

# **KBridge kernel for Hermes I, Hermes II and Prism radios**

## **v5.10-00 – May 6, 2005**

### **Features:**

- All Bin files for radio types are now v 5.10.
- Improved support for Ethernet in Auto duplex mode.
- Utilizes Terabeam Configurator v5.10-00-041813.

## **v4.46-01 — December 20, 2004**

### **Issues Fixed**

- Units equipped with Hermes II radios default to Channel 4 (2427 MHz) in 802.11b/AP+ mode

## **v4.46-00 — December 05, 2004**

### **Issues Fixed**

- Updated Hermes II driver (supporting mPCI and PCMCIA radios)
- Configuration security (KBsec)
- Ethernet stability and burst management improvements
- Improved DHCP server compatibility when NAT enabled
- Reduced system latency in dual radio configurations where first interface is configured as TurboCell satellite
- Retransmit counter boundary check added to address "IP Freeze" issue

Note :Some networks may still experience this issue. Transmit bit rate should be adjusted at CPE Station(s) and Base, to ensure that frame retransmit rate is less than 10% to minimize occurrences

- TCP stack fixes (WARP/PAR)
- Repaired Software Key issue that caused units loaded with Hermes I encryption-enabled builds to lock
- Repaired issue that caused default IP address (198.17.74.245) to be sent to Radius server

### **Known Issues**

- AP-1000 units with boot version 3.20 should not be upgraded to versions higher than 4.44-02.

## **v4.45-01/v5.00-01 — June 14, 2004**

### **Issues Fixed**

- Fixed an issue in v4.45-00 where ORiNOCO 5v radios could not start in Evotech/Teletronics Compact Flash builds.

## Known Issues

- In v4.45-00, some ORiNOCO 3.3 and 5v radios could not start up in Teletronics board. The decision was made to support ORiNOCO 5v radios, but not ORiNOCO 3.3v radios.

## v4.45-00 — May 17, 2004

### New Features

- Support for Agere Hermes II PCMCIA radios.
- AP support for Intersil Prism 2.5 radios, including selectable WEP Authentication modes.
- Enhanced MAC Authentication Access Control List features.
- Enhanced RADIUS authentication, including support for RADIUS realms.
- Configurable maximum users per interface.

### Issues Fixed

- Fixed manual full duplex mode on KN-1xx/KN-2xx series boards.
- Hermes I FCC-related improvements for TurboCell. Base units were sending SNMP Link up/down traps every two seconds when no remote satellites were connected. Those traps are no longer sent.
- Fixed occasional Hermes radio lockup at startup.
- Made Ethernet burst adjustments to adjust the auto-negotiation process in KN-100/KN-200 and KN-105/KN-205 boards.
- Fixed a bug where the DHCP Client could not handle changes in some DHCP Options.
- Fixed a bug where the KBridge Bandwidth Throttle variance exceeded the 10% threshold for data rates above 256 kbps.

### Known Issues

- Upgrading from releases prior to v4.44-00 required the same-sized .bin file. However, this requirement changed with release v4.44-00, and releases following v4.44-00 use larger .bin files rather than the same-sized .bin files. Therefore, you may not be able to directly upgrade to v4.45-00 of the TurboCell Kernel from v4.43k or earlier. If you are experiencing problems upgrading to version 4.45-00 from a release earlier than v4.44-00, first upgrade to v4.44-00. Once v4.44-00 is installed, you can then upgrade to v4.45-00.
  - Upgrade to v4.44-00
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- You must use the v5.00-00 Windows Configurator with the v4.45-00 TurboCell Kernel. You should replace previously saved versions of your configuration with new configuration backups from the v5.00 Configurator.

- Kernel files are now radio-specific. For example, one firmware image may have the necessary drivers for Hermes 1 and Prism 2.0/2.5-based radios, but a different firmware file is required for Hermes II radios.
- We recommend that you match the Ethernet Setup parameters for all connecting network devices. For example, if you configure your Ethernet port on the Ethernet Setup screen to 100 Mbit/sec Full Duplex, then we recommend that you also set the connecting device to 100 Mbit/sec Full Duplex.

