



Technical Service Bulletin

PATIENT MONITORS SYSTEMS

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Bulletin Type: AS NEEDED

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Date: 2015-03-20

SAP DIR #: 20013952

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Subject: TSB-FLEXNET RADIO VER. 3.00.03 CVSM/CIWS

Distribution Scope: Welch Allyn Global Technical Support, ASPs, Product, Field & Customer Service.

Product(s) Referenced: Connex Vital Signs Monitor (CVSM) and Connex Integrated Wall System (CIWS) with the radio option:

- **406187** PLAT. RADIO, PROV. SPI,802.11A/B/G,
- **408472** PLAT. RADIO 2.30, PROV. SPI,802.11A/B/G
- **409115** PLAT. RADIO 3.00, PROV. SPI,802.11A/B/G
- **409437** PLAT. RADIO 3.00.01, PROV. SPI,802.11A/B/G
- **409594** PLAT. RADIO 3.00.02, PROV. SPI,802.11A/B/G

Summary: The platform radio software is being updated to version 3.00.03 to address issues affecting manufacturing yield and correct some performance issues that have been observed during lab testing.

Issue: This release addresses a number of issues discovered during lab testing. Additional details may be found in the software release notes.

Corrected several issues to reduce SLP restarts

- Corrected a timing issue causing an ABORT condition when Blocked Resource count goes below 0
- Addressed random radio reboots as seen in the device Event & Error logs
- Addressed random SLP failures as seen in the device Event & Error logs

Improved roaming

- Addressed an issue in the prism driver background scanning algorithm that causes a delay in roaming or disconnect if the RSSI quickly drops to a low value
- Corrected an issue with the prism driver where if a fixed Rate was set in the prism driver, the RTS threshold setting had no effect and RTS frames were never issued when the

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threshold was exceeded.

Added support for up to 32 character SSIDs

Upgrading no longer requires reloading custom certificates after version 3.00.03

Addresses RSSI in Beacons & Probe Requests not seen by the Host side interface.

- When this occurs a false RSSI is displayed even though the device remains connected to the network. The anomaly only occurs on the B/G Band and when seen produces the behavior where an initial RSSI in the approximate range -34 to -58 is seen and the following value decreases to approximately -72 to -94. No new data is ever updated and once the condition occurs it cannot be cleared by issuing a Disconnect/Reconnect sequence to the network using the Web Server. A power cycle clears the condition.

Prism driver now filters multicast packets

- Not filtering multicast packets can lead to excessive SLP failures and Watchdog resets when multicast traffic loading reaches high levels. Fix for networks flooded with multicast packets (overwhelming radio's processor).

New Feature Add active scanning on DFS channels.

- Active scanning is required for APs that are on DFS channels so the radio can find the SSID if it is not being broadcast. The radio shall enable active scanning on any DFS channel that is sending beacons regardless of whether the SSID is broadcast. After a period where beacons are no longer seen (i.e. the AP is out of range), active scanning on that DFS channel will be disabled.

Open Issues Radio does not ACK or takes too long to ACK during 4-way handshake process.

- The issue presents no device safety issues as it was found on a WLAN that is not approved for use with Welch Allyn devices.

Lamarr radios subject to MIC failure during EAP authentications.

- From the end users point of view this could trigger a short (under 5 second) interruption in wireless communication.

Action: **Technical Support** will offer customers experiencing these issues the opportunity to update the radio software on their own. The radio upgrade is documented for customers in, "80018044 Radio configuration guide, Connex® Vital Signs Monitor 6000 Series and Connex® Integrated Wall System". Push the radio upgrade package to the customer using the WAST model from PartnerConnect, see procedure below. Customers that cannot perform the upgrade on their own, will either need an RMA, or to arrange an onsite visit. Customers may be charged for any on site upgrades. Customers must be advised if they loaded any custom certificates to the radio they will need to reload them after completing the upgrade.

Product Service: Will update the radio software on request to the extent it is compatible with the host software; refer to 20012631 CVSM/CIWS Minimum Hardware/Software Level Requirements.

Note on host compatibility –The 3.00.03 radio software was tested with CVSM/CIWS host software versions 1.71.03, and 2.20.00 Any configurations not listed in DIR 20012631 CVSM/CIWS minimum HW/SW level requirements have not been verified.

Note on Connex VM 1.x compatibility – CVSM/CIWS host software version 1.70.04 does not support the patient query function when used with Connex VM 1.x. Support for patient query is restored in CVSM/CIWS 1.71.02. Connex VM 1.x customers upgrading to

radio software version 3.00.03 must upgrade the CVSM/CIWS software to version 1.71.03.

Note on configuration – Configuring the radio through its web interface may cause the host to lose communication with the radio and display the Radio card inoperable technical alarm. If this happens, reboot the CVSM/CIWS and configure the radio through the CVSM/CIWS user interface. The web interface should only be used to update the software or load certificates.

Note on using WAST – When the CVSM is connected to WAST the USB connection takes priority over the wireless connection and the network status tab will display "Disconnected". If the radio has an IP address and displays active session information, access to the radios web interface is possible. When the radio upgrade is complete, close the WAST device tab, and disconnect the USB cable, to see the radio software version with complete network information.

