issue
- o Fixed Trace A-B -> C issue
- o Fixed Trace B & C Max & Min hold issues
- o Fixed 750 measurement issue

SCPI remote commands added for Gated Sweep Option

Fixed a bug in recall setup that could cause a power measurement error.

Improved spur performance over previous version of firmware

Mobile WiMAX Analyzer

\_\_\_\_\_

- Fixed a bug in the display of BSID when DL-MAP is in compressed mode
- Added absolute power values for preamble power in preamble scanner measurement

WCDMA Enhancements

-----

Added support for HSPA+ (64 QAM only)

Added support for DTX (discontinuous transmission)

o AMR (Adaptive Multi-Rate) support is included in this update

OTA (Over-the-Air) scanner speed improvement- Approximately twice as fast

Improved CDP (Code Domain Power) over the air measurement performance

o Lower EVM

o More active channels displayed



# Added RMS Phase Error measurement to Modulation Summary screen

## Fixed some W-CDMA bugs

- o Improved ghosting issues in Multi-Path measurement
- o CDP and Constellation measurements now synchronized in HSDPA screen (option 65)
- o Fixed manual SC (Scrambling Code) settings in OTA scanner

## **TD-SCDMA Measurement Mode**

\_\_\_\_\_

Added CDP (Code Domain Power) marker capability

Added CDP Table measurement

- Added support for MBMS (Multimedia Broadcast Multicast Service)
- Added SCPI (National Instruments VISA) programming support

#### **CDMA** Enhancements

-----

Added new Limit Test measurement to the OTA (Over-the-Air) option in CDMA

# **CDMA Scanner improvements**

- o Improved PN scan speed by more than 2X
- o Added PN Increment
- o Added a 'PN Sort'
- o Added new Absolute Power measurement field

Motorola LMF (base station control software)

- o Fixed a problem with Motorola LMF compatibility
- o Added support for Motorola UBS base stations to LMF

Fixed Tau measurement problem with Samsung BTS using external-trigger



# Master Software Tools compatibility

\_\_\_\_\_

- This version of firmware requires that v2.17 or newer of MST be used for USB connectivity.

What will the Customer See in this release? MS2717B Application Package V1.08 12-12-2008 (MS2717B\_GPIB Application Package V3.09)

#### **General Features**

-----

- Updated Signal Standards and Antenna files to fix errors
- Minor improvement in power on booting time
- Support for handling Compact Flash/USB drives > 4GB
- Removed support for GPIB, this restores the USB connectivity to the MST.

## **CDMA** Application

-----

- Watts unit selection will now scale power results dynamically to mW, uW, pW, etc

**EVDO** Application

-----

- Watts unit selection will now scale power results dynamically to mW, uW, pW, etc

**GSM** Application



- Added support for 'Script Master' which allows a user to run tests based on scripts generated in MST

High Accuracy Power Meter Application

-----

\_\_\_\_\_

- Added support for MA24104A Inline High Power sensor

Spectrum Analyzer Application

\_\_\_\_\_

- Fixed several bugs related to Markers and Limit lines

- Users can now enter a specific marker frequency value without the instrument 'snapping' to the closest valid freq point

- Added a new Emission Mask measurement

- Fixed bug where Saved Measurement files contain Trace B and Trace C data even though they are not being used. They are now saved only when the traces are ON when saving

WCDMA Application

\_\_\_\_\_

- Watts unit selection will now scale power results dynamically to mW, uW, pW, etc

- Added support for 'Script Master' which allows a user to run tests based on scripts generated in MST

- Fixed a bug in the EVM calculation that caused some signals to report a higher symbol EVM

**Fixed WiMAX Application** 

-----

- No changes

Mobile WiMAX Application



- Added Max/Min information to Spectral Flatness measurement

**TD-SCDMA** Application

-----

- Added HSDPA support

- Added Spectral Emission Mask measurement

- Added support for a 12.8 MHz external reference frequency.

- Fixed a typo for title TDSCDMA/HSPDA --- TDSCDMA/HSDPA

What will the Customer See in this release? MS2717B Application Package V1.07 8-19-2008 (MS2717B\_GPIB Application Package V3.07)

# **General Features**

-----

- Updated Signal Standards and Antenna files to fix errors

- Added support for GPIB

**Operating System** 

-----

- No Changes

**CDMA** Application

-----

- No changes



## **EVDO** Application

\_\_\_\_\_

- Added ability to specify a 1.35 MHz span to be used for OBW calculation instead of the standard 2.5 MHz.

**GSM** Application

-----

- Added support for demodulating Siemens BTS model 240

- Added BSIC decoding which replaces TSC as a measurement result.