## v4.44-02 — February 13, 2004

### Issues Fixed

- Base units were sending SNMP Link up/down traps every two seconds when no remote satellites were connected. Those traps are no longer sent.
- Some Xbox live connections could not be established through NAT. Now Xbox live connections are functioning normally.

## v4.44-01 — December 19, 2003

### Features

- Added support for RadioLAN radios.
- Added full support for both passive FTP and active FTP through NAT.
- Changed the packet aging limit to 1 second from 3 seconds.
- Added the bin file name to the Description field of the System Information Monitor screen.
- Included new bin/key for new SG-4001 product (TurboCell only client software).

### Issues Fixed

- Previous releases incorrectly always displayed the IP address as 198.17.74.254 (the default address) when the WARP and DHCP features were enabled. The fix now displays the correct IP address of the device.
- Fixed a TCP Checksum error that affected FTP, PPTP, and RTSP through NAT.

## v4.44-00 — October 22, 2003

### Features

- Wireless HotSpot Access Point support (WARP)
- IP Tunneling for TurboCell Builds
- Automatic Channel Scan for TurboCell
- 802.1x support for TurboCell builds (802.11 AP mode only), and support for EAP-TLS, EAP-TTLS, EAP-MD5, and PEAP authentication
- Hardware Watchdog Timer on KN-100/KN-200 system boards

### Issues Fixed

- Improved Intersil radio speed settings
- Added more efficient authentication through RADIUS
- Added full support for passive FTP (active FTP not supported for TurboCell clients) through NAT
- SNMP Traps now broadcast over all interfaces
- Enhanced TurboCell protocol to improve latency issues

## Known Issues

- TurboCell Base Station (AP1000, KN100/200, FlashROM Builds) support for 128 clients (satellites) has not been released for general availability. However, KarlNet may release this extended license for use in certain applications. Customers may apply for a 128 client extended license through Terabeam Wireless Customer Services at [techsupport@terabeam.com](mailto:techsupport@terabeam.com).
- If you change from an ORiNOCO Gold card to an ORiNOCO Silver card, you can still select the 128-bit WEP option and enter a 128-bit key in the Configurator. However, ORiNOCO silver cards do not support 128-bit WEP. The KarlBridge kernel uses only the 64-bit portion of that key. To work around this issue, when you want to replace the gold card with a silver one, select Open bin file/Upload rather than Open remote/Upload. Note that this problem only exists when changing from a Gold card to a Silver card. Changing from a Silver card to a Gold card always works fine.
- For FlashROM units, if you have problems saving a config (.cnf) file or uploading a new kernel on top of v4.44, check your BIOS settings. This is due to a memory conflict. Make sure you disable the devices that you are not using. Specifically, in your peripherals settings, set your "IDE Primary Master PIO" to Mode 0 instead of Auto.

## v4.43k — June 05, 2003

### Features

- Support for KN-100/KN-200 system boards
- Updated Agere ORiNOCO radio support (station firmware v.8.74)

### Issues Fixed

- Fixed Receiver Stuck Detection
- Added IP Fragmentation support for UDP tunnels.
- Resolved TurboCell latency issues with a dual-radio configuration. This fix should drastically decrease the latency of packets passing through the second TurboCell radio interface.
- Updated TurboCell Access Control List (ACL) to support 100 users (was 16 users).

### Known Issues

- The MAC Authorization Access Control List (ACL) supports import of up to 64 entries, but will only authenticate up to entry 31.
- Some Avaya radio cards with part numbers that end in "B" (for example, P/N 01064/B) may not work correctly with TurboCell.

KarlNet developers are working to resolve these issues.

### Note

- Software version 4.43k improves latency on dual-radio configurations. Users with applications sensitive to network latency received experimental software (for example, version 4.31r) that changed the minimum polling rate from 1 Hz to 5 Hz. While this change offered some improvement, it did not affect the source of the latency. Version 4.43k addresses the source (as noted in the Trackers Fixed area above) and permanently reduces the latency without the overhead associated with increased polling. The minimum polling rate in 4.43k is 1 Hz. KarlNet recommends that users who are currently using the experimental software upgrade to 4.43k to take advantage of these improvements.