

Gemtek Systems
P-780
54Mb Dual-Band Outdoor AP

24 - Sep 04

Version 1.0

- Product Overview
- Applications
- Product Feature
 - H/W Highlight
 - S/W Highlight

- **Two Dual-Band (a/g) Outdoor AP** for operating simultaneously in the 5-GHz and 2.4-GHz frequency bands
- HotZone AP and Bridge application modes flexible for HotZone
- Super Bridge
 - Super PtMP mode - Up to 20 bridge links supporting
 - Super data rate – up to 108Mbps
 - Super distance – longer than 5Km
 - Super security – WPA/PSK per bridge link
- Super AP
 - DCA solution for Anti-interference
 - Multiple BSSID for different services
 - AAA(802.1x and web login)
 - Robust Security (WPA2,WPA/TKIP and WPA/AES)
 - Easy management (WEB UI, SNMP, CLISH)



HotZone AP

AP + Bridge

- For Telco or WISP who doesn't have fixed lines for the last mile problem can use P-780 as choice.
- One radio for wireless bridge and another for AP aiming at high performance and less interference. For example, 11a outdoor super bridge and 11g AP.

▪ AP + AP

- For Telco or WISP who want to supply large AP coverage and more users' service. For example, P-780 acts as two 11g AP for large coverage and P-780 acts as one 11g AP and one 11a AP for all kinds of users.
- Low cost ,low interference and easy-management compared with two APs
- Large coverage and more supporting users compared with one AP

Super Bridge

■ Point to Point

- For SI, Telco, long distance up to 5 Km supporting is suitable for backhaul connection and last mile solution.