High Accuracy Power Meter Application

-----

- No changes

Spectrum Analyzer Application

\_\_\_\_\_

- Fixed critical bug that would cause instrument to hang when using fast sweeps and Save On Event
- Fixed several bugs in Limit lines and Markers
- Fixed bug that caused manual RBW/VBW values to not recall correctly
- Revised some warning messages to be more informative (ADC Over range, Mixer Saturation, etc)
- Fixed a bug that caused Max Hold to not reset when RBW, VBW changed
- Added SCPI commands: :SENSe:OPTion:IF:BWSTate?, :SENSe:OPTion:IF:BWSTate [1|2|3|4],:CALCulate:LIMit:FAIL?,

:CALCulate:LIMit:LOWer:FAIL?, :CALCulate:LIMit:UPPer:FAIL?,MMEMory:STORe:JPEG "filename", and MMEMory:DATA? "filename.ext".



## WCDMA Application

-----

- Fixed a bug where markers would not read out correctly in non default spans
- Added ability to change units to W and mW
- SCPI support added for changing Span in Channel Spectrum view

**Fixed WiMAX Application** 

\_\_\_\_\_

- Fixed a bug where Alternate ACP when BW = 6MHz was junk (~+46dBm)
- Improved responsiveness to button presses

Mobile WiMAX Application

\_\_\_\_\_

- Added support for Compressed DL-MAP
- Added support for 3.5MHz and 7MHz BWs
- Added display of 48 bit BS ID
- Fixed a bug in demodulation when total number of symbols > 12
- Fixed a problem where Constellation display did not display data from all the bursts
- Fixed some bugs in Power vs. Time delta markers when multiple markers are selected
- Added CINR measurement to the Constellation, EVM vs. Subcarrier and EVM vs. Symbol views (replaced Freq Error (ppm))
- Ability to switch Freq Error unit from Hz to ppm (due to replacement of ppm result by CINR)
- Improved preamble detection to better sync to a frame when DL burst is lower in power than UL burst
- Improved responsiveness to button presses

**TD-SCDMA** Application



·····

What will the Customer See in this release? MS2717B Application Package V1.06 3-3-2008

**General Features** 

\_\_\_\_\_

- Option 7 can now be available. The unit must have the USB host functionality. This option will prevent you from saving data to

the "Int" storage location. Master Software Tools should not be used and ESC-on or Sys-on is required to overwrite the internal

save state with the factory default settings.

**Operating System** 

-----

- No changes

Spectrum Analyzer Mode

\_\_\_\_\_

- Added Linear Units

- Added vertical limit lines
- Added limit mirror
- New SCPI commands for the above newly added features.
- Fixed SCPI command :TRACe:DATA? so that it will always return data or #0 when data is invalid.
- Traces not active when saved will not be recalled



- Added capability to skip average count on the screen when it?s sweeping faster than we can update the count on the screen

- Fixed problem with trace values not adjusting to the Reference Level Offset changed.

WCDMA	Signal	Analy	zer M	ode
	0.0	,		000

-----

- No change

Fixed WiMAX Signal Analyzer Mode

-----

- No change

Mobile WiMAX Signal Analyzer Mode

-----

- No change

High Accuracy Power Meter Mode

-----

- No change

GSM/EDGE Signal Analyzer Mode

-----

- No change

CDMA Signal Analyzer Mode

-----

- No change



## EVDO Signal Analyzer Mode

-----

- Fixed the Pass Fail list title

What will the Customer See in this release? MS2717B Application Package V1.05 12-12-2007

**General Features** 

-----

- In previous versions of firmware, SCPI command results for ":TRACe:DATA?" query would occasionally return

incorrect values. All values are now properly calculated and formatted in the query response string.

- In some situations the instrument may have failed to boot up completely using the previous version of firmware. This issue is now fixed.

**Operating System** 

-----

- No changes

Spectrum Analyzer Mode

- Sweep improvements in graphic update of the screen
- Front panel response speed up
- Added Zero-span markers and limits
- Added save/recall functionality for Trace B and Trace C
- Added relative reference and scale for trace math



- Added the message "\*Settings changed, sweep data invalid\*" when a sweep has not been completed with the new setting

- Min/Max hold on Trace B

- Fixed a signal standard problem where changing span would invalidate the signal standard but not removing it from the screen

- General speedup in SCPI and save/recall
- Added resizable marker table
- Added sweep rabbit
- More robust limits
- Fixed a problem where turning on Counter Marker in a narrow span would crash the system
- New SCPI commands for Markers, limits, signal standards, save/recall, traces, occupied bandwidth, external frequency,
- and frequency steps
- More stable sweep time.
- If averaging is on, manual trigger is now changed to trigger a sweep base on the number of averaging set.
- No full screen support
- >>> NOTE: Only dBm unit supported. It will come in the next release.