Reference to Standards:

- 21 CFR Part 820, ISO 13485, MPD SOP-0002

Reference

- 20012631 CVSM/CIWS Minimum Hardware/Software level Requirement
- 80018044 Radio configuration guide, Connex® Vital Signs Monitor 6000 Series and Connex® Integrated Wall System
- 60059807 SRN,802.11a/b/g SW Version 3.00.03

Service Strategy:

The radio service kit **104560** SERV KIT,PLFM RADIO 2.30 will be updated to replace **409594** PLAT RADIO 3.00.02,PROV SPI,802.11a/b/g with 410910 PLAT RADIO 3.00.03,PROV SPI,802.11A/B/G.

If a customer requires a radio with an older software version, as may be the case if the customer is limited to using an older version of the host software to maintain compatibility with third party software, it is acceptable to downgrade a **410910** radio using the process described in DIR# **80018044**. Where that is the case customers should be encouraged to install the most current radio software compatible with their host software.

Upgrades may be delivered onsite by field service or the customer may be offered the opportunity to perform the upgrade themselves on an as needed basis as determined below. Customers may be charged for onsite upgrades performed by Welch Allyn or its contractors.

Customers who call with radio connectivity issues will be evaluated by Technical Support. If the issue cannot be resolved, it will be escalated to Service Engineering. Service Engineering will work with the radio team to determine if an upgrade will resolve the issue.

If an on-site upgrade is needed, Field Service or Product Service will be requested to assist. In the event Field Service or Product Service is unable to make an onsite visit within the customer's time frame, the customer will be offered the option of performing the upgrade themselves or returning the device to a service center. Customers opting to perform the upgrade will receive instructions for performing the upgrade along with the upgrade software via PartnerConnect.

Warranty coverage will remain in effect for any damage to the radio resulting from the customers attempt at upgrading the radio software, provided the case was not opened and no modifications were made to the hardware. In the event the customer is unable to

complete the upgrade the device may be returned to product service for repair.

Service centers will continue the policy of upgrading device host software to current levels as required in **20012631 CVSM Minimum Hardware/Software Level Requirement**. The minimum radio software level will remain unchanged from version 3.00.02 for CVSM host software 2.xx.xx and version 3.00.01 for host version 1.71.03. Devices that cannot be upgraded to the current host software version shall be upgraded to the highest compatible version. See CVSM Minimum Hardware/Software Level Requirement for current software levels **DIR# 20012631**. Upgrade the radio SW to the highest compatible version to address any issues corrected in an updated release. The upgrade is provided under warranty for those customers needing the upgrade to address issues corrected in a later release.

Customers shall be notified the upgrade may return the radio configuration to default settings and any custom certificates installed on the radio will need to be reloaded by the customer.

Required Tools:

See Radio configuration guide, Connex® Vital Signs Monitor 6000 Series and Connex® Integrated Wall System **DIR# 80018044**.

Required Materials:

For local installations the required files may be pulled from SAP or pushed from PartnerConnect. For remote installations push the upgrade package from PartnerConnect.

SAP

DIR 50011460 , Lamarr2 SWF 3_00_03

You will need the following four files from DIR 50011460:

1. NK_5_0_3.bin
2. nk_5_0_3.sha1.txt
3. Lamarr2_SPI_FIPS.cab
4. Lamarr2_SPI_FIPS.sha1.txt

PartnerConnect

Radio upgrade package Lamar2_Radio_SW_Upgrade_3.00.03

Procedure:

To download from PartnerConnect

From the WAST dashboard select Upgrade this asset from the Tasks pane, and deploy Lamar2_Radio_SW_Upgrade_3.00.03

The zip file containing all four files is downloaded to either:

Windows 7 C:\Program Files (x86)\Welch Allyn\RSDS\DefaultProject\WA ServiceTool\Downloads.

Windows XP C:\Program Files\Welch Allyn\RSDS\DefaultProject\WA ServiceTool\Downloads.

A copy of the radio configuration guide DIR 80018044 is included with the upgrade package.

To install software

For how to install radio software see Radio configuration guide, Connex® Vital Signs Monitor 6000 Series and Connex® Integrated Wall System DIR# 80018044

Note: If the radio is configured to use custom certificates, they will be deleted during the upgrade. For that reason do not perform the upgrade using a network requiring certificates. After completing the upgrade the customer will need to reinstall any

certificates required to connect to their network.

Note: This table cross references the Lamar II radio software Server and Kernel version:

Server version	Kernel version	Server version	Kernel version
2.20.00	4.1.22	3.00.00	5.0.0
2.30.00	4.1.26	3.00.01	5.0.1
2.30.02	4.1.30	3.00.02	5.0.2
2.30.03	4.1.31	3.00.03	5.0.3

Quality Documents: **All service centers using SAP to record service transactions:** For each product serviced, record the service activity in SAP.

All other service centers and Field Service: For each product serviced, complete and file a service report and attach to the service DHR.

Notes:

1. Contact Welch Allyn regarding any questions or concerns from this or other issues.
2. Drawings, illustrations, and part numbers in this document are for reference purposes only and subject to change.

End of Bulletin

Revision History

Version	Description	Change #	Init	Release Date	Appr
A	Initial Release	D*	GCS	D*	D*

D* SEE SAP DIR FOR CHANGE NUMBER, APPROVER NAME AND DATE OF APPROVAL