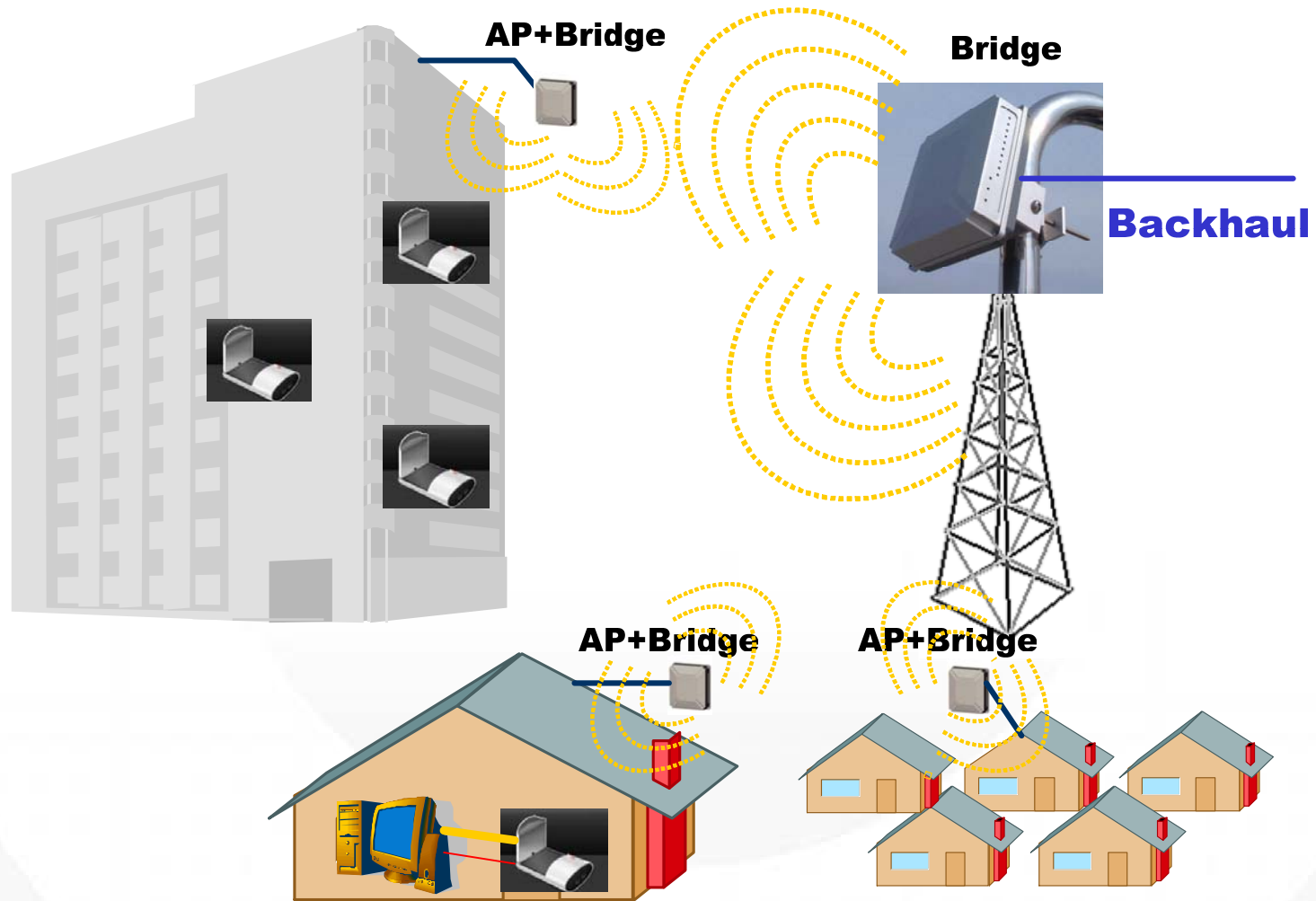
■ Point to Multi-Points

- For Public Organizations to bridge fixed wired or wireless network
- For Telco or WISP who doesn't have fixed lines for the last mile problem can use P-780 as bridge connecting with backhaul

