TELETRONICS INTERNATIONAL® INC.



We Give Life to Broadband Wireless

Founded: 1985
By: Dickson Fang
Headquartered: Rockville, MD
Regional Offices-

- **-Teletronics Beijing**
- **-Teletronics Taipei**
- **-Teletronics Panama**
- **-Teletronics Africa (Togo)**

Own Brand, Selling over 60 Countries, 25 Years

www.teletronics.com ; dickson@teletronics.com

Resume of Dickson Fang



- **Ph.D in Electrical Engineering, Stanford Univ.**
- **Research Staff, SRI, Menlo Park, CA. 5 Yr.**
- **Manager, COMSAT Labs, Clarksburg, MD 10Yrs**
  - **US Delegation to CCIR, Geneva 15 Yrs**
  - **URSI Member**
  - **NATO- AGARD Advisory Member**
- **Professor, Key Note Speaker, Author, in many occasions.**
- **Founder, Teletronics in 1985 – DoD Satellite Earth Station in Early Years, and upgrading to the broadband wireless prior to 2,000**


TELETRONICS INTERNATIONAL

Teletronics --- The best last-mile wireless solution provider

Mission Benefits: Cost Effective; High Speed/Bandwidth; Rugadized; Easy to Operate; Compatible Open-System; Upgradeable scale/performance.

I. Hardware:

a. RF Subsystems - Amplifiers, UDCs, Panels

b. Platforms -

- **General Purpose Platform (Linux-based for broad applications Open WRT)**
- **Special Embedded Platform (Ubicom-based for dedicated operations)**
- **Critical Supporting Subsystems - TAG, TBC, NOC, EZLine® (for IPTV Intranet)**

c. Complementary system

- **Mimo, Zigbee, LED Street Light**

II. Broadband Solutions

HotSpot, WiFi, Low Rate Telemetry Data Network, Video/Surveillance Network

III. Transmission Technologies

Point-to-Point, Point-to-Multipoint; Mesh; WiMAX; IP- Mircowave

IV. Interface Flexibility

Open System, non-proprietary protocols, interoperable with all standard network systems (Wireless-802.11/WIMAX; Network-IP/SNMP/RADIUS; Video-MPEG4/H.264; VoIP-SIP, all upgradeable/reconfigurable to fit various modes of access and security.)

TELETRONICS INTERNATIONAL INC.

Wholesales- Teletronics Own Brand, selling over 60-countries

TESSCO Your Total Source®

Consolidate Purchases | Lower Total Costs

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IT Solutions Training Consulting

SYSCOM®

Streakwave

SYSTECH TELECOM

TELETRONICS INTERNATIONAL INC.

Telecommunications/ISP – Customization Design, Teletronics assures seamless integration

keyon

intel

entel

Syrens WiFi

iveda Solutions®

THALES

FARHAN-HICAP

HIGH CAPABILITIES TELECOM COMPANY LTD & FARHAN COMMERCIAL COMPANY LTD

KUBtel

TELETRONICS INTERNATIONAL INC.

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Special Systems – Proprietary Frequency and Power, Teletronics Assures High Gain Matching

MITSUBISHI ELECTRIC

TELEVISION. LIVE IT LARGE.

NORTHROP GRUMMAN

UAV SOLUTIONS

GENERAL DYNAMICS

Strength On Your Side®

alvarion

NATIONAL GUARD

APL The Johns Hopkins University Applied Physics Laboratory

U.S.ARMY

AMERICA'S NAVY

U.S. AIR FORCE

BAE SYSTEMS

TELETRONICS INTERNATIONAL INC.

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China Market – Everybody gears up to IPO, Teletronics provides strategic wireless value addition

北京中运人安消防设备有限公司

OUTRACE 奥其斯 奥其斯集团 OUTRACE GROUP

i'm lovin' it 我就喜欢

安徽易科技术有限公司 ANHUI E-COM TECHNOLOGY CO., LTD

Shenglu 广东盛路通信科技股份有限公司

山东 SD-GOLD 黄金

上海数传信息技术有限公司 Shanghai Digital Transmission Information Technology Co.,Ltd

HI-LINK Communications Inc.

GRAND HALO TECHNOLOGY CO.,LTD.

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IT Servicing - Training - Consulting

SYSCOM®

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TELETRONICS INTERNATIONAL INC.

25 years Cutting-Edge Technology Pusher



EZPlatform-

High Power Dual Radios AP/Repeater



Up-Down Converter/ Amplifiers-

High Gain, High Data Rate, Best in the World

EZPlatform-Fiber

Fiber Extension



EZ Backhaul (RCP)-

Powered by INTEL for Extreme long distance





EZMesh-

Wireless Mesh Coverage, up to 30Mbps at 5th Hop

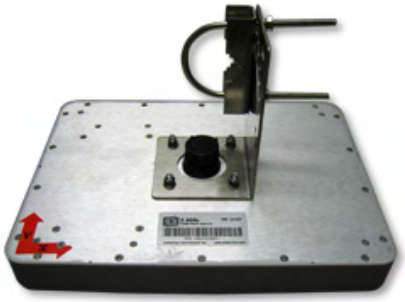


EZWiFi- OpenWRT

Open Source w/ unlimited possibilities

TELETRONICS INTERNATIONAL INC.

Client-End Specials: Low-Cost & Versatile



EZStation2-

All-in-One 2.4GHz Low Cost High Performance Radio



EZStation5-

All-in-One 5.8GHz Low Cost High Performance Radio



EZMimo-

Integrated dual polarization antenna, up to 300Mbps speed



802.11b/g WLAN USB Adapter-

High-Power Wireless LAN USB Adapter (500mW) + 5 dBi dipole antenna



802.11n WLAN USB Adapter-

802.11 b/g/n High-Power Wireless LAN USB Adapter + 5 dBi dipole antenna

TELETRONICS INTERNATIONAL INC.

Teletronics Zigbee Products
Device –to-Device Communities



ID Card
SC8836A
(150 m)



Auto Traffic Data Collector
(150--- 800 m)
SC8836A/SC8836B



PCB Moudle Plug-in
SC8836b1
(800 m)
42 X 25 X3.6 mm



TTL Interface
PCB Module
SC8836A
(150 m)
40 X17 X2.0 m



RS-232 Interface
PCB Module
SC8836C
(200 m)
36 X34 X2.0 mm



RS-232/485
Interface Module
SC8836b
47 X 40 X 3.6 mm



Hub-Data Collector
SC8836B + RS232/RS485
(>2000 m) 220V
140 X 112 X75 mm



Position Identifier
(2--- 150 m) 220 V
150 X 70 X55 mm



External Plug-in
Data Moudle
SC8836b2
(1500 m)
42 X 25 X3.6 mm

TELETRONICS INTERNATIONAL INC.

Teletronics Street Light



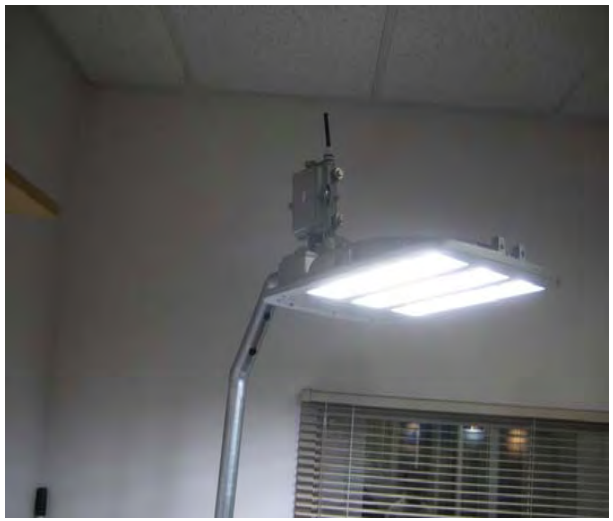














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Telecommunications/ISP – Customization Design, Teletronics assures seamless integration

keyon

intel

entel

Syrens ONBOARD WiFi®

iveda Solutions®

THALES

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HIGH CAPABILITIES TELECOM COMPANY LTD
& FARHAN COMMERCIAL COMPANY LTD

KUBtel

Motorola Canopy™ vs. Teletronics EZ Platform™

	Motorola CANOPY	*Teletronics EZ Platform*
MSRP	**$595-2,395**	**$450-895**
Operating Frequency	5.25 to 5.35 GHz 5.470 to 5.725 GHz 5.725 to 5.825 GHz 2.415 to 2.4575 GHz 	900 MHz 3.40 to 3.70 GHz 4.95 to 4.97 GHz 5.15 to 5.35 GHz 5.470 to 5.725 GHz 5.725 to 5.825 GHz 2.415 to 2.4575 GHz 4.5 to 4.9GHz (Development on demand, $50K in 90 days), * 
Access Method	TDD/TDMA	802.11
Data Rate	10 Mbps	11 Mbps (DSSS) 54 Mbps (OFDM)
Modulation Type	High Index BFSK (Optimize for interference rejection)	DSSS OFDM
Wireless Access Mode	AP SU	AP SU Ad-Hoc WDS Repeater (Dual Radios)
Receiver Sensitivity	-83dBm	-92dBm
Operating Range	Up to 3 Km with integrated unit in 5.7 GHz band. Up to 15 Km with passive reflector in the 5.7 GHz Up to 8 Km with integrated antenna in the 2.4 GHz band. Up to 24 Km with passive reflector in the 2.4 GHz band.	Up to 30 Km in the 5 GHz band. Up to 40 Km in the 2.4 GHz band.

Transmitter Power	2400 - 2483.5 MHz 340mW 5250 - 5350 MHz 200mW 5450 - 5725 MHz 200mW 5725 - 5825 MHz 200mW	900 MHz 250mW 3.5 GHz 250mW 2.4 GHz 600mW to 1W 4.9 – 5.8 GHz 600mW All freq. 1W– 10W (Development on Demand,$50-100K, in 90 days), *
DC Power	24 VDC @ 0.3 Amp	48 VDC @ 0.5 Amp 24 VDC @ 1.0 Amp 12 VDC @ 2.0 Amp
Interface	10/100 Base T, half/full duplex Rate auto negotiated (802.3 compliant)	10/100 Base T, half/full duplex Rate auto negotiated (802.3 compliant)
Wireless Protocols	Proprietary	802.11 WPA WPA2 WEP AES
Network Protocols	Layer 2 Bridge	Layer 2 Bridge NAT Gateway
Networking Features	DHCP SNMP	Bandwidth Control based on MAC addresses NAT Firewall DHCP Client/Server VPN pass through DDNS Sys log SNMP
Software Upgrade Path	Remotely downloaded into FLASH via RF link	Remotely or Local downloaded into FLASH via Ethernet link
Network Management	HTTP, TELNET, FTP, SNMP	HTTP, SNMP Open NMS EZ Manager

Enclosure	weatherproof	NEMA 4, ruggedized weatherproof
Operating Temperature	-40°C to +55°C	-20°C to +70°C
Weight	1 lb. (.45kg)	7 lb. (3.2kg)
Dimensions	11.75" H x 3.4" W x 3.4"D	8" H x 7.5" W x 2.5"D
Surge Protection	External Module	Integrated Unit
Regulatory	FCC, CE	FCC, CE, or by Authorization
Fiber Transceiver Support	No	YES (Single or Multi Mode)
Zigbee, GPS Integration	No	YES (Embedded optional)
Max Radio Support	1	2 (Dual slot Mini PCI radio)
Special Frequencies Integration	No	YES (UDC daughter card integration)
Power Amplifier Integration	No	YES (Amplifier daughter card Integration)
Extreme Low Temperature Control	No	YES (Built in heater)
Mesh Protocol	No	YES (OLSR)
System Architecture	Proprietary	Linux (SDK will be available upon special arrangement for user's own development)

TELETRONICS
INTERNATIONAL, INC.

Bolivia Internet Wi-Fi System



TELETRONICS INTERNATIONAL, INC.

