

## HALPS-WK Outdoor Wireless Router Data Sheet



### **Major Networking Features**

- **Firewall and NAT** - stateful packet filtering; Peer-to-Peer protocol filtering; source and destination NAT; classification by source MAC, IP addresses (networks or a list of networks) and address types, port range, IP protocols, protocol options (ICMP type, TCP flags and MSS), interfaces, internal packet and connection marks, ToS (DSCP) byte, content, matching sequence/frequency, packet size, time and more...
- **Routing** - Static routing; Equal cost multi-path routing; Policy based routing (classification done in firewall); RIP v1 / v2, OSPF v2, BGP v4
- **Data Rate Management** -

Hierarchical HTB QoS system with bursts; per IP / protocol / subnet / port / firewall mark; PCQ, RED, SFQ, FIFO queue; CIR, MIR, contention ratios, dynamic client rate equalizing (PCQ), bursts, Peer-to-Peer protocol limitation

- **HotSpot** - HotSpot Gateway with RADIUS authentication and accounting; true Plug-and-Play access for network users; data rate limitation; differentiated firewall; traffic quota; real-time status information; walled-garden; customized HTML login pages; iPass support; SSL secure authentication; advertisement support
- **Point-to-Point tunneling protocols** - PPTP, PPPoE and L2TP Access Concentrators and clients; PAP, CHAP, MSCHAPv1 and MSCHAPv2 authentication protocols; RADIUS authentication and accounting; MPPE encryption; compression for PPPoE; data rate limitation; differentiated firewall; PPPoE dial on demand
- **Simple tunnels** - IPIP tunnels, EoIP (Ethernet over IP)
- **IPsec** - IP security AH and ESP protocols; MODP Diffie-Hellman groups 1,2,5; MD5 and SHA1 hashing algorithms; DES, 3DES, AES-128, AES-192, AES-256 encryption algorithms; Perfect Forwarding Secrecy (PFS) MODP groups 1,2,5
- **Proxy** - FTP and HTTP caching proxy server; HTTPS proxy; transparent DNS and HTTP proxying; SOCKS protocol support; DNS static entries; support for caching on a separate drive; access control lists; caching lists; parent proxy support
- **DHCP** - DHCP server per interface; DHCP relay; DHCP client; multiple DHCP networks; static and dynamic DHCP leases; RADIUS support
- **VRRP** - VRRP protocol for high availability
- **UPnP** - Universal Plug-and-Play support
- **NTP** - Network Time Protocol server and client; synchronization with GPS system
- **Monitoring/Accounting** - IP traffic accounting, firewall actions logging, statistics graphs accessible via HTTP
- **SNMP** - read-only access

- **M3P** - MikroTik Packet Packer Protocol for Wireless links and Ethernet
- **MNDP** - MikroTik Neighbor Discovery Protocol; also supports Cisco Discovery Protocol (CDP)
- **Tools** - ping; traceroute; bandwidth test; ping flood; telnet; SSH; packet sniffer; Dynamic DNS update tool

## Technical Data

<b>INTERFACES</b>	
Ethernet	1 Ethernet port 10/100 Mbps Autosensing, Auto MDI/MDIX IEEE 802.3af support
Wireless	2 IEEE 802.11a wireless interfaces (HALPS WK2) 4 IEEE 802.11a wireless interfaces (HALPS WK4)
Antenna Connector	N-type, Female
<b>PHYSICAL SPECIFICATIONS</b>	
Operating Temperature	-40°C / +50°C
Power Supply	48V Power over Ethernet (IEEE802.3af)
Dimensions (HxLxW)	200 x 175 x 85 mm
<b>RADIO SPECIFICATIONS</b>	
Frequency	5,470 – 5,725 MHz
Standard	IEEE 802.11a
Modulation	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Channel Bandwidth	5 MHz, 10 MHz, 20 MHz
Channel Management	DFS (Dynamic Frequency Selection) Radar Free
Max Output power	17 dBm
Transfer Data Rate	54, 48, 36, 24, 18, 12, 9, 6 Mbps
Media Access Protocol	CSMA/CA with ACK
<b>LAYER 2 CONNECTIVITY</b>	
Wireless features	Client and access point (AP) Wireless Distribution System (WDS) support Virtual AP feature Nstreme and Nstreme2 proprietary protocols Roaming support (for wireless client)
Wireless security	WEP 40 and 104 bit encryption WPA, WPA2 and WPA-PSK (802.11i) AES-CC and TKIP 256 bit encryption MAC address filtering RADIUS server authentication
VLAN	IEEE802.1q Virtual LAN support on Ethernet and wireless links
Bridging	Spanning Tree Protocol (STP) support Rapid STP support
<b>MANAGEMENT</b>	
Management Option	Telnet, SSH, MAC Telnet, Winbox GUI for Windows)
SNMP	SNMP v.1 support
Log	Local Memory or remote syslog server