PRODUCT GUIDE

FUJIAN SUNNADA COMMUNICATION CO., LTD.

CONTENT

× All the specifications for reference only. To some changes, please contact us for asking updated information.

1. GSM REPEATER SERIES

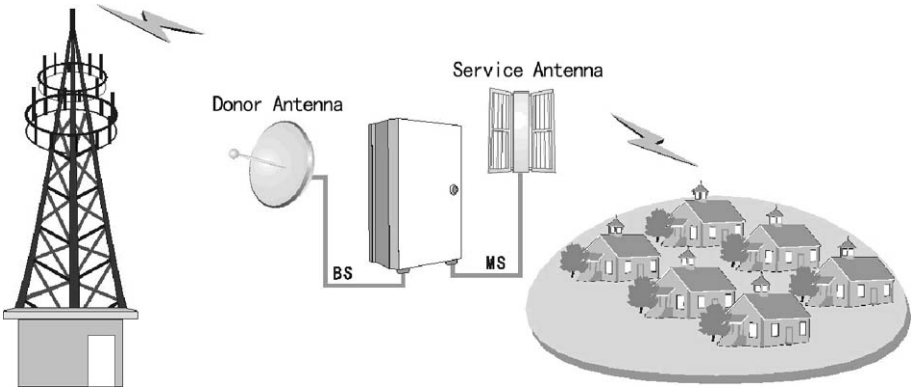
(1) RF Repeater (GSM 900MHz)

Introduction (WR-910)

RF Repeater is designed to enhance cellular network coverage and fill blind spots. Main operation of the repeater is to receive low-power signal from Base Station (BS) via radio frequency (RF) transmission by its donor antenna, process, amplify and forward the signal to Mobile Station (MS) in target coverage area by its service antenna.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Designed with PLL control technology, low noise figure, good out-of-band rejection performance
- Intelligent ALC technology
- High linearity PA; high system gain
- Embedded power with protect system and backup maintenance-free power supply interface
- Short construction period, flexible for installation and easy for relocation.
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Item	Downlink	Uplink
Frequency Range (MHz)	935~960 (Under Request)	890~915 (Under Request)
Max Output Power (dBm)	27/30/33/37/40/43/46±2	27/33±2
Max Gain (dB)	93±3(0.5W/1W/2W) 98±3(5W/10W/20W/40W)	93±3
ATT Adjustment in 1 dB Steps	0~30	0~30
Noise Figure (dB)	≤5	≤5
VSWR	≤1.5	≤1.5
Delay (μS)	≤5.0	≤5.0
RF Connector	N(f)	
Impedance (Ω)	50	
Power Supply (V)	$AC220^{+22}_{-33}$,45~55Hz	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (mm)	430×303×180(0.5W/1W/2W), 500×400×220(5W), 550×420×240(10W/20W)	
Weight (kg)	15(0.5W/1W/2W) , 32(5W),35(10W/20W)	

Product Series

No.	Product Type	Output Power	Model
1	Wide Band Repeaters	40W	WR-910/46A/BW
2		20W	WR-910/43A/BW
3		10W	WR-910/40A/BW
4		5W	WR-910/37A/BW
5		2W	WR-910/33A/BW
6		1W	WR-910/30A/BW
7		0.5W	WR-910/27A/BW
8	Channel Selective Repeaters (X:1~8Channels)	40W	WR-910/46A/CX
9		20W	WR-910/43A/CX
10		10W	WR-910/40A/CX
11		5W	WR-910/37A/CX
12		2W	WR-910/33A/CX
13		1W	WR-910/30A/CX
14		0.5W	WR-910/27A/CX