Entel S.A. Wi-Fi System Cities



- Santa Cruz:
  - Population: 1.2MM citizens
  - Coverage: 60 Km²
  - Build Time: 6 months (Towers) / 3 Years (Clients)
  - 23 Wi-Fi Towers with 3 Base Stations each.
  - Wi-Fi Subscribers/Client Stations: 4,140
- Cochabamba:
  - Population: 835K citizens
  - Coverage: 120 Km²
  - Build Time: 5 months (Towers) / 2 Years (Clients)
  - 16 Wi-Fi Towers with 3 Base Stations each.
  - Wi-Fi Subscribers/Client Stations: 2,140
- La Paz:
  - Population: 850K citizens
  - Coverage: 120 Km²
  - Build Time: 6 months (Towers) / 3 Years (Clients)
  - 25 Wi-Fi Towers with 3 Base Stations each.
  - Wi-Fi Subscribers/Client Stations: 4,140

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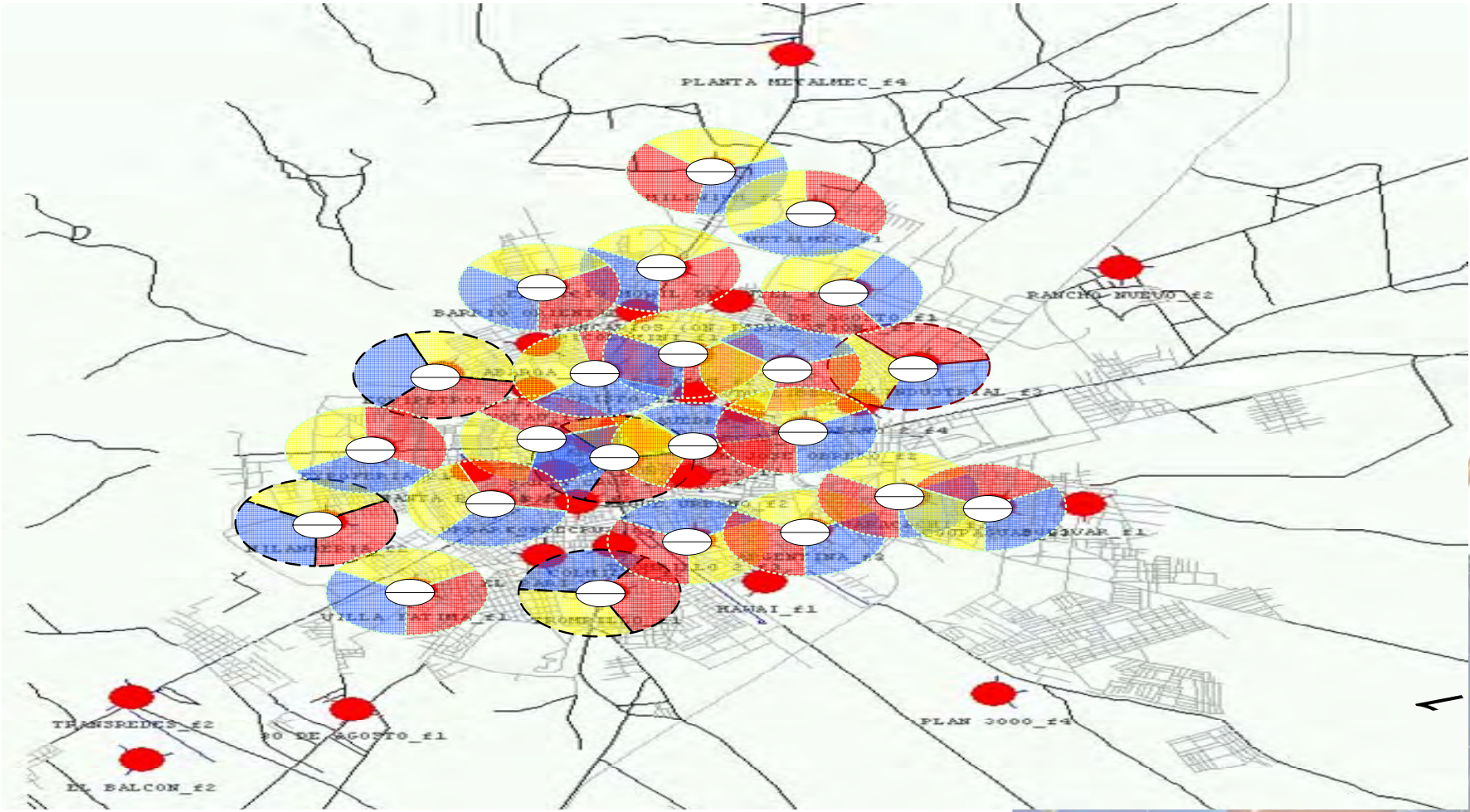
Wi-Fi System Santa Cruz Coverage



WWW.TELETRONICS.COM

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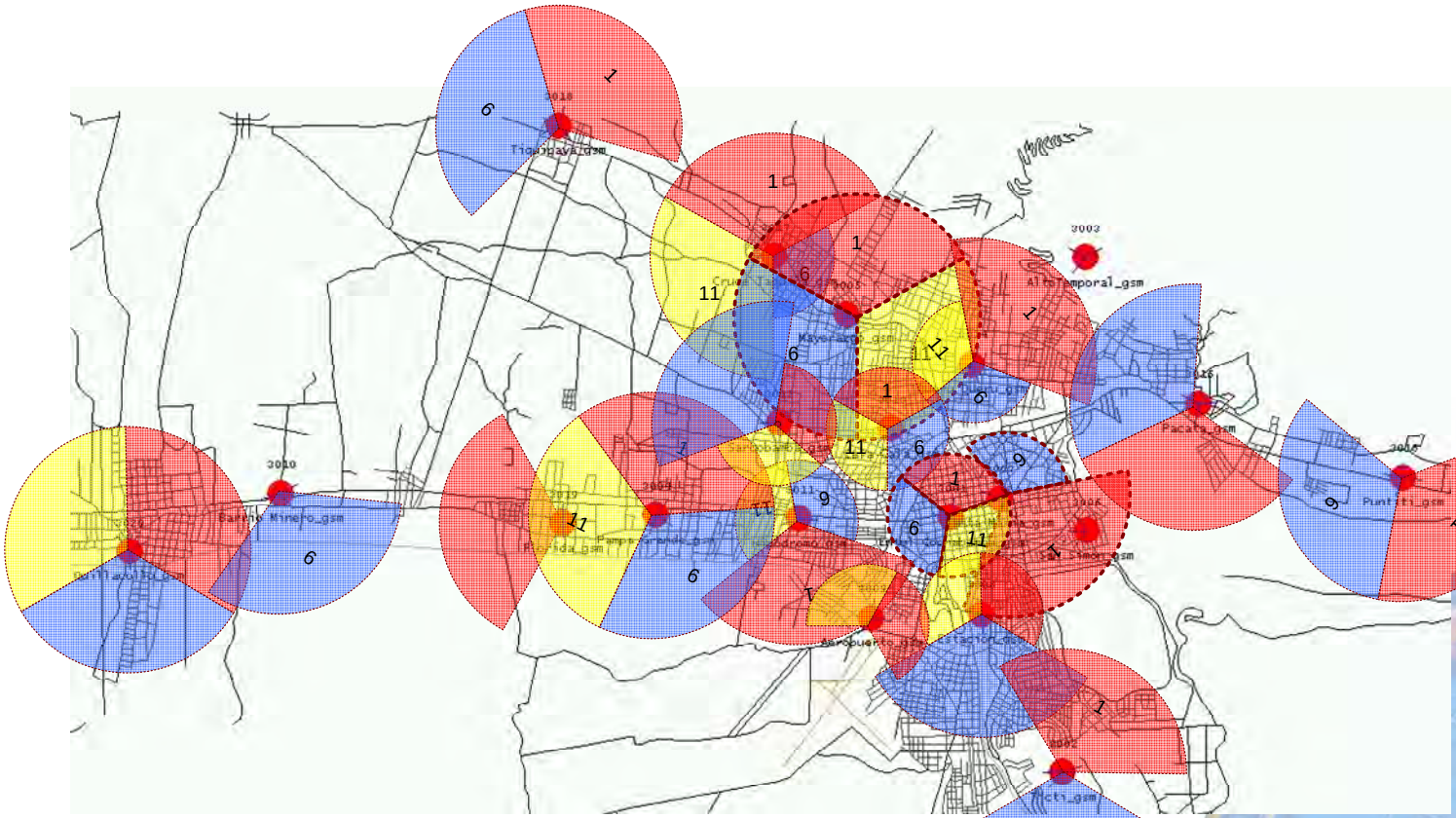
Wi-Fi System Cochabamba Coverage



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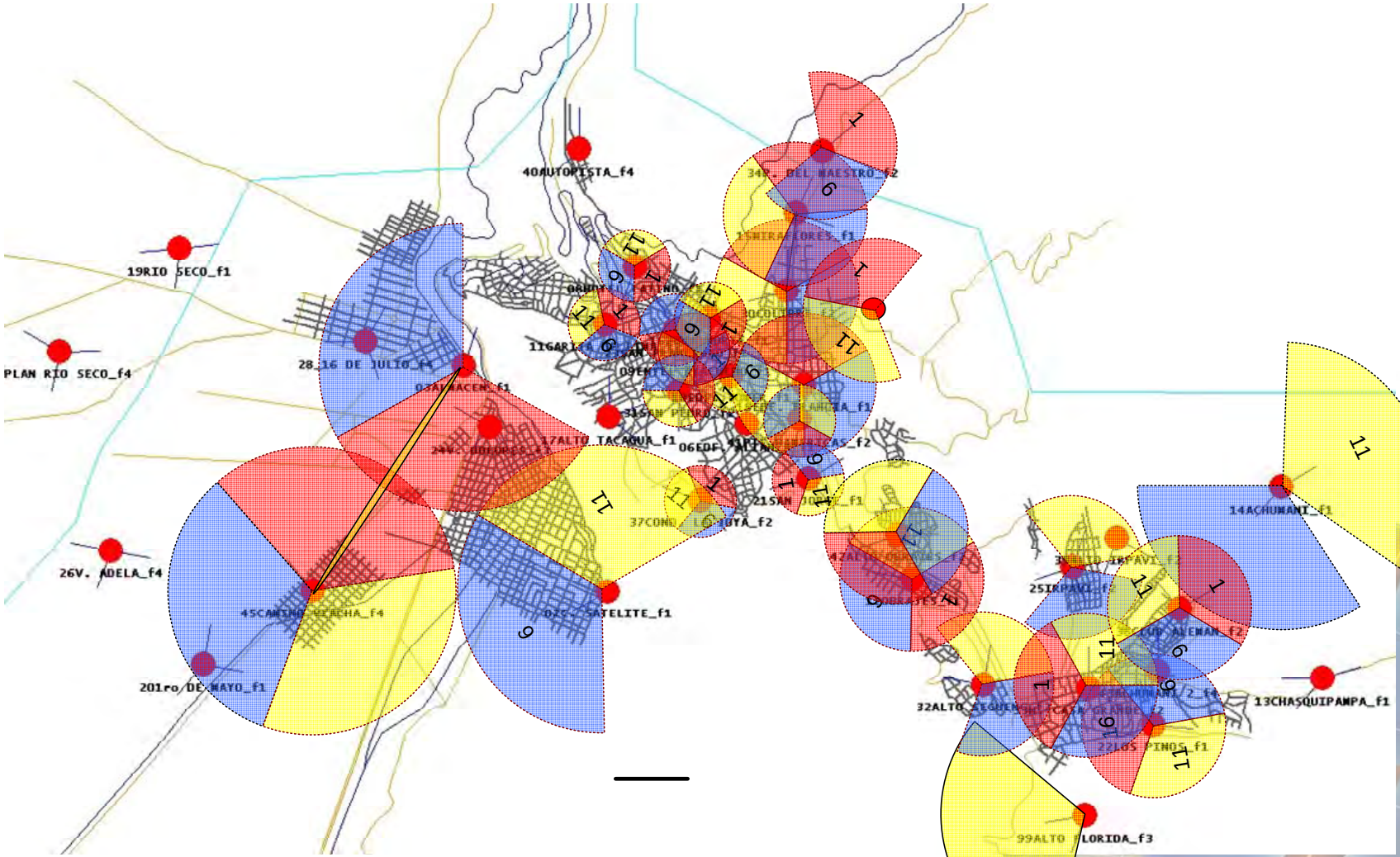
Wi-Fi System La Paz Coverage



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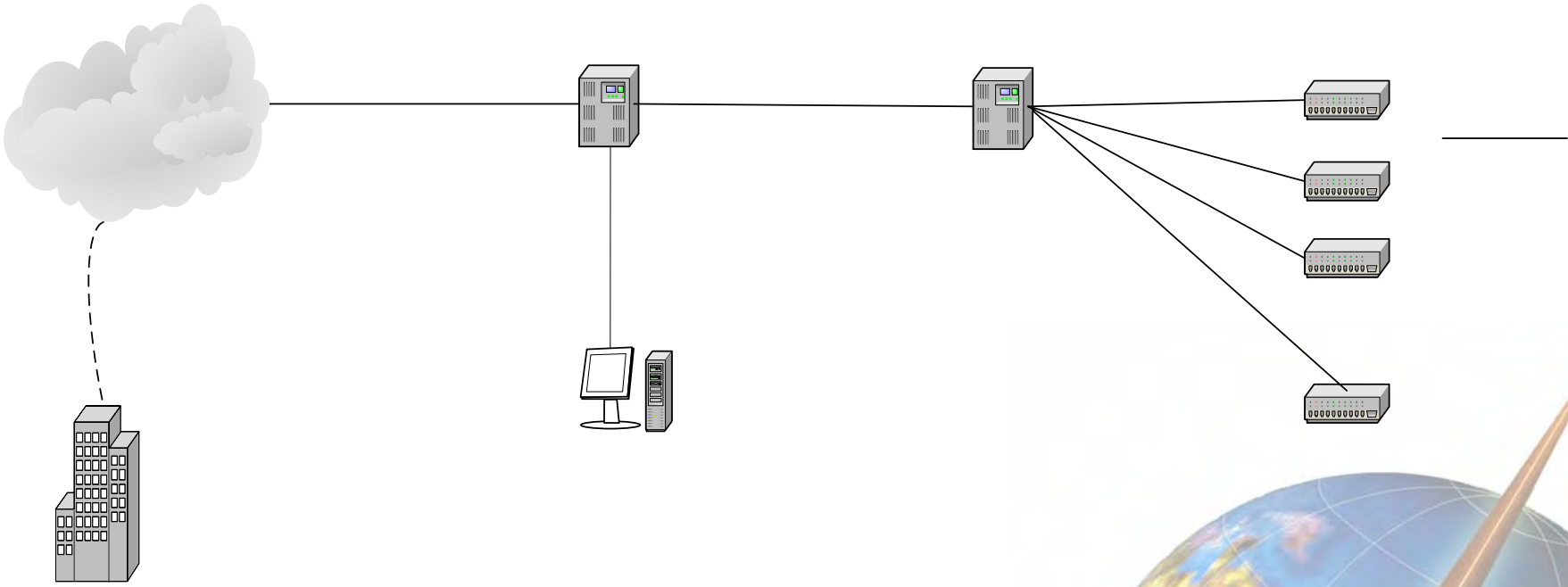
Sample City NOC



