Software Field Change Order

SFCO-L5800-003

Product	Software Version
Libra 5800	3.5.20

Note: Please read this entire document before proceeding with the upgrade; there may be special instructions or prerequisites that need to be followed.

Reason for Change

The software, as listed in the "Files Included Section", including the procedures defined in this document will provide the following changes (enhancements and bug fixes) for your Wi-LAN product.

Enhancements (Since Release 3.3.16):

1. Includes all features and fixes introduced in Libra 5800 Release 3.3.16 (See file SFCO-L5800-001 release notes for details).
2. The dynamic polling algorithm has been modified resulting in performance enhancements for users transitioning from idle mode into the active data transfer mode. Also improves latency since inactive remotes are now interspersed when being polled instead of all inactive remotes being polled together at the end of a polling cycle.
3. Improvement in Ethernet packet performance, especially in small packet per second throughput, which increased by a minimum of 10%.
4. Software support for Libra 5800 using new ASIC Hardware.
5. Added new feature MAC filtering with MBR selectable in the Network Configuration Menu. This feature allows the independent selection of Maximum Burst Rates for upstream and downstream traffic per CPE.
6. Added MAC address filtering for CPE downstream. Packets will be dropped if MAC address not included in the self learning MAC table.
7. MAC filtering at the CPE has a configurable aging timer with a default set to 5-minutes.
8. Added Queue statistics in Supervisor login. For use with WiLAN support centre.
9. Improvements to utility LINKTEST.
    - The utility will not terminate when user traffic becomes heavy, but will rather give way to user traffic and resume when the traffic load is reduced.
    - Linktest can be run from both the CPE and AP units simultaneously (bi-directional).

- Linktest will automatically stop after running for 5 minutes.

10. The System Current Status menu now includes the Ethernet Link status (connected or not connected) and includes the Ethernet mode (type and speed).
11. VLAN Registration using static tables is now supported on the CPE. This feature allows the blocking or passing of VLAN tagged frames based on a table entry. Network Configuration Menu supports a new menu selection "VLAN Configuration" which provides a list of two choices. The first selection "Port Configuration" is used to select the VLAN configuration for setting the default VLAN switch ID and VLAN Management ID. The new selection "VLAN Registration Configuration" defines which VLAN tagged frames may be passed or blocked and whether the frame should be un-tagged or passed through with tag.

```
                          Registration Configuration


Create or Modify a VLAN           -> Press Enter To Execute
Delete VLAN(s)                       Press Enter To Execute
Show all VLANs                       Press Enter To Execute
```

```
                            Create/Modify a VLAN


VLAN ID (1-4094)                     1

Ethernet Port Registration        -> Fixed
Ethernet Port Tagging                Untagged
RF Port Registration                 Fixed
RF Port Tagging                      Untagged

Create/Modify VLAN                   Press Enter to Execute
```

```
                          Registration Entry Table


   VLAN ID    ENET Registration/Tagging    RF Registration/Tagging
   -------    -------------------------    -----------------------
     1          Fixed     / Untagged        Fixed     / Untagged

   Static Registration Table Size:  1
```

Values defined by **Ethernet** (ENET) are in the direction out of the Ethernet port (downstream direction) whereas the **RF Port** describes the handling upstream toward the AP. The term **FIXED** or **FORBIDDEN** refer to IEEE terms for VLAN registration.

FIXED means the VLAN ID is registered and allowed whereas FORBIDDEN means not-registered and blocked. The selection of tagged or untagged is decided by the application (whether there is a VLAN switch or not on the Ethernet side of the CPE).

Software Fixes:

1. The User Interface now displays the RSSI value -9999, Null Depth 9999 and Fade Margin -9999 when no signal is present rather than –22dbm.
2. When using IP filtering, frames dropped statistics are updated correctly.
3. Fixed a few FTP file transfer issues. Notify the user that the file already exists when the user attempts to transfer a file that already exists. Other fix eliminates a reboot that was previously required between deleting an image and transferring in the same image. Fixed a FTP issue where FTP took precedence over other critical functions which caused a reboot.
4. Setting all entries in the Remote Station Configuration to the same value as the AP would result in watchdog reboot.
5. Fixed an issue with the polling table that resulted in corruption to the polling table if the same CPE is entered many times then all but one entry is deleted. This problem could result in corruption in the file system, which would require software to be reloaded. Also prevents the deletion of all CPE's in the table (requires one CPE and one AP).
6. Improved dynamic polling efficiency to make sure users are given the proper polling opportunity.
7. Various SNMP fixes in MIB.
8. Various fixes to the operating mode TDD/SS (startup and polling issues).
9. Uncorrectable Super frame errors and FEC BER occurring intermittently due to an issue in Reed Solomon routines that have been identified and corrected.
10. Changing the IP of the AP then pinging (ICMP) the old IP was successful, has been resolved.
11. When changing from MAC status view to Remote Station Configuration view it was possible to see erroneous data (MAC data on Remote Station Configuration page).
12. In the MAC Status display the Ethernet Frames Received stats now shows all Ethernet frames received at wire side of the unit, including Frames which dropped appear in the Dropped Frames statistics.
13. When using the Setup Menu to change the radio frequency, the entered values are checked to make sure they are based on 250kHz step sizes (for example 5756200 is not allowed whereas 5756250 is allowed).
14. When logged into System Current Status menu as Supervisor the "No RF Activity Count" was indicating an incorrect value, the displayed value is now correct.
15. VLAN Management at the AP is supported.