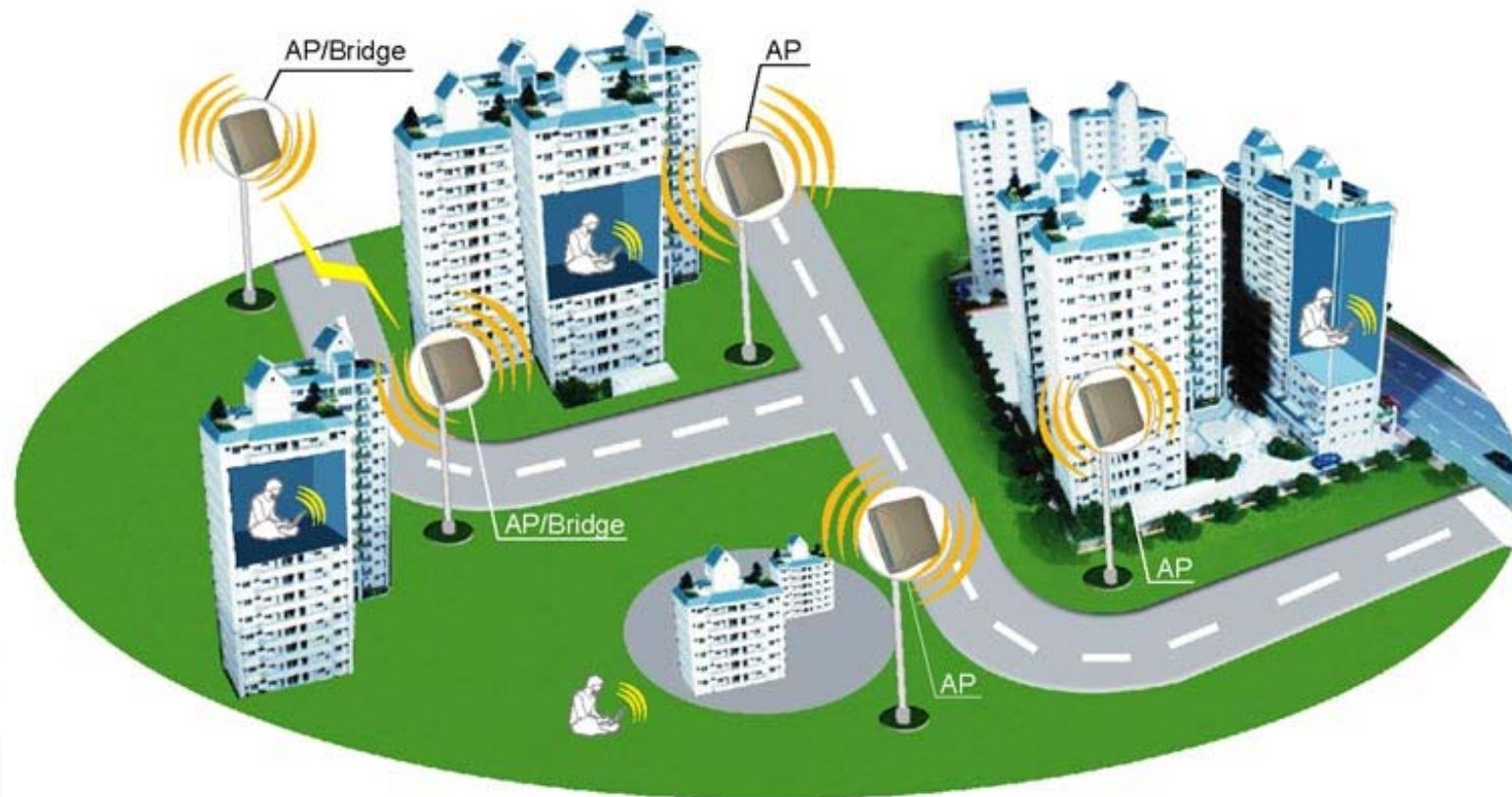
■ Repeater

- For Public Organizations to extend the coverage of wireless network.
- Two radio cards can be used for repeater to supply high performance