INTERNET

STM-1 (155Mbps)

CISCO UAC 6400
IP: 200.87.253.58

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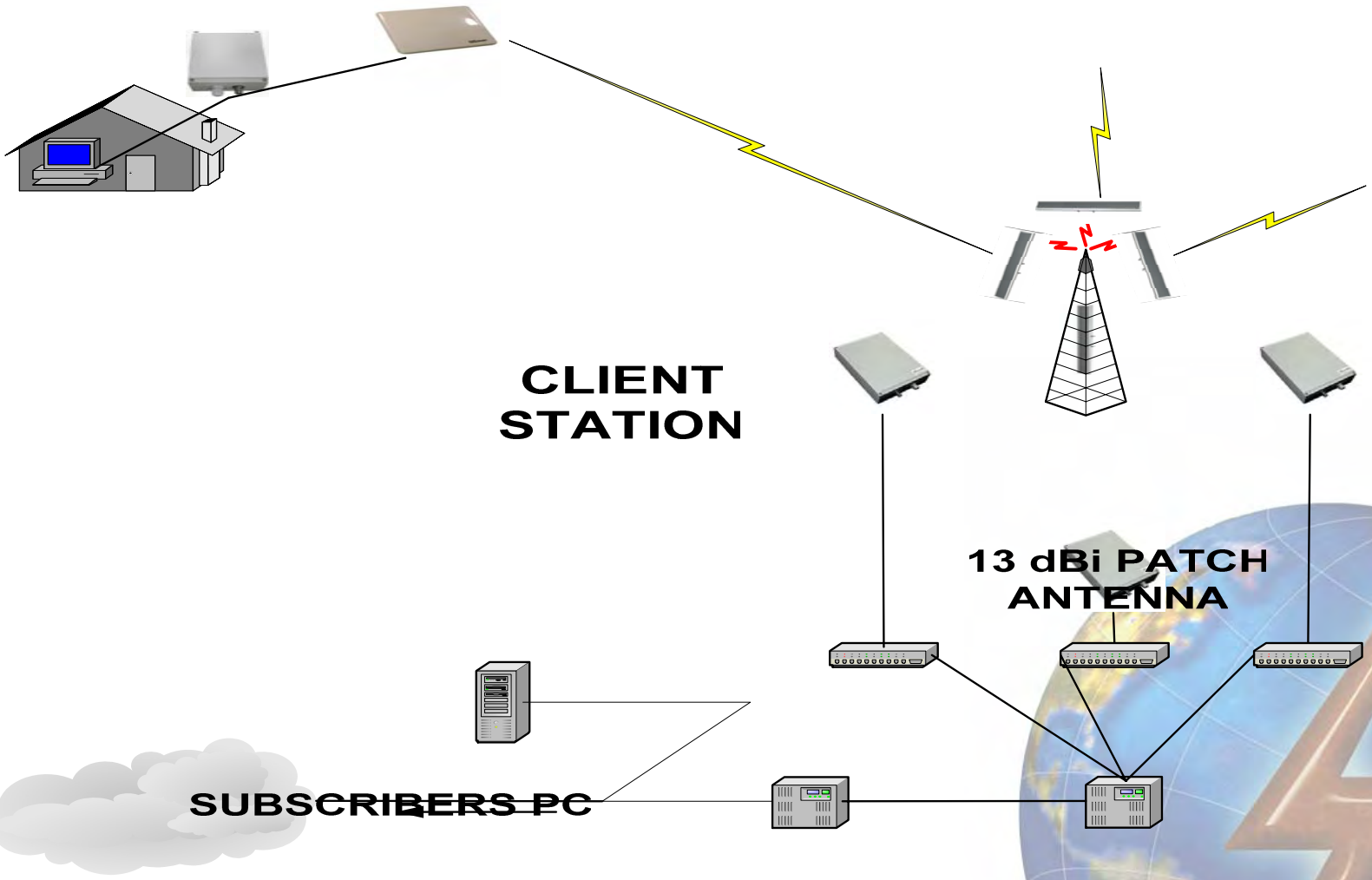
Standard City Tower Setup



TELETRONICS INTERNATIONAL® INC.



SAO CARLOS
DIGITAL CITY

TELETRONICS INTERNATIONAL® INC.

SAO CARLOS CITY

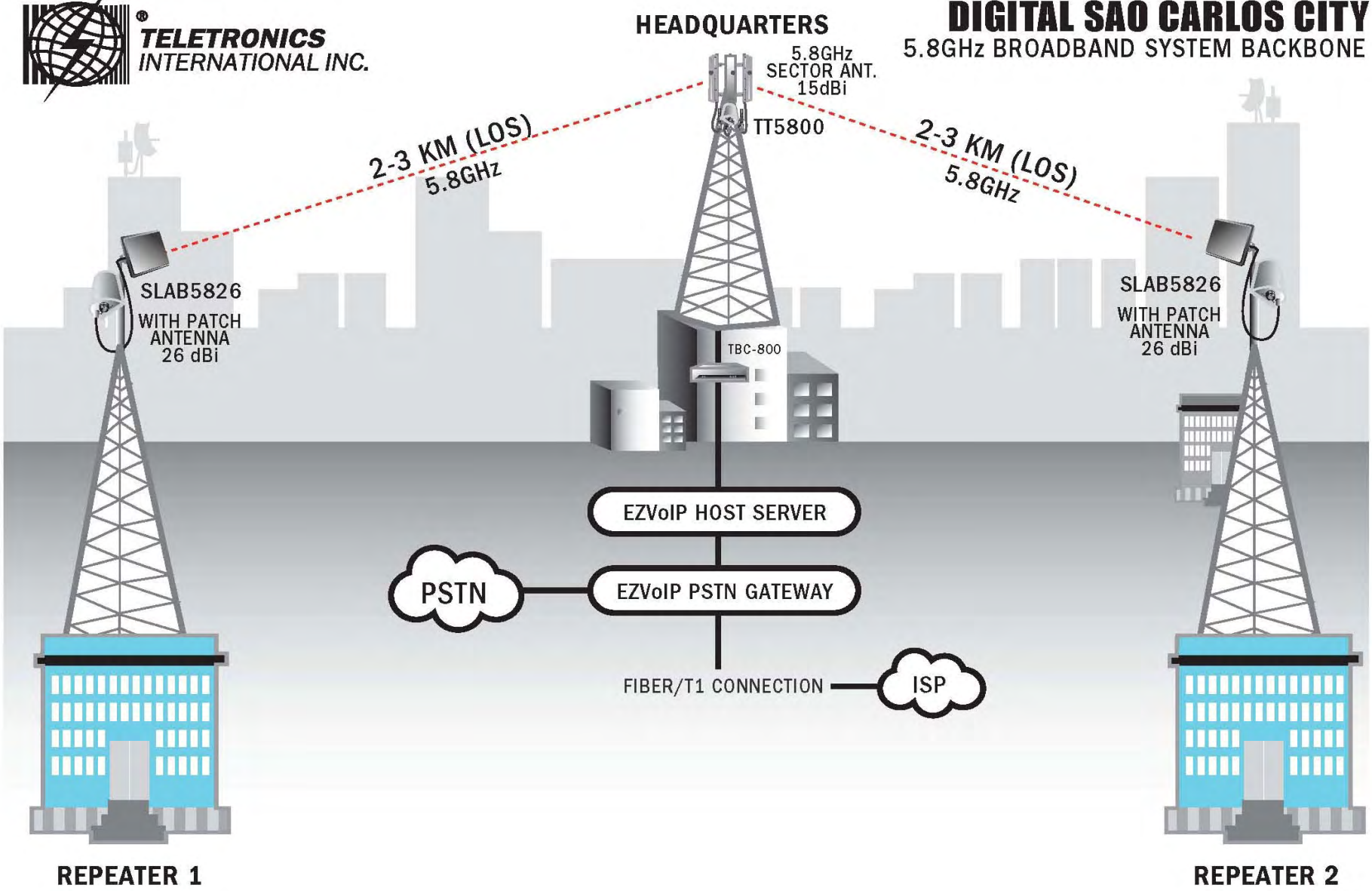
- LOCATION: Sao Paulo state, Brasil.
- POPULATION: 250k citizens
- AREA: 1.141 km²
- ELEVATION: 850m
- ECONOMY: Industrial, Factories, Technology, Agriculture, Universities (UFSCAR, USP), Commercial, Entertainment.



TELETRONICS INTERNATIONAL INC.

DIGITAL SAO CARLOS CITY

5.8GHz BROADBAND SYSTEM BACKBONE



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2 Choke Cherry Road, Rockville, MD 20850 Tel: 301.309.8500 Fax: 301.309.8851

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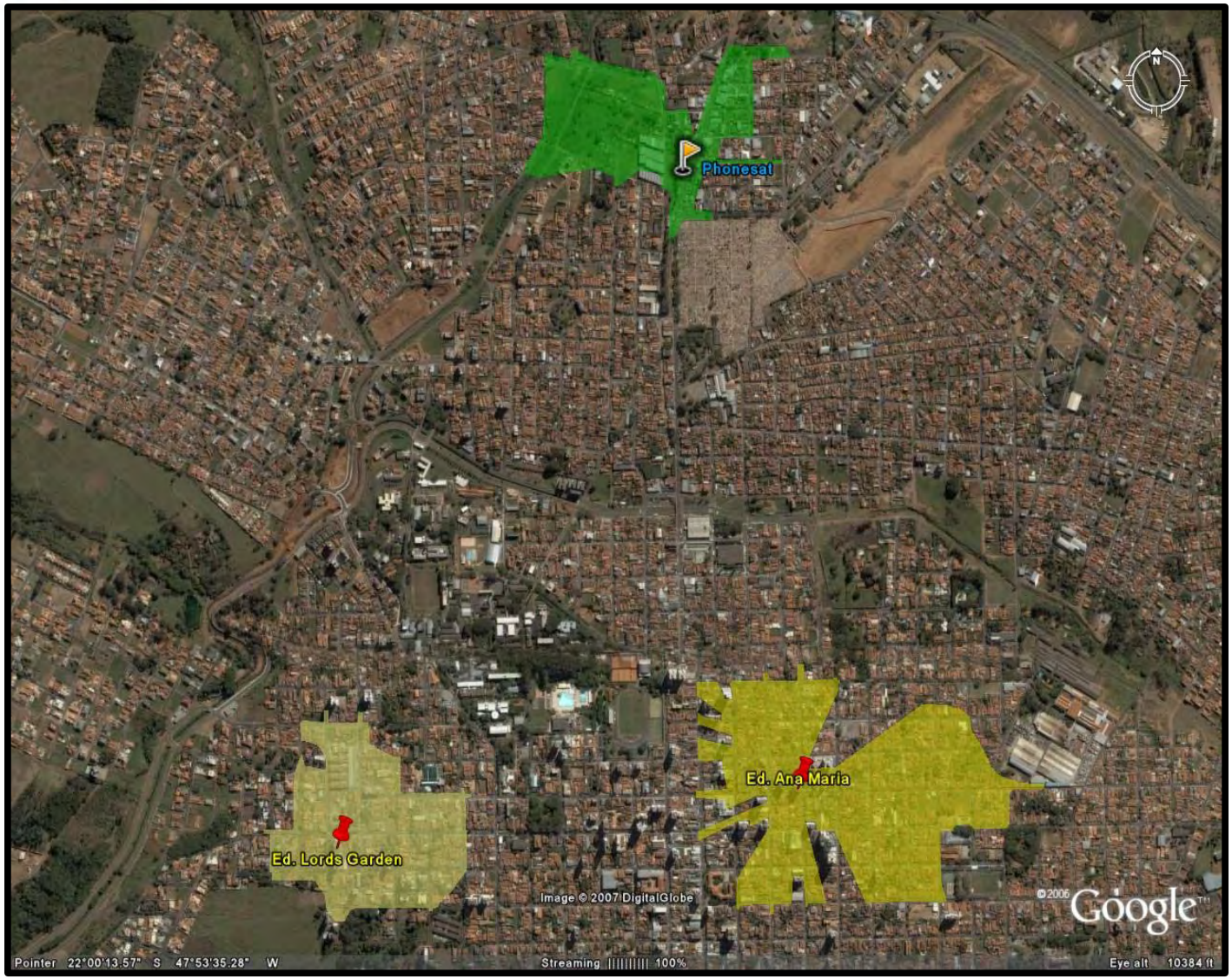
WIRELESS SYSTEM 2.4GHz WIFI COVERAGE



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DIGITAL SAO CARLOS CITY

2.4GHz BROADBAND SYSTEM COVERAGE



LEGEND

- RED COLOR = MAIN TOWER
- PURPLE COLOR = REPEATER TOWER
- GREEN AREA = CHANNEL 1
- YELLOW AREA = CHANNEL 6
- BLUE AREA = CHANNEL 11

TELETRONICS INTERNATIONAL® INC.