Known Issues:

1. Synchronization ID 1 in the Radio Configuration menu is not working correctly. The RSSI measured value will be displayed incorrectly in the MAC Layer Statistics and there may be a higher number of Correctable FEC errors when compared with Sync ID setting 0 (the default). The Sync ID is used to ensure CPE's are communicating with the correct AP when two AP's are operating in the same general area using the same frequency. Where possible always use Sync ID 0, if you require the use of Sync ID 1 please contact Wi-LAN Technical Support Centre.
2. Linktest does not display Forward Error Correction statistics accurately. BER and RSSI are correctly displayed and should be used for alignment.

Status (Mandatory, Recommended or Optional)

Mandatory - This SFCO includes service-affecting issues and should be applied at the earliest opportunity.

Prerequisites

This software is supported on all models of Libra 5800 (ER, RD, CPE, AP) and may be applied to units that were running versions 3.3.x

WARNING : Do not transfer (FTP) this new image to a CPE or AP when the system is running a load >10mbs throughput (MAC Layer Statistics Display). This issue is fixed in this version (See item 3 in Software Fixes section) however the fix will not be active until this new load is installed and running.

Upgrade Procedure

Upgrade the Libra product using following procedures:

1. Unzip the file ***lib58-3-5-20.zip*** to your c:\ directory. There will be 3 files:
   a. **lib58-3-5-20-bws.wil** – The software for the Libra product.
   b. **SFCO-L5800-003.pdf** – These Software Release Notes.
   c. **Libra-mib2** – The MIB file.

2. Connect to the Libra unit via Telnet or direct on Serial port then open the "System Revision Information Screen" to determine if the upgrade is necessary. The following table indicates the upgrade has been applied.

File Name lib58-3-5-20-bws.wil Software Rev 3-5-20 (Wi-LAN Ethernet/OFDM)	If the Revision matches the image to the left, No upgrade is necessary.

3. Libra software transfer - if upgrade is required, perform the following step
    a. Confirm there is at least 16 sectors of free space available by typing DIR at the Wilan> command prompt. If there is not sufficient space you will need to delete an older version before transferring in the new version.
    b. If there is sufficient space then FTP The appropriate files into the units for upgrade:
        1. Open an FTP session to the unit using the login ID of "**OFDM**" and your "supervisor" Password.
        2. FTP the Libra Image (**lib58-3-5-20-bws.wil**) into the unit
4. Reboot new image as follows:

    Login into the device and from the system commands menu select Reboot a System Image ->. Use the arrow keys to select lib58-3-5-20-bws.wil then press return to reboot this image.

5. Upon successful startup, confirm the new load is working correctly. When the new load has been verified then select the new system image as the default image in the "System Commands" menu.

    Warning: Do not set the new image as default until it has been confirmed as working properly. Following this warning provides a back-out procedure, by power cycling the unit, to get back to the original version if problems prevent the new load from starting correctly.

    Login into the device and from the system commands menu Set Default System Image ->. Use the arrow keys to select lib58-3-5-20-bws.wil then press return to select this version as default.

6. Verify the current revision of software in the System Revision Screen:

RS Version	0x86002001
FE Version	0x86001002
DSP Revision	0x20703
File Name	lib58-3-5-20-bws.wil
Software	Rev 3-5-20 (Wi-LAN Ethernet/OFDM)
Software	Date Aug 14 2004 10:25:41
File Size	2097152

Back-out Procedure

1. If the new software must be removed then complete the following steps:

Login into the device and from the System Commands menu select Set Default System Image ->. Use the arrow keys to select original software version then press return to select this version as default.

In the System Commands menu select Reboot a System Image and use the arrow keys to select the original version. Press enter and the system will reboot the original version.

Files Included

Lib58-3-5-20-bws.wil	2097152 Bytes	08/14/2004 10:26 A.M.
Libra_mib2.mib	33614 Bytes	07/13/2004 10:40 A.M.