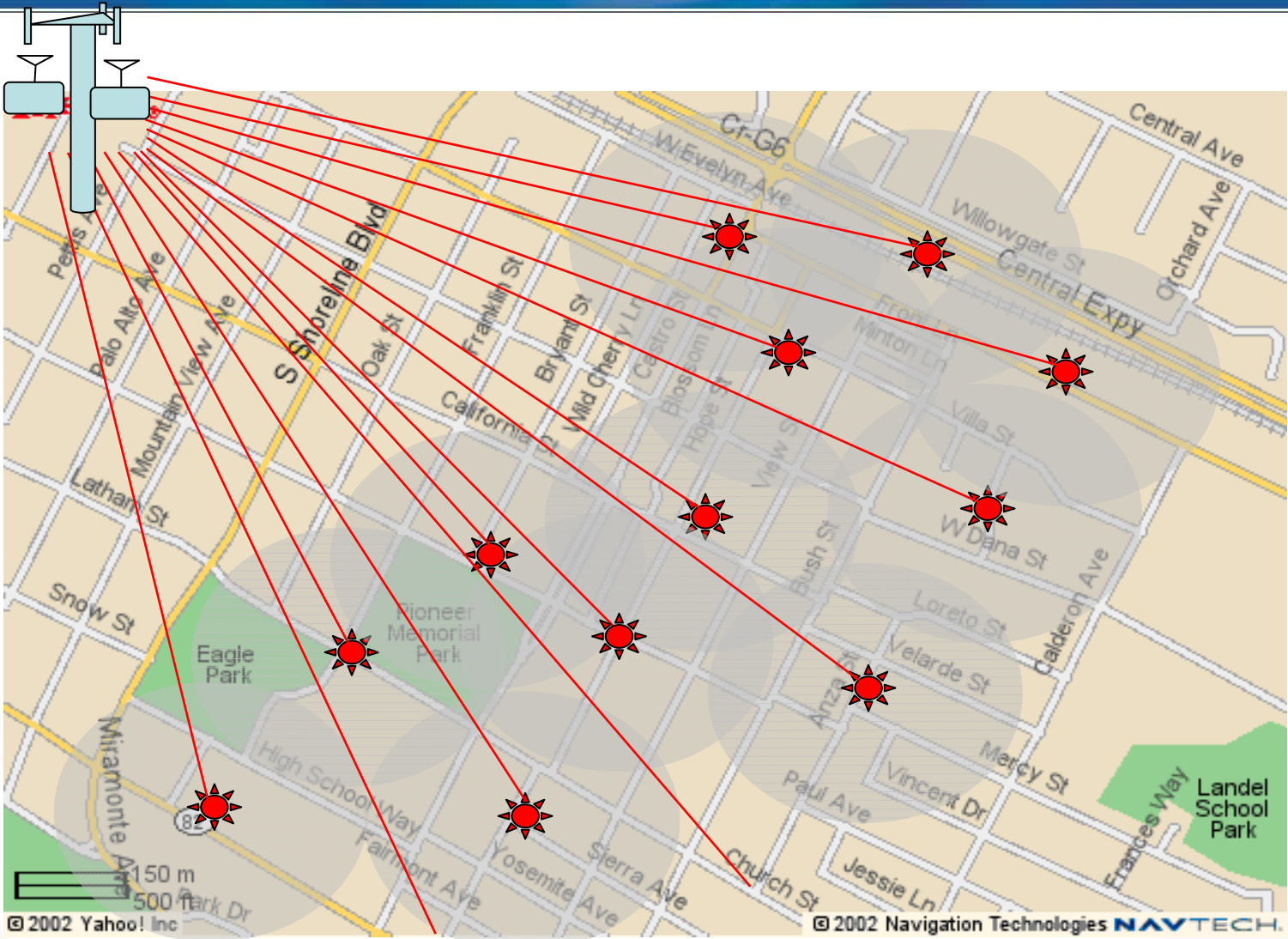
HotZone AP: AP + Bridge



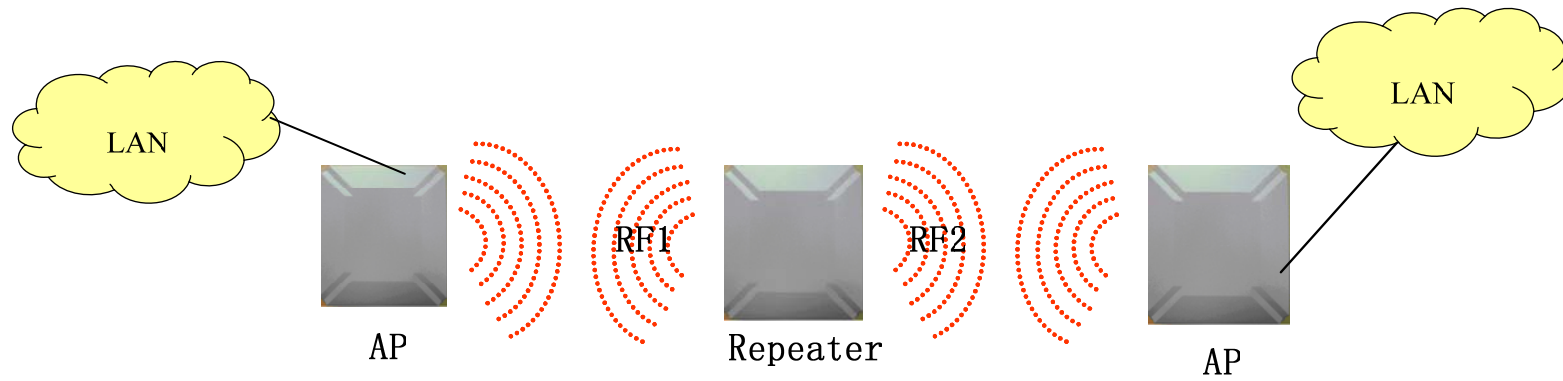
Hotzone AP: AP+Bridge, AP+AP



Bridge: PtMP/PtP



Bridge: Repeater



- High-Performance chipset (Intel IXP425 Xscale.).
- One 10/100Mb Ethernet port
- Two Dual-Band RF cards
2.4GHz/5GHz and Better Receive Sensitivity
- External Antennas
N-type connector both for 2.4GHz and 5GHz
- RTC (Real Time Clock)
- Power supply
IEEE 802.3af (Power-over-Ethernet (48V)) compliant
short circuit protection
Surge Protection
- Outdoor Housing
waterproof (IP67), robust and non-flammable, plastic top cover,
metal bottom cover
- Wall mount kit

- **Super Data Rate**
 - Turbo 11a mode
- **Super PtMP mode**
 - Up to 20 bridge links supporting
- **Super Security**
 - WPA/PSK over bridge link
 - Key per bridge link

WLAN

- 802.11a/g compliant
- RF output power control

Anti-interference

- **DCA (Dynamic Channel Allocation)**
 - Site survey for the DCA information, such as signal strength and channel settings of neighbor APs
 - Auto site survey by AP
 - Controlled site survey
 - According to DCA information to set channel

Multiple BSSID vs Multiple ESSID

- Advantage

- More flexible.