WIRELESS BROADBAND EQUIPMENTS

- BACKBONE:
  - 2 TT5800 BASE w/Sector 15 dBi
  - 2 SLAB5826 Subscriber Unit



TT5800



SECTOR 5815



TT5826

- REPEATERS:
  - 3 TT2400 BASE W/Sector 12dBi



TT2400



SECTOR 2412

- SUBSCRIBER:
  - SLAB2419 Subscriber Unit



TT2419

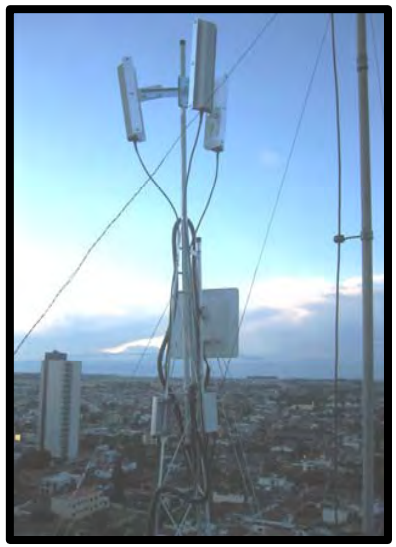
WIRELESS SYSTEM INSTALLATION



PhoneSat Tower



Long Garden Tower



Ana Maria Tower

TELETRONICS INTERNATIONAL® INC.

WIRELESS SYSTEM INSTALLATION



PhoneSat Building



Long Garden Building



Ana Maria Building

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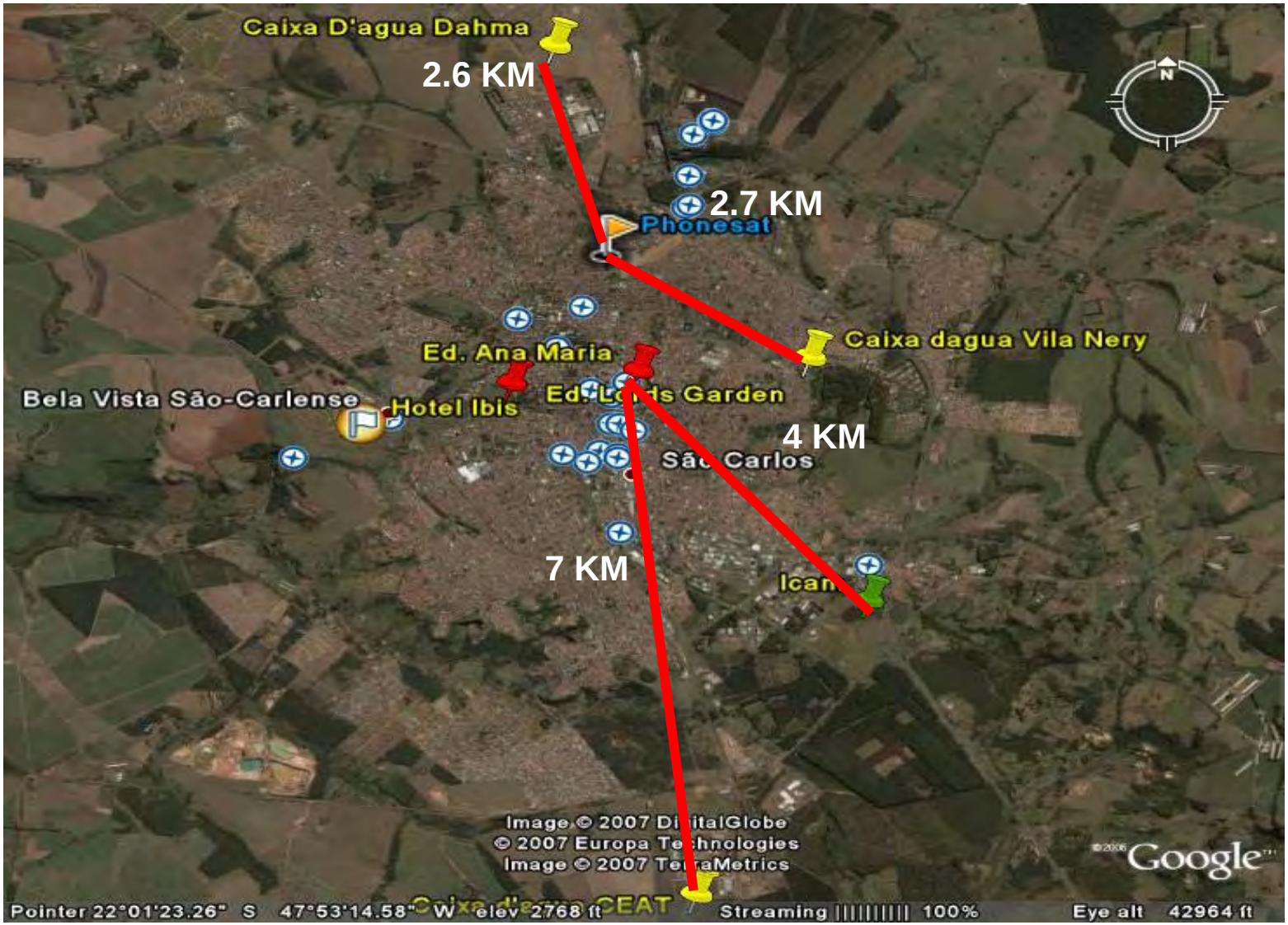
WIRELESS SYSTEM NEW BACKBONE EXPANSION



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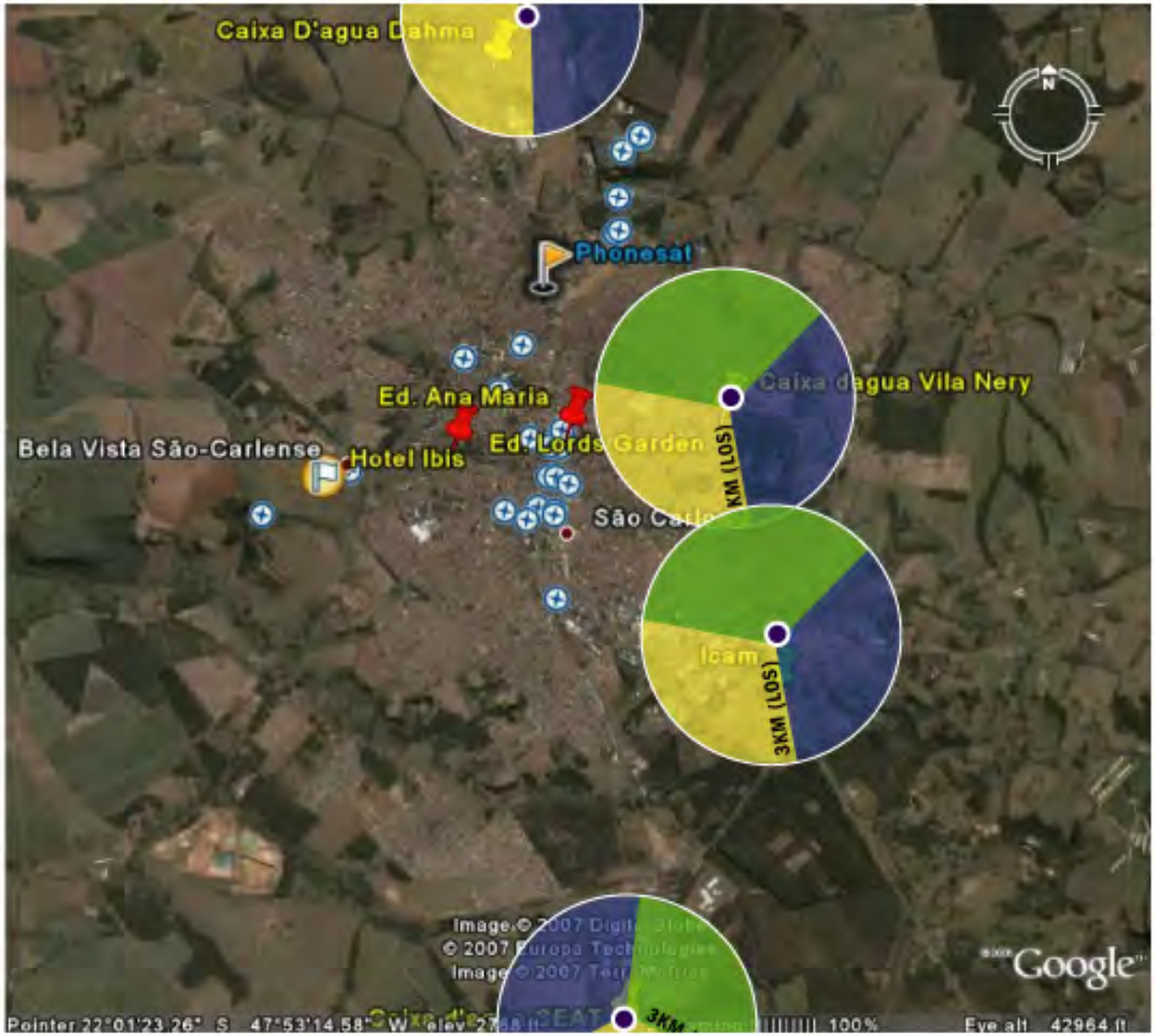
DIGITAL SAO CARLOS CITY

2.4GHz NEW BROADBAND SYSTEM COVERAGE



LEGEND

- PURPLE COLOR = REPEATER TOWER
- GREEN AREA = CHANNEL 1
- YELLOW AREA = CHANNEL 6
- BLUE AREA = CHANNEL 11



The Call of Wireless Internet!

WiFi Internet access isn't just for cafés, airports, homes and hotels. Now your boat can be a HOT performer in wireless Internet as well as on the water. With Syrens, "high speed" means a lot more than boat speed. Syrens Onboard WiFi equipment and built-in software find and lock on to the public hot spots within miles of your slip, mooring or anchorage. Syrens keeps you connected with high speed WiFi Internet for email, downloads, Internet browsing and even voice-over-Internet-protocol (VoIP).

- **The finest marine WiFi equipment and built-in operating software available anywhere.**
- **Easy-to-use interface simplifies identifying and selecting accessible hotspots. No software to install.**
- **Complete onboard system includes electronics, marine antenna, stainless steel mount (EC and EC-AP Series), antenna cable, 12 VDC power cable, Ethernet cable, Syrens built-in software, operator's manual (on CD), One-year limited warranty.**
- **EC and Access Point systems come in standard and high-power (up to one watt FCC maximum).**
- **Suitable for VoIP (Voice-over-Internet Protocol).**



Syrens Onboard WiFi ECAP Series.

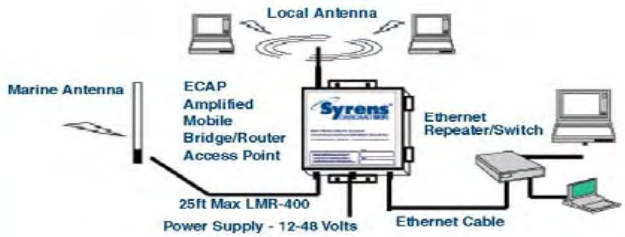
Syrens™ Onboard WiFi EC Series functions as a marine-ready, wireless bridge and Ethernet converter in one package. Three different models offer power and range options to fit your performance requirements, as well as your budget. Syrens built-in software makes it easy to scan all the available WiFi providers in your area and lock on to the open hotspot you choose.

The Syrens™ Onboard WiFi Access Point (AP) system is a bridge, router and access point in single, compact unit. Two models varying in power and range give you all the functionality of the EC Series plus an Access Point radio and antenna that turn your boat into a virtual hot spot to wirelessly reach onboard computers and laptops.

