PARROT 212A

ODMA Wireless Subscriber Relay Networks

IWICS

Opportunity Driven Multiple Access™ (ODMA) is a patented mobile wireless broadband system comprised of primarily PARROT subscriber devices that build, strengthen and support the network infrastructure with increased energy efficiency. The ODMA™ technology supports user needs of high system capacity, easy installation, very low power consumption, high mobility and 4G-like bandwidth. The PARROT product line is designed to enable WIDENET™ ODMA Service Providers to deliver mobile data, video and voice services and specialized applications over an intelligent, self-organizing dynamic network.

The PARROT 212A Subscriber Unit combines an exceptional compact design with performance and mobility; surpassing the needs of the most demanding business requirements for either fixed or mobile high-speed broadband access. The PARROT 212A provides broadband service at any location within the ODMA system coverage.

Applications

Residential Broadband – With the P212A, a Service Provider can deliver fixed wireless broadband to residential areas where typical broadband services, such as xDSL and cable, are not available.

Mobile Hotspots – Connecting a P212A to a Wi Fi access point, can transform a bus or a train into a mobile hotspot.

Public Security – Police, firefighters and other emergency services or first-responders can be easily connected to a control center and other group members while on duty.

Mobile LCD Advertising – The P212A enables a central advertising management system to push real-time video clip in-house, or to in-vehicle advertising LCD panels.

Location Update – Provides broadband connectivity to public transportation systems to report real-time GPS coordinates of vehicles.

Key Benefits

Plug and Play – An Ethernet DHCP client device can access the P212A wireless broadband without installation of any drivers.

Mobile Broadband – Delivers up to 1 Mbps, in fast-moving vehicles.

Low Radio Output Power – The average radio transmission power is less than 10mW, which is approximately 25 times lower than typical cellular phone levels.

High Security – Users enjoy ultimate security with smart card user authentication, AES data encryption, together with channel and packet-route diversity.

Pre-paid or Post-paid – Service Providers can charge subscribers with a variety of systems, including the reliable 3G USIM billing mechanism.

ODMA*Enabled*™

WIDENET™
Service Providers

SPECIFICATIONS

PARROT 212A

Physical

- **Weight:** 165g
- **Dimensions (L x W x H):** 130 x 86 x 16mm
- **Interface:** Smart Card Reader •• 10/100BaseT RJ45 Ethernet •• LED Indicator (Power, Link, LAN, Data)
- **User Access:** Via activated 3G Compatible SIM card

Power

- **Power Input:** 5V DC
- **Power Consumption:** <4W

Environmental

- **Operating Temperature:** 0C~+50C
- **Storage Temperature:** -40C~+80C
- **Humidity:** 0%~90% •• non-condensing

Radio Specs

- **Frequency Band - 802.11a/g/b:** 2.4~2.483GHz •• 5.725~5.85GHz
- **Modulation:** OFDM
- **Burst Data Rate:** Up to 6Mbps •• 12Mbps •• 24Mbps
- **Smart RF Control:** Automatic Output Power Control •• Automatic Channel Switching
- **Transmit Power:** 13dBm at 24Mbps (5GHz) •• 15dbm at 24Mbps (2.4GHz) •• 17dBm at 6Mbps
- **Receiver Sensitivity (typical):** -82dBm at 54Mbps (5GHz) •• -82dBm at 24Mbps (2.4GHz) •• -90dBm at 6Mbps
- **Built-in Antenna:** 3dBi at 2.4GHz (average) •• 3.5dBi at 5GHz (average)
- **External Antenna Connector:** MMCX

Operating Systems

- Windows •• Linux •• MAC •• Any device with 10/100BT Ethernet and support DHCP Client

Networking

- **System Architecture:** ODMA Subscriber Relay
- **Mobile Wireless Access:** Seamless Hand Over
- **Fault Recovery:** Self Configuration •• Self Healing
- **DHCP:** Server
- **Session Persistent Roaming:** TCP/UDP
- **Throughput:** Up to 3.5Mbps burst

Security

- **Authentication:** Smart card user authentication
- **Data Encyrption:** End to end AES or 3DES (to be supported)
- **Channel Diversity:** Channel hopping
- **Packet Route Diversity:** Adaptive packet forwarding