Single ESSID with multiple BSSID can supply multiple service, such as different VLAN ID and different encryption, without client selecting SSID.

Multiple ESSID with Multiple BSSID is the same with Multiple SSID.

Multiple BSSID supporting (up to 16)

- SSID per BSSID
- Enabled or Disabled Hidden SSID per BSSID
- VLAN ID per BSSID
- AAA way per BSSID, 802.1x and web login
 - Co-existence of 802.1x and web login
- encryption per BSSID, static WEP, dynamic WEP and WPA
 - WPA passthrough
- RADIUS server per BSSID
- QoS rule per BSSID

AAA

- RADIUS client supporting
- 802.1x supporting
 - EAP/TLS, EAP/TTLS, EAP/PEAP and EAP/SIM
- WEB Login
 - Internal portal pages
 - External portal servers
- Bandwidth Control
 - Default settings
 - Radius attributes
 - VLAN ID
- VLAN ID
 - VLAN ID per BSSID by manual setting
 - Dynamic VLAN ID by RADIUS server

Security

- Static 64/128bits WEP, Dynamic 64/128bits WEP
- WPA/TKIP and WPA/AES support
- 802.11i/WPA2
- MAC ACL
 - Access Control (accept rule and deny rule) based on MAC address
 - Max MAC table is 128
- Layer 2 Isolation
 - Isolation wireless users in BSS
- Hidden SSID

Management

- Friendly configuration -- WEB UI, CLI and SNMP
- **Standard MIB and Gemtek Systems private MIB**
 - For NMS
- Remote firmware update by WEB UI
- **System eventlog for easy controlling**
- IP address for remotely configuration
 - Static IP settings
 - DHCP client
- Backup/Restore settings

Kickstart support

- Auto discover by kickstart.
- Easy configuration, upgrade, restore defaults by kickstart

Software tool

- The existing monitor software will be expanded to assist in the installation of the bridge. Features includes realtime report of link strength, as well as background RSSI.

2.25 release WEB management – example Multiple BSSID status

Advance Wireless Setting

Radio: wlan1 AP Mode

Interface	SSID	Hidden	Security	Current Connect #	Action
wlan1_0	P-780MP	Disabled	Disabled	0	Detail Edit Delete
wlan1_1	wlan1-2-awen	Enabled	WPA-PSK	0	Detail Edit Delete
wlan1_2	test	Enabled	WEP	0	Detail Edit Delete
					New

[Refresh](#)

Advance Wireless Setting

Radio: wlan1

Interface:	wlan1_0
Mode:	AP
SSID:	P-780MP
Hidden SSID:	Disabled
Use VLAN:	Disabled
VLAN ID:	
Security:	Disabled
Current Connected Number:	0

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2.25 release WEB management – example Multiple BSSID configuration

➤ Advance Wireless Setting		
Radio:	wlan1	
Interface:	<input type="text" value="wlan1_2"/>	
Mode:	AP	
SSID:	<input type="text"/>	
Hidden SSID:	<input type="checkbox"/> Need Hidden SSID	
Use VLAN:	<input type="checkbox"/> Enable VLAN	
VLAN ID:	<input type="text"/>	(1~4094)
Security:		
<input type="radio"/> WEP(Wired Equivalent Privacy)	WEP KeyIndex:	<input type="text" value="1"/>
<input type="radio"/> 802.1x	RADIUS Server Profile:	<input type="text"/>
		RADIUS Server is NULL. Click here to add profile
	Dynamic Key Length:	<input checked="" type="radio"/> 64 bits <input type="radio"/> 128 bits
<input type="radio"/> WPA	RADIUS Server Profile:	<input type="text"/>
		RADIUS Server is NULL. Click here to add profile
	Algorithm:	<input type="text" value="TKIP"/>
	<input type="checkbox"/> Use Rekey. Every	<input type="text"/> Minutes
<input type="radio"/> WPA-PSK	Use Pre-Shared Key:	<input type="text"/>
	Algorithm:	<input type="text" value="TKIP"/>
	<input type="checkbox"/> Use Rekey. Every	<input type="text"/> Minutes
<input checked="" type="radio"/> Disabled		