Marine features and specifications

- NEMA 4 rated enclosure (8.75 in X 8.75 in X 2.6 in)
- 802.11/b&g standard radio (11 Mb/s) at 2.4 GHz
- Operating temperatures range 0° to 60°
- Single Ethernet port with DHCP server & interface cable
- 25 ft. LMR-400 antenna cable (EC-LITE 15 ft. LMR-240)
- 12 VDC power cable
- 2.4 GHz omni directional marine antenna & mount
- Web-based configuration and management





Technical Specifications

EC characteristics	EC01	EC01-HP	EC-LITE
802.11 standard	802.11/b/g	802.11/b/g	802.11/b/g
Transmit output	+26dBm (400mW)	+30dBm (1watt)	+23dBm (200mW)
Receiver sensitivity @ 11Mb/s	-89dBm	-107dBm	-89dBm
Receiver sensitivity @ 2Mb/s	-93dBm	-111dBm	-93dBm
Antenna connection	N female	N female	RP SMA
DC operating voltage	12 volts to 48 volts	12 volts to 48 volts	12 volts to 16 volts
Power consumption	15 watts	25 watts	15 watts
PoE 802.3af available for 110/220v operation	yes	yes	yes
Range from suitable hot spot*	5 miles	10 miles	3 miles

ECAP characteristics	ECAP	ECAP-HP
802.11 standard	802.11/b/g	802.11/b/g
Bridge Transmit output	+26dBm (400mW)	+30dBm (1watt)
Bridge: Receiver sensitivity @ 11Mb/s	-89dBm	-107dBm
Bridge: Receiver sensitivity @ 2Mb/s	-93dBm	-111dBm
Bridge: Antenna connection	N female	N female
AP: Transmit output	+24dBm (250mW)	+24dBm (250mW)
AP: Receiver sensitivity @ 11Mb/s	-89dBm	-89dBm
AP: Receiver sensitivity @ 2Mb/s	-93dBm	-93dBm
DC operating voltage	12 volts to 48 volts	12 volts to 48 volts
Power consumption	25 watts	35 watts
PoE 802.3af available for 110/220v operation	yes	yes
Range from suitable hot spot*	5 miles	10 miles



*Actual distance may be affected by the strength and quality of the hot spot as well as a clear line-of-sight to the boat.
Note: ***ECX*** and ***ECAPX*** systems permitting extended cable runs are also available. Contact Syrens or your Syrens dealer for more information.

Syrens Onboard WiFi electronics and software are manufactured by Fire4 Systems, Inc. of Miami Florida exclusively for Syrens, LLC.

FOR MORE INFORMATION VISIT:
www.syrens-at-sea.com
www.radio-at-sea.com
OR CALL TOLL FREE:
1-800-556-3911

Syrens™ ONBOARD WiFi

radio-at-sea™

YOUR SYRENS DEALER

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Special Systems – Proprietary Frequency and Power, Teletronics Assures High Gain Matching

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TELEVISION. LIVE IT LARGE.

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NATIONAL GUARD

APL The Johns Hopkins University Applied Physics Laboratory

U.S.ARMY

AMERICA'S NAVY

U.S. AIR FORCE

BAE SYSTEMS

DUBAI METRO PROJECT

Procurement Agreement – LETTER OF INTENT

Nr. 09/Metro Dubai/ 2008

for

RF FREQUENCY CONVERTERS FOR BBR SYSTEM

CONTRACTOR
Thales Security Solutions and Services S.p.A.
via Provinciale Lucchese, 33
50019 Sesto Fiorentino
Firenze - Italy

VENDOR
Teletronics International INC.
2 Choke Cherry Road
Rockville, MD 20850
USA


5013








7824



Border / Coast Guard Patrol Surveillance and Emergency Rescue System

August 2009

Presented by:

Teletronics International, Inc. : 2 Choke Cherry Road., Rockville, MD 20850 USA
Tel: 301-309-8500 Fax:301-309-8851 www.teletronics.com

Contact Person: dickson@teletronics.com 301-309-8500 x130

Complete Package

Fully-equip your foot-soldier or patrol boat to respond to any emergency situation





Package includes a complete Helmet Unit with ear phone, microphone, and CCD Camera; and a complete Mobile Backpack Unit with antenna and transmitter.

Equipment Unit – Subsystems/Accessories

All packaged for easy transport and operation; portable power unit included.



VIDEO SERVER & TRANSCEIVER BOX



19V Charge & 12V/5V Supply



Connecting Cables



3.5” LCD & 12V Charges

On-Site Unit

Example of Indoor Application in a Basement or Tunnel

Fully-Equipped View





On-Site Unit

Example of Outdoor Application at Rail Road Tracks



The Gateway Base Station

Headquarters can be regional or national and allow controlled Internet access

Typical view--- Antennas and Building



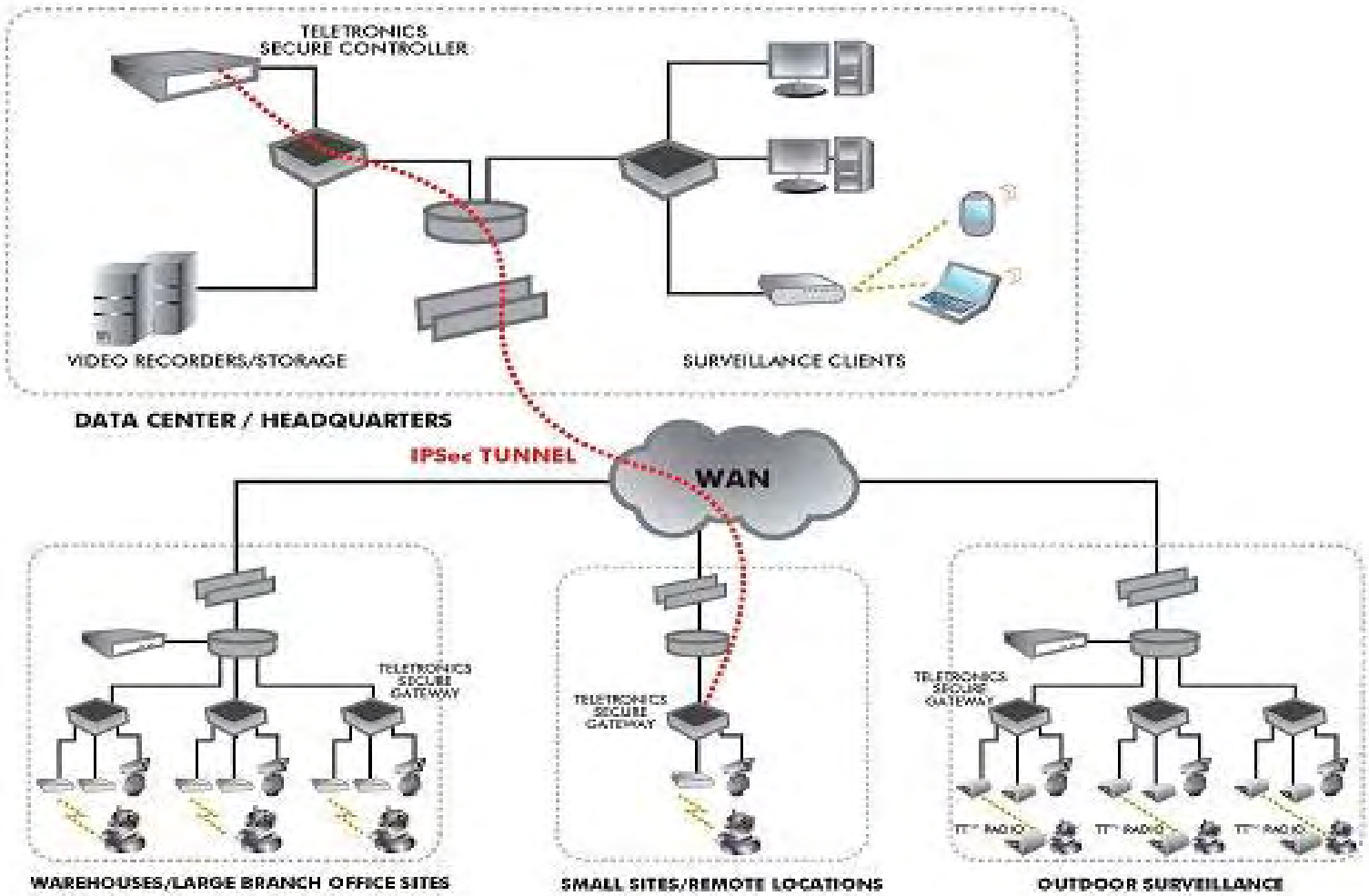
Installation on a tower or tall building. The base station will have fiber or microwave connectivity provided by a Telco.

Patrol System Unit Specifications

Video and Voice	Compression	MPEG-4 SP, MJPEG selectable
	Speed	Adjustable 28 K- 3 M bps, 30 fps at full D 1 resolution (NTSC) 25 fps at full D 1 resolutions (PAL)
	Resolution	Full D 1 (720 x 480 in NTSC, 720 x 576 in PAL) CIF (352 x 240 in NTSC, 352 x 288 in PAL) QCIF (160 x 112 in NTSC, 176 x 144 in PAL)
	Video trans.	CVBS, 1.0Vp-p with 75 Ω loading
	Format	NTSC or PAL
	Channel No.	One
	Two-way voice	8 kHz, Mono, PCM Unbalanced, 1.4 Vp-p, 1Vrms
Network	Protocol	TCP, UDP, IP, HTTP, DHCP, PPPoE, RTP, RTSP
	User privacy	Password protection: configured by the administrator
	Security	WPA/WPA2, 64/128 bit WEP, MAC Address Filter,
Battery	Voltage and Amperage	Li-ion 13000 mA, in put: 100-240V, 19mA, output: 5V, 12V
Power	Consumption	7.5W
	Operating period	7-8 hours
Radio Transceiver Speed	EEE802.11b	11, 5.5, 2, and 1 Mbps
	EEE802.11g	54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, and 1 Mbps
Transceiver Power	802.11b mode	22dBm (+/- 3dB) @ 1/2/5.5/11Mbps
	802.11g mode	21dBm (+/- 3dB) @ 54 Mbps
Operation		point to point, point to multi point
Antenna		Selectable, Unidirectional/ Directional

Surveillance and Security

Teletronics' VPN (virtual private network) prevents snooping and securely delivers data only to designated recipients



TELETRONICS INTERNATIONAL INC.
www.teletronics.com

China Market – Everybody gears up to IPO, Teletronics provides strategic wireless value addition

北京中运人安消防设备有限公司

OUTRACE 奥其斯 奥其斯集团 OUTRACE GROUP

i'm lovin' it
我 就 喜 欢

安徽易科技术有限公司
ANHUI E-COM TECHNOLOGY CO., LTD

山东黄金 SD-GOLD

Shenglu
广东盛路通信科技股份有限公司

上海数传信息技术有限公司
Shanghai Digital Transmission Information Technology Co.,Ltd

HI-LINK Hi-Link Communications,Inc
HI-LINK COMMUNICATIONS

GRAND HALO TECHNOLOGY CO.,LTD.

TELETRONICS INTERNATIONAL® INC.



We Give Life to Broadband Wireless

Underground Mobile Telecommunications

February 2010

Dickson Fang (dickson@teletronics.com)

301-309-8500 x 126

Status of Underground Mobile Telecommunications

- As people and business expansions are going vertically toward outer space, a likewise amount of expansions are underway vertically downward beneath the earth, deeper and deeper.