Management

- **Management Interface:** Web-based
- **Firmware Update:** Remote via wire or wireless

Accessories

- MMCX to Reverse SMA cable (optional)
- Dual Band Car Mount Antenna (optional)

Compliance

- **FCC:** Part 15, Class B

Package Contents

- **PARROT 212A** ODMA Subscriber Unit
- AC/DC power adapter
- USB power cable
- LAN cable

Easy Plug and Play

1.) Plug in Smart Card

2.) LAN Port

3.) Adjust Antenna 90°

4.) Power On

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PARROT 230A

Wireless Subscriber Relay Networks

PARROT is a mobile wireless broadband system of subscriber devices that build, strengthen and support the network infrastructure with increased energy efficiency. Powered by patented Opportunity-Driven Multiple Access™ (**ODMA**) technology, PARROT supports users with high system capacity, easy installation, very low power consumption, high mobility and 4G-like band - width. The PARROT product line is designed to support WIDENET™ ODMA service networks. PARROT products provide WIDENET service providers with the option of a "plug and play" ODMA network.

With a nearby Internet connection point, **PARROT 230A Outdoor Subscriber Relay Units (OSRU)** create a cluster of wireless access points that dramatically increase throughput. To strengthen the wired network, there is an Ethernet connection to several P230A's and a PARROT 240A Concentrator station. The P230A can be used as an outdoor PARROT-to-LAN adapter, which you can connect to outdoor IP devices, such as Wi Fi access points or IP cameras.

Applications

Access Seed – The P230A provides wired connections for wireless PARROT devices. The physical link can direct traffic to the Internet, or remote PARROT managing servers, such as the Authentication, Authorization and Accounting server.

Relay Seed – With only local input power, P230A extends wireless coverage without a virtual link to the wired Internet

Outdoor Booster – P230A units installed on roof tops or utility poles serve as the last-mile booster to enhance indoor service. Booster configuration mirrors the relay seed, which needs only local power.

Outdoor Subscriber Unit – This unit allows DHCP client devices to access the PARROT network. The P230A can be connected to IP cameras to support wireless surveillance programs, or a Wi Fi access-point connection can establish a hot spot.

Features

Plug and Play – Just insert the power cable, data line and smart card. The P230A then automatically authenticates and configures.

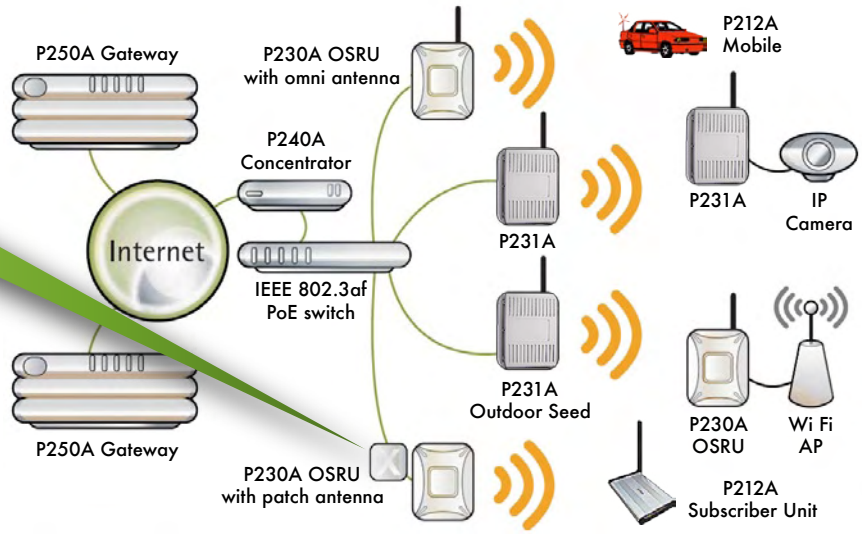
Extended Coverage – The P230A can serve the PARROT CPE for up to 2 km, which is almost six times the scope of Wi Fi alone.

Low Radio Output Power – Average output power is below 10 mW. The P230A consumes little local power, making it the environmentally friendly choice.