#### WCDMA Signal Analyzer Mode

-----

- Fixed a problem where Spectrum Emission Mask: measurement results for highest levels in each zone of the specmask had the correct level but reported incorrect frequencies
- Modified certain frequency SCPI responses to give 1 digit after the decimal point
- Channel INC/DEC functions on the Freq menu were not functioning
- properly after returning from the Band Spectrum view. Instead of
- getting the next/previous channel relative to the channel that was
- identified in Band Spectrum view, the channel was being modified
- based on the channel that was selected prior to entering Band Spectrum

view. This problem has been fixed



Fixed WiMAX Signal Analyzer Mode

-----

- No change

Mobile WiMAX Signal Analyzer Mode

\_\_\_\_\_

- Initial release

High Accuracy Power Meter Mode

\_\_\_\_\_

- Added support for MA24106A USB power sensors

GSM/EDGE Signal Analyzer Mode

-----

- Initial release

CDMA Signal Analyzer Mode

-----

- Initial releases

EVDO Signal Analyzer Mode

\_\_\_\_\_

- Initial release

What will the Customer See in this release? MS2717B Application Package V1.03 8-31-2007



**General Features** 

\_\_\_\_\_

- Anritsu Logo added to the top left of the GUI

**Operating System** 

-----

- No changes

Spectrum Analyzer Mode

-----

- Fixed bug where recall limit would fail and give no indication it failed. Now it does not fail.

- Fixed bug where TG output power did not use the reference level offset value correctly.

WCDMA Signal Analyzer Mode

\_\_\_\_\_

- Improved how the zoom area is shown in codogram, CDP and HSDPA views

Fixed WiMAX Signal Analyzer Mode

\_\_\_\_\_

- Added support for 5ms and 10ms frame lengths

- Added ability to use RF power to do a rough trigger in power vs. time when no preamble is found. This prevents trace from jumping around even when the DL preamble is not found.

High Accuracy Power Meter Mode

-----

- No changes



#### 

What will the Customer See in this release? MS2717B Application Package V1.02 07-11-2007

#### **General Features**

\_\_\_\_\_

- Antenna list handling improved so spaces in the file name are handled correctly.
- Power save increases battery time by decreasing default screen brightness.
- remote command functionality will now handle multiple events.
- Critical data loss from EEPROM happened occasionally. Fixed by adding a checksum and created a copy of the data so that it could be restored if it is lost somehow.
- Status window was not big enough to show all the results, now it is scrollable.
- When saving files (setup, measurement, jpg) the first save displayed how many bytes were available.

Now instead of displaying bytes (large number), we display GB, MB, or KB as appropriate.

#### **Operating System**

\_\_\_\_\_

- Improved OS codeload process--mainly fixed OS codeload failures.

Spectrum Analyzer Mode



- Marker frequency resolution was lost on saved measurements. Now recalled measurements show the correct resolution.

- Marker peak search on slow sweeps did not work correctly on the first sweep. Now the correct data is searched.

- Extensive limit upgrades. Save/recall limit, limit envelope, limit absolute/relative, move limit (by frequency).
- Application self test displays overall status better now.
- Some warning/error messaging has improved details.
- Certain types of lock failures have been prevented. Also, one LO's failure should no longer cause another LO to fail.
- Lock failure bug fixed to prevent occasional lock failures on some units.
- Twiddle marker on full span would display as arrow off screen. Now marker stays on screen as expected.
- Frequency step did not handle up/down arrows properly, now it does

# WCDMA Signal Analyzer Mode

-----

- CDP view would take up to 1 minute to refresh after closing an input window, this has been fixed.
- Traffic analysis measurement capabilities are added using both code utilization and amplifier capacity.
- Frequency error measurements now have averaging which can be enabled/disabled.
- TRACE? SPEC fixed bug where incorrect data was returned.
- Max amplifier output power was not being set correctly under certain conditions. Now it is properly set.

High Accuracy Power Meter Mode

\_\_\_\_\_

- With max-hold on when relative power is turned on the data would be lost. This bug has been fixed.

Fixed WiMAX Signal Analyzer Mode



- New remote commands added:

\_\_\_\_\_

[SENSe:]DEMod:EVSYmbol:STARt:X?;

[SENSe:]DEMod:EVSYmbol:STOP:X?;

[SENSe:]DEMod:EVSCarrier:STARt:X?;

[SENSe:]DEMod:EVSCarrier:STOP:X?;

[SENSe:]DEMod:EVSCarrier:STARt:X?;

[SENSe:]DEMod:EVSCarrier:STOP:X?;

[SENSe:]DEMod:CONStln:POINts?;

[SENSe:]DLFLength?;

[SENSe:]RF:PVTime:FRAMe:STARt?;

[SENSe:]RF:PVTime:FRAMe:STOP?;

[SENSe:]RF:ACPR:ADJCchannelcount?;

[SENSe:]RF:ACPR:MAINchannelcount?

- Improved Auto range time.