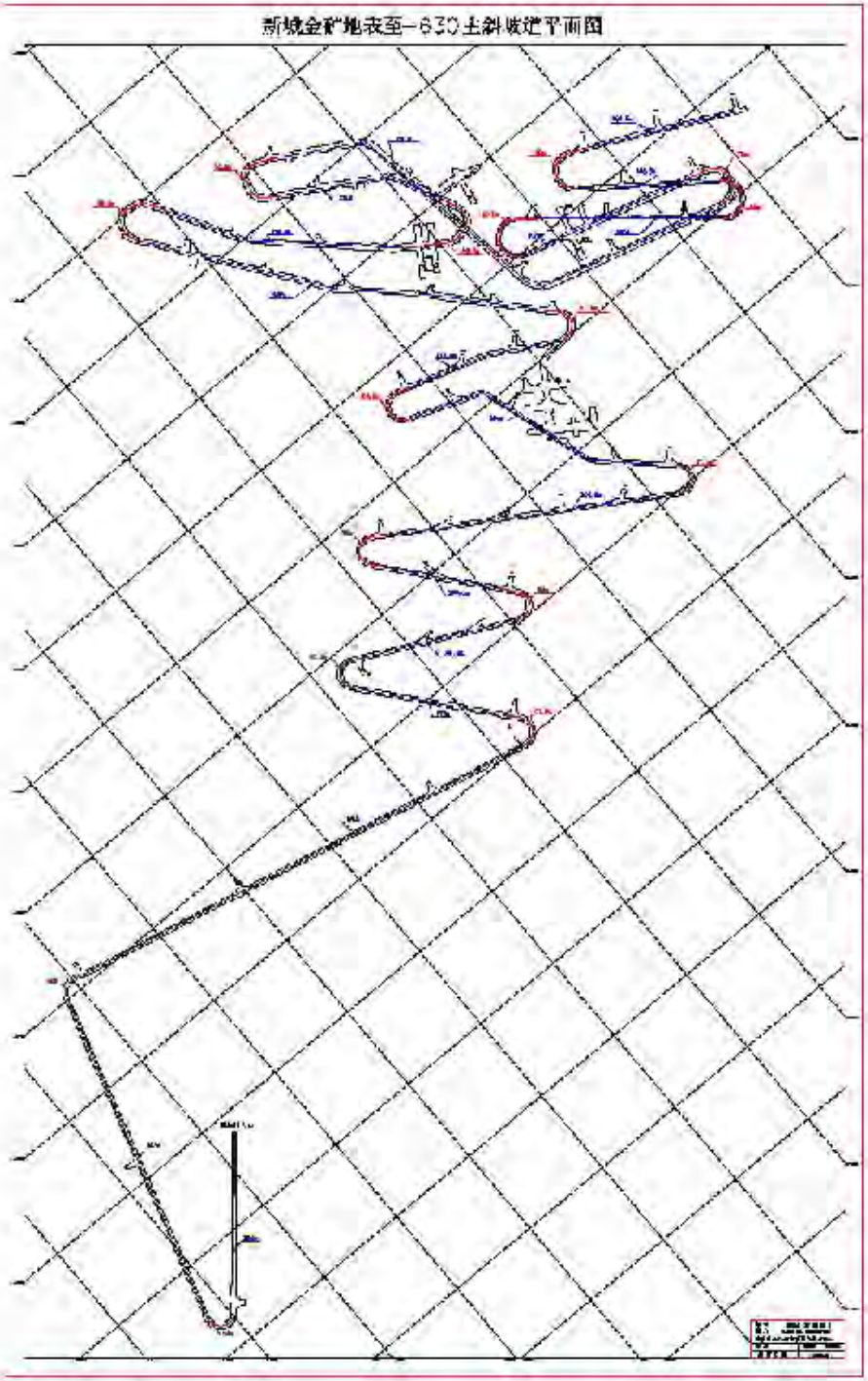
- Examples are all kinds of mines, from coal to gold; tunnels; wells; metropolitan subways; pipelines; cables; underground/undersea complexes; warehouses and cities.

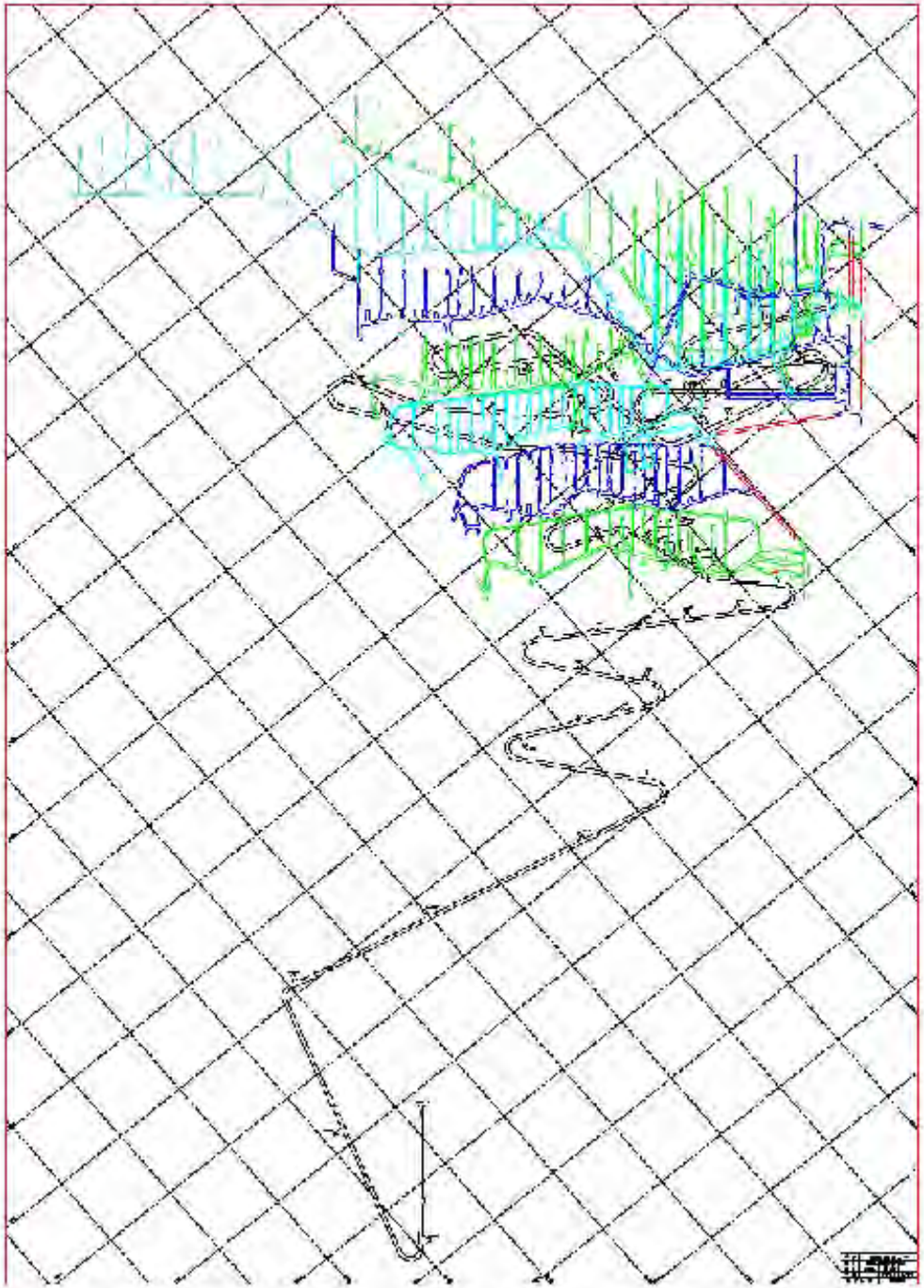
- The utmost concerns for underground activities are environmental safety, accidental explosive prevention and emergency rescue measures. Vital subjects that rely on underground mobile telecommunications include: environment, security, location identification, environmental comfortability, emergency exits, out-side world connectivity.

- Now is the time to focus on underground mobile telecommunications, particularly in China, since
  - China has an urgent need as mine accidents become increasing detrimental to the country
  - High exposure and high return on investment in China as well as in other parts of the world.

The Sad Story in China- The Most Dangerous Job in the World!

- China produces over 35% of the world's coal, but reports 80% of the total mine accident death of the world.
- Total annual death for miners are over 2,000 each year. Most recently the worse accidents were 74 death in Shanxi in February of 2009, 35 death in Henan in September of 2009, and over 100 death in Heilung Zhiang in November of 2009
- Cause-Lack of effective underground telecommunications is the prime factor for failure to
  - Timely monitor and mitigate environmental conditions
  - Effectively identify locations of personnel when accident occurs,
  - Activate and Deliver of rescues.
- Solution-Effective broadband underground communications system, such as the one developed by Teletronics International, Inc.


新城金矿地表至-630土斜坡道平面图



Fiber vs Wireless

- The Shortcoming of Fiber
  - Not always there, not easy to install in underground environment.
  - Always behind time, mining and other underground operations are dynamic, mobile and instant.
  - Maintenance challenges, once a fiber gets cut, the entire loop is down.
  - Expensive, you need to have a maintenance crew standby all the time.
  - Not reconfigurable, no flexibility, difficult to upgrade
  - Unable to reinforce resources to meet local emergencies, search and rescue missions.
  - Logistic problem for fiber deposition when you seal a retired section of the mine, not to mention the entire mine.
- Using underground broadband wireless means, although which can only be correctly implemented by seasoned professionals, does mitigate the entire shortcomings.


新城金矿生产厂区





Teletronics Success at Shangdong Gold Mine in China






- At Shangdong, China, 17 tunnel turns all the way down to deep underground at 600 meters below.
- All wireless without fibers, provides voice, data real time personnel location identification, and emergency rescue directives.
- IP based, simple to reconfigurate, installation and maintain.
- Readily integratiable with all applicational devices such as VoIP phones, surveillance cameras, RFID location identifiers, and compatible with Zigbee and other systems for local operations.

TELETRONICS INTERNATIONAL INC.

Effect on Radio waves

Blockages and Tunneling
Noise, white noise, inband noise, impulse,
Multipath, self interference and mutual interference,
depolarization,
Diffraction,
Scattering,
Refraction,
Signal Strength Reduction, s/n Reductions,
Bandwidth Coherence Degradation, Time Delays,
Occasional –to- frequent Short cutoffs, integrated system mis-synchronization.

TELETRONICS INTERNATIONAL INC.

No magic standard/ typical solutions, since each mine, each configuration, each turn is different

Successful unique operational wireless solution can be achieved by on-site trials of tuning for system parameters for optimization,

Teletronics mine team has gain such valuable experience and become the only team that successfully achieved total stable wireless solution in China.

TELETRONICS INTERNATIONAL INC.