Built-in Patch – The high-gain patch antenna, with good front-to-back ratio, can block local roof-top noise, thus delivering better performance.

High Performance – The P230A can support a throughput of up to 3.5 Mbps. This is the equivalent of the performance of more than fifty 64-Kbps voice channels.

ODMA*Enabled*™



WIDENET™
Service Providers

SPECIFICATIONS

PARROT 230A

Physical

- **Weight:** 320g
- **Dimensions (L x W x H):** 163 x 135 x 54mm
- **Interface:** Smart Card Reader •• 10/100BaseT RJ - 45 Ethernet
- **Mounting:** Pole or Wall Mount
- **User Access:** Via activated 3G Compatible SIM card

Power

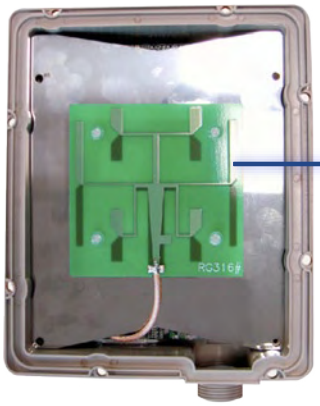
- **Power Input:** IEEE 802.3af 48 V POE
- **Power Consumption:** <5W

Environmental

- **Operating Temperature:** -10C~+70C
- **Storage Temperature:** - 40C~+80C
- **Humidity:** 0%~90% •• non-condensing
- **Dust and Water Proof:** IP66
- **Wind Load:** 200km/hr

Radio Specs

- **Frequency Band - 802.11a/g/b:** 2.4~2.483GHz •• 5.725~5.85GHz
- **Modulation:** OFDM
- **Burst Data Rate:** Up to 24Mbps
- **Smart RF Control:** Automatic Output Power Control •• Automatic Channel Switching
- **Transmit Power:** 13dBm at 24Mbps(5GHz) •• 15dbm at 24Mbps(2.4GHz) •• 17dBm at 6Mbps(2.4GHz)
- **Receiver Sensitivity (typical):** -82dBm at 24Mbps(5GHz) •• -82dBm at 24Mbps(2.4GHz) •• -90dBm at 6Mbps
- **Built-in Antenna:** 9.8dBi @ 2.4GHz BW:60° •• 8.5dBi @ 5.7GHz BW:40°
- **Coverage Range:** Up to 2km (Line of Sight)
- **Non-Line-of-Sight**: Through Multi-hopping



Networking

- **System Architecture:** ODMA Subscriber Relay
- **Packet Routing:** Layer 2 Opportune Forwarding
- **IP Application:** Transparent to All IP App
- **Mobile Wireless Access:** Seamless Hand Over
- **Bandwidth management:** Self Balancing
- **Fault Recovery:** Self Configuration •• Self Healing
- **Session Persistent Roaming:** TCP/UDP
- **Throughput:** 3.5Mbps/24Mbps (Average/Burst)
- **LAN Protocol:** ODMA over Ethernet

Security

- **Authentication:** Smart card
- **Mutual Authentication:** Authentication, Authorization and Accounting server and Neighbor Seeds
- **Channel Diversity:** Channel hopping
- **Packet Route Diversity:** Adaptive packet forwarding
- **Wireless Encryption:** 128bit AES (optional)

Management

- **Management Interface:** Web-based
- **Firmware Update:** Remote via wire or wireless
- **Fault and Performance:** ODMA Utility
- **Configuration:** Web or ODMA Utility

Accessories

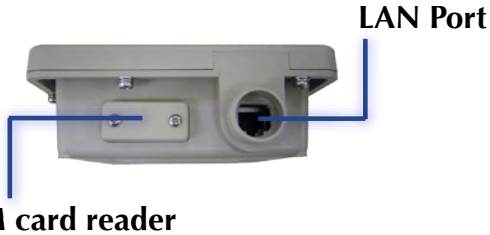
- **Surge Protector:** (optional)

Compliance

- **FCC:** Part 15, Class B

Package Contents

- **PARROT 230A** Outdoor Subscriber Relay Unit x 1
- Pole and Wall Mounting Kit
- Weather Proof Kit
- Installation Guide



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