Teletronics Environmental Sensing



Poison Gas



Wind



Humidity



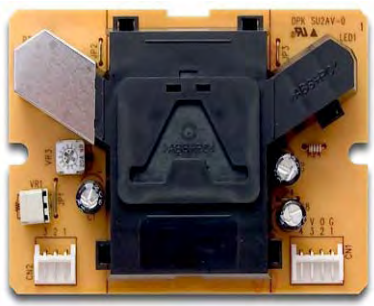
Water



Precipitation



Earth Quake

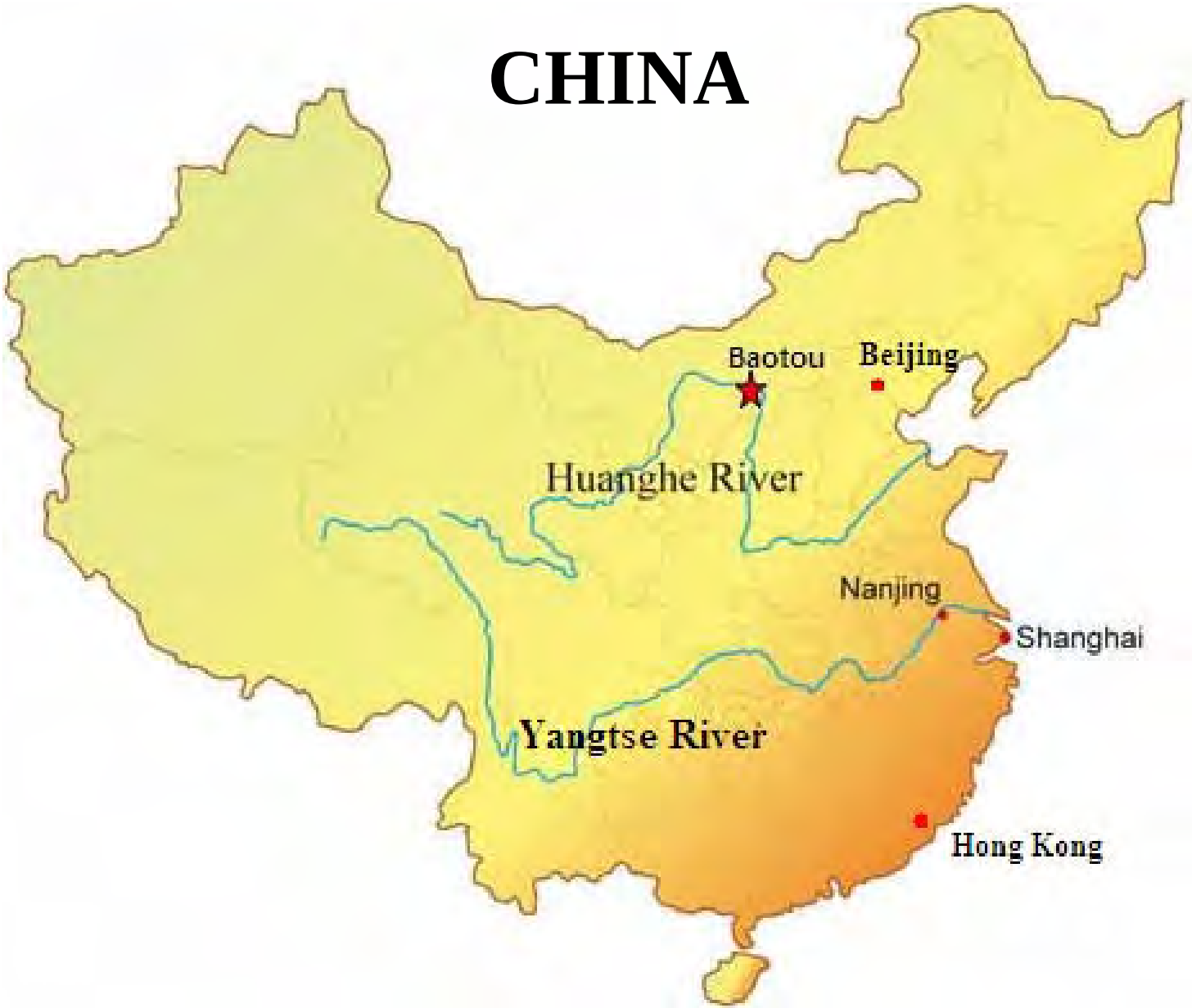


Powder/Dust



Lumination

CHINA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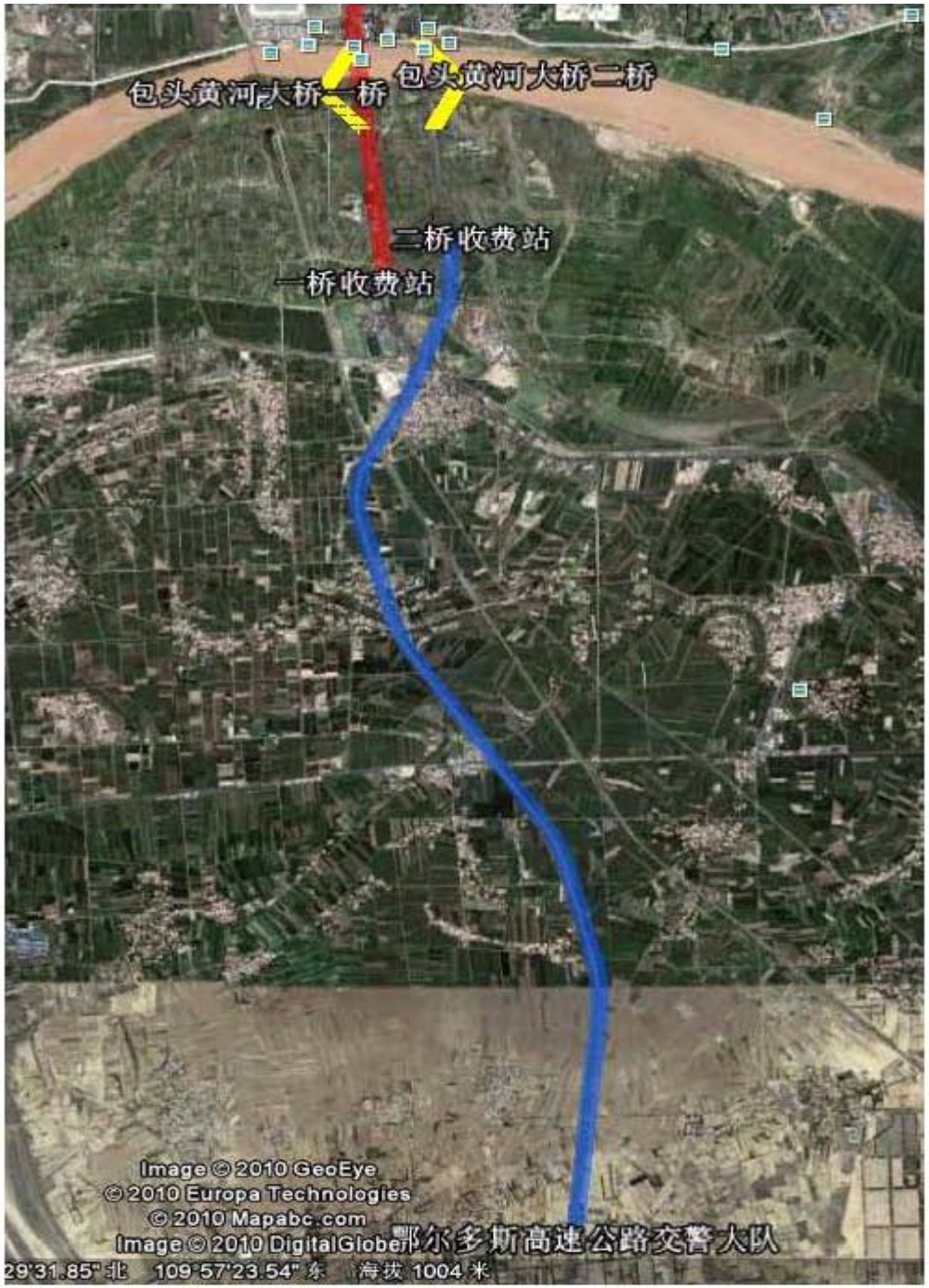
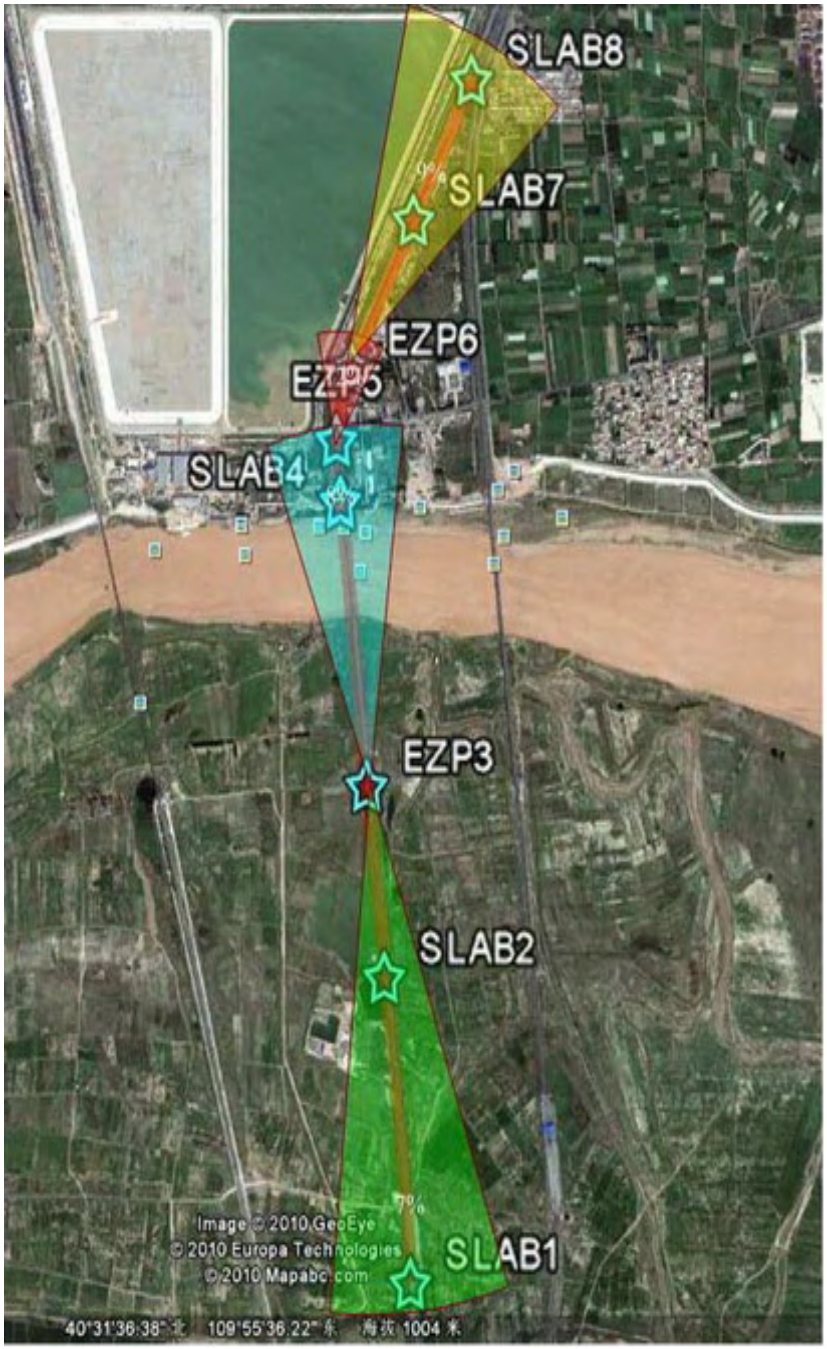
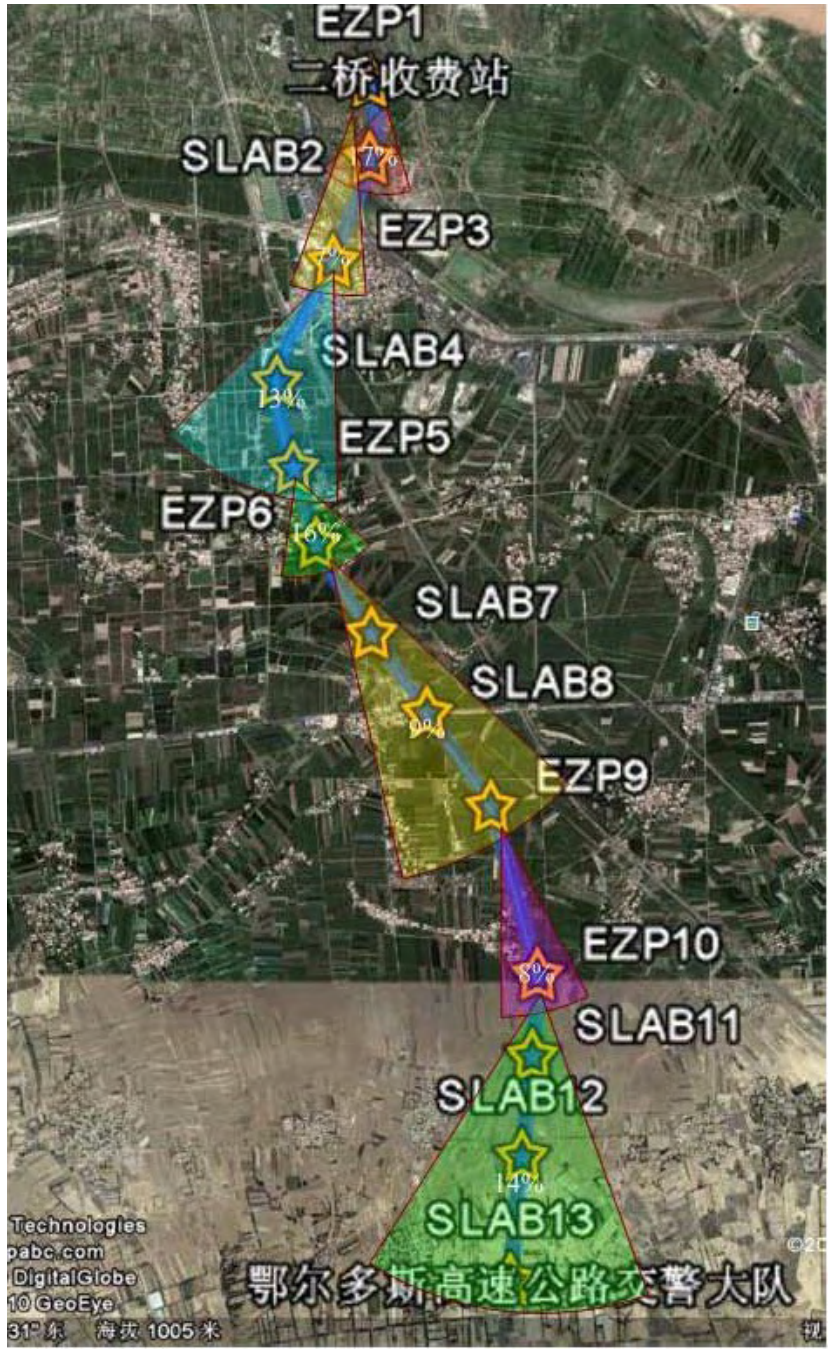
Beijing
Huanghe River
Nanjing
Shanghai
Yangtse River
Hong Kong


包头黄河大桥一桥
包头黄河大桥二桥
二桥收费站
一桥收费站
Image © 2010 GeoEye
© 2010 Europa Technologies
© 2010 Mapabc.com
Image © 2010 DigitalGlobe
鄂尔多斯高速公路交警大队
29°31.85" 北 109°57'23.54" 东 海拔 1004 米


SLAB8
SLAB7
EZP6
EZP5
SLAB4
EZP3
SLAB2
SLAB1
Image © 2010 GeoEye
© 2010 Europa Technologies
© 2010 Mapabc.com
40°31'36.38" 北 109°55'36.22" 东 海拔 1004 米


EZP1
二桥收费站
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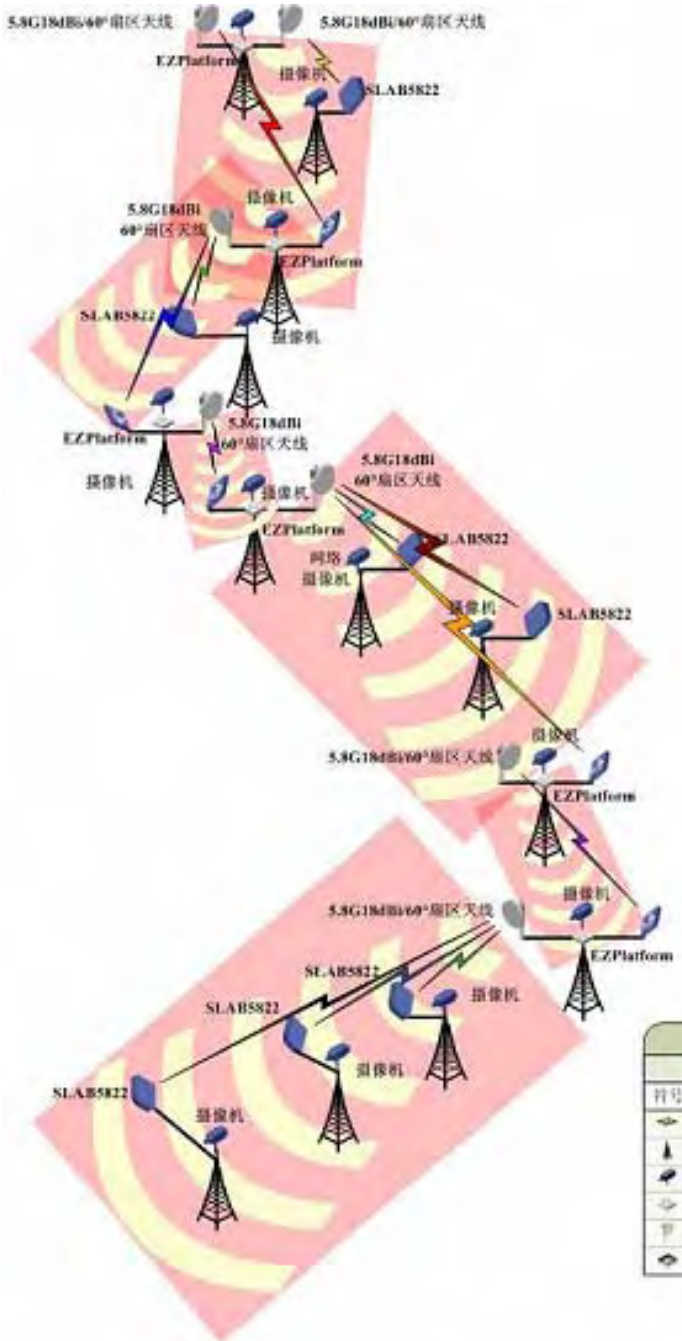
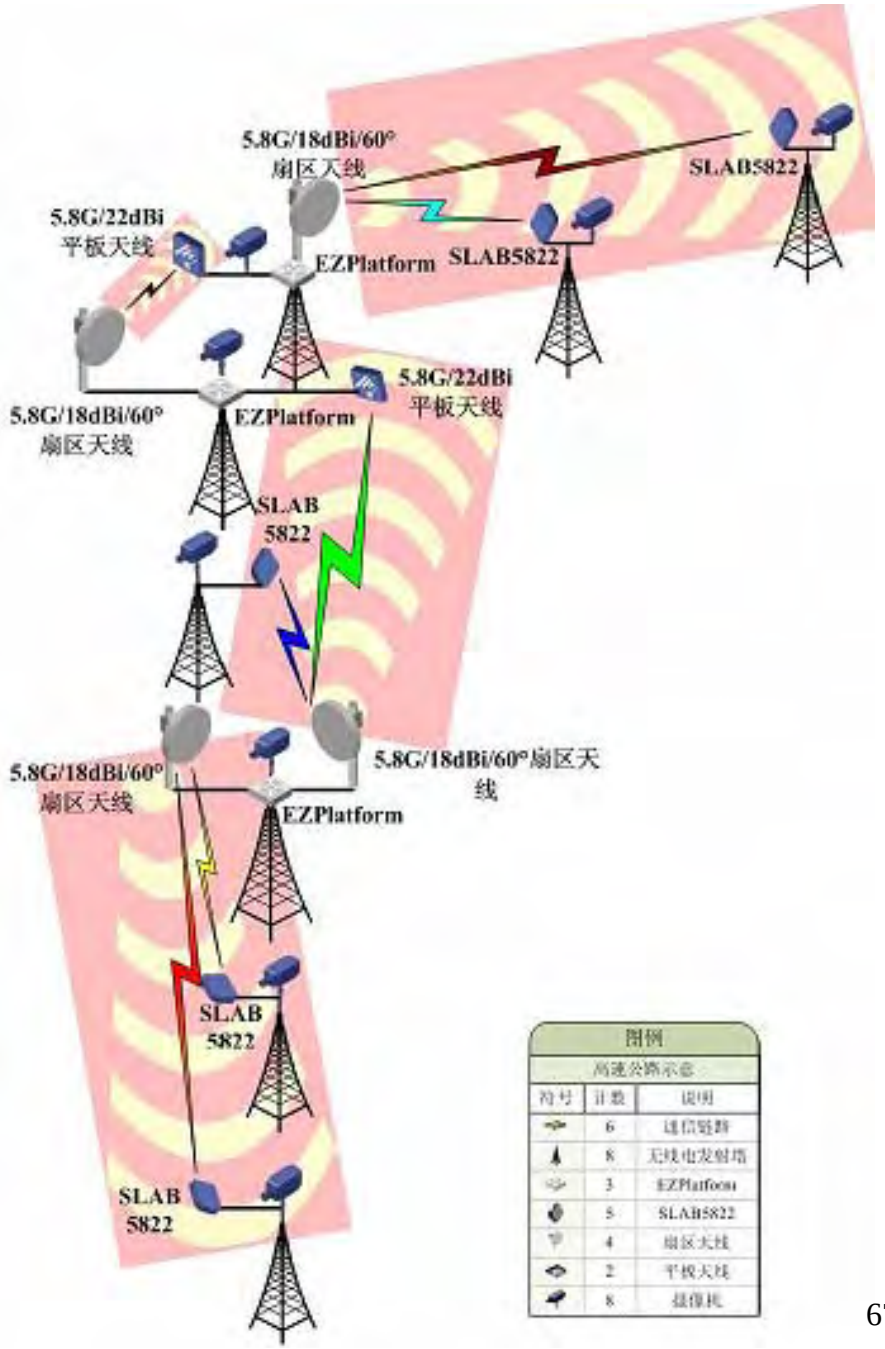
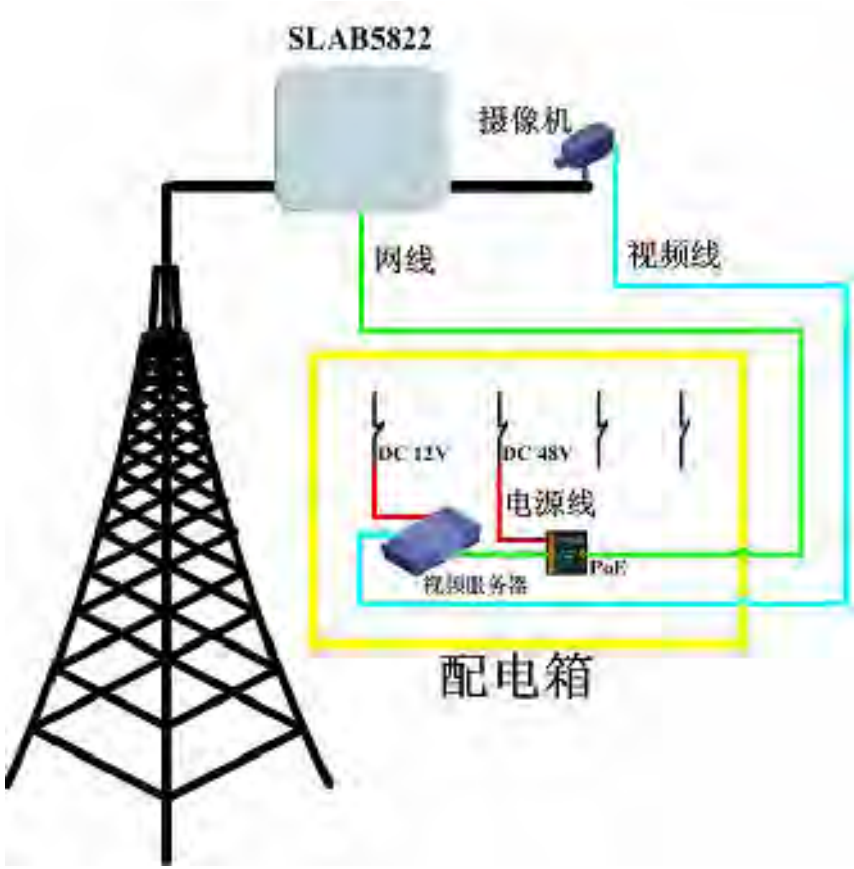
SLAB4
EZP5
EZP6
SLAB7
SLAB8
EZP9
EZP10
SLAB11
SLAB12
SLAB13
Technologies
pabc.com
DigitalGlobe
10 GeoEye
鄂尔多斯高速公路交警大队
31" 东 海拔 1005 米

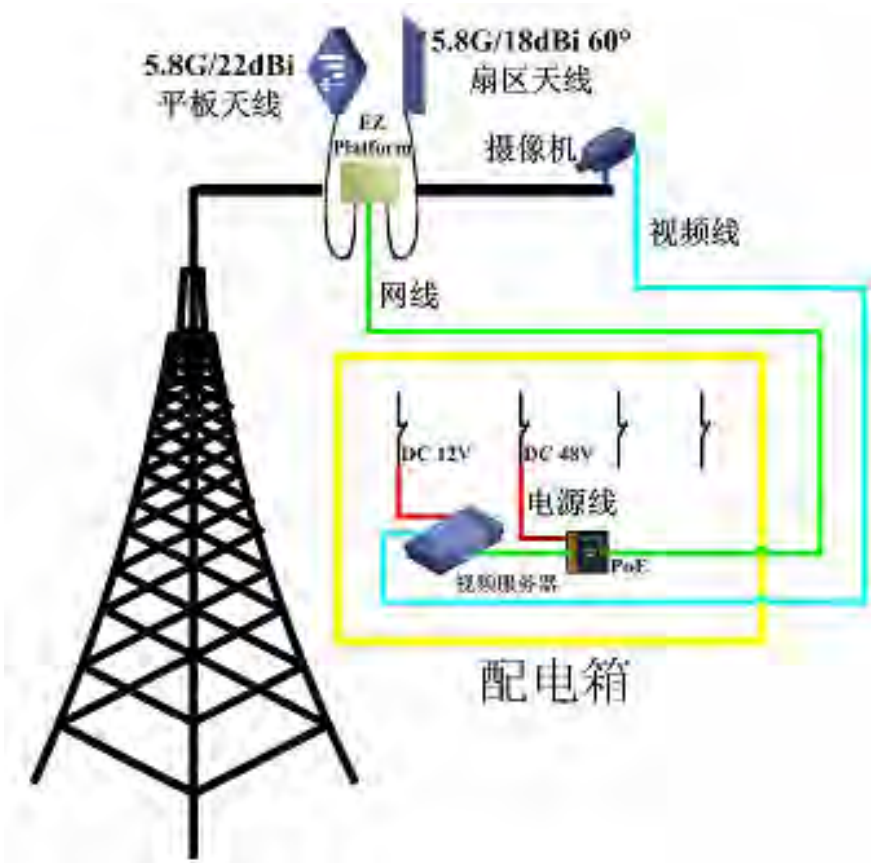


图例		
高速公路示意		
符号	计数	说明
	12	通信链路
	12	无线电发射塔
	12	摄像机
	6	EZPlatform
	7	扇区天线
	5	平板天线



图例		
高速公路示意		
符号	计数	说明
	6	通信链路
	8	无线电发射塔
	3	EZPlatform
	5	SLAB5822
	4	扇区天线
	2	平板天线
	8	摄像机


SLAB5822
摄像机
网线
视频线
DC 12V
DC 48V
电源线
PoE
视频服务器
配电箱


5.8G/22dBi
平板天线
5.8G/18dBi 60°
扇区天线
EZ
Platform
摄像机
视频线
网线
DC 12V
DC 48V
电源线
PoE
视频服务器
配电箱


包頭黃河公路大橋














10 km



Examples of Applications & Customers

Wireless ISP – Keyon / Speednet, over 17 states in Western USA; Pacific Wireless, Australia; CAT, Thailand. BringCom, Africa.

Hotel Wireless – Systech, largest hotel broadband provider in Asia

Telco – Entel, Bolivia; Miller Communications, Missouri, Syscom, Mexico

US DoD – Northrop Grumman, General Dynamics, Navy, etc

Consumer Wireless System/ Subsyste,s – Tessco, largest electronics chain in USA; Wireless Data in UAE,

Intranet – 353 McDonnald's in the whole island of Taiwan

Marine on- Board WiFi – Syren, largest leisure – boat wireless provider, USA

IP- Microwave- 55 Miles by Johns Hopkins; 20 Miles by Nigeria Telco

Distant Learning – 60 schools over 30 Sq. Miles in Nanjing, China

Rail Communication– Dubai, through Mitsubishi

Tunnel VoIP and Location Iden. – Shangtung Goldmine, Largest goldmine operator in China