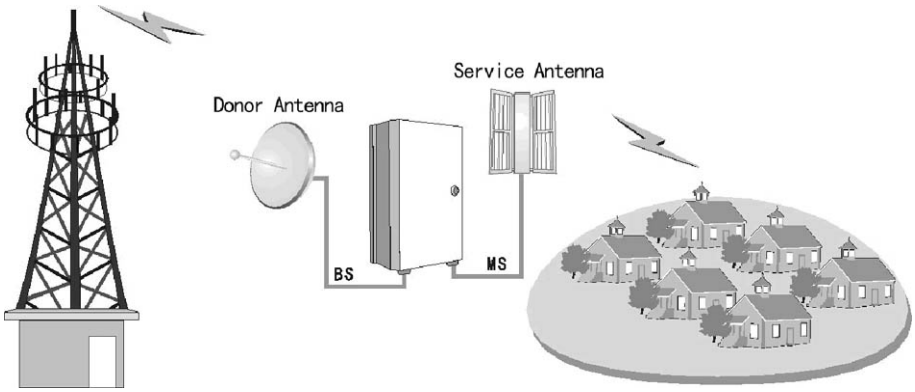
(2) RF Repeater (DCS 1800MHz)

Introduction (WR-1810)

RF Repeater is designed to enhance cellular network coverage and fill blind spots. Main operation of the repeater is to receive low-power signal from Base Station (BS) via radio frequency (RF) transmission by its donor antenna, process, amplify and forward the signal to Mobile Stations (MS) in target coverage area by its service antenna.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Designed with PLL control technology, low noise figure, good out-of-band rejection performance
- Intelligent ALC technology
- High linearity PA; high system gain
- Embedded power with protect system and backup maintenance-free power supply interface
- Short construction period, flexible for installation and easy for relocation.
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Item	Downlink	Uplink
Frequency Range (MHz)	1805~1880 (Under Request)	1710~1785 (Under Request)
Max Output Power (dBm)	27/30/33/37/40/43/46±2	30/33±2
Max Gain (dB)	93±3	93±3
ATT Adjustment in 1 dB Steps	0~30	0~30
Noise Figure (dB)	≤5	≤5
VSWR	≤1.5	≤1.5
Delay (μS)	≤5	≤5
RF Connector	N(f)	
Impedance (Ω)	50	
Power Supply (V)	$AC220^{+22}_{-33}$,45~55Hz	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (mm)	430×303×180(0.5W/1W/2W), 500×400×220(5W), 550×420×240(10W/20W)	
Weight (kg)	15(0.5W/1W/2W), 32(5W), 35(10W/20W)	

Product Series

No.	Product Type	Output Power	Model
1	Wide Band Repeaters	40W	WR-1810/46A/BW
2		20W	WR-1810/43A/BW
3		10W	WR-1810/40A/BW
4		5W	WR-1810/37A/BW
5		2W	WR-1810/33A/BW
6		1W	WR-1810/30A/BW
7		0.5W	WR-1810/27A/BW
8	Channel Selective Repeaters (2 channels)	40W	WR-1810/46A/C2
9		20W	WR-1810/43A/C2
10		10W	WR-1810/40A/C2
11		5W	WR-1810/37A/C2
12		2W	WR-1810/33A/C2
13		1W	WR-1810/30A/C2
14		0.5W	WR-1810/27A/C2

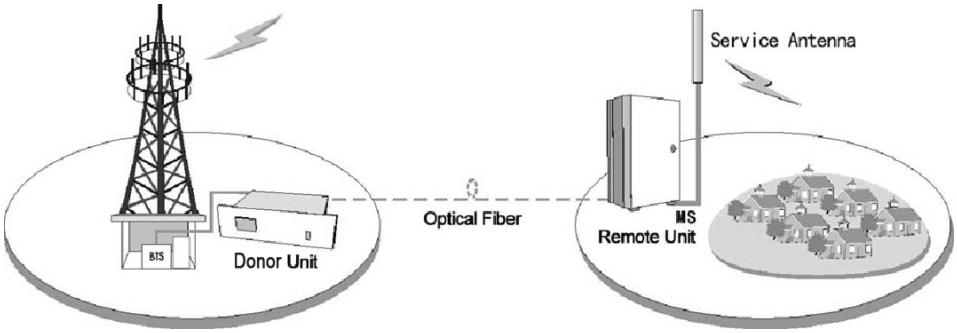
(3) Fiber Optic Repeater (GSM 900MHz)

Introduction (OT-910)

The Fiber Optic Repeater takes optical fiber as a transmission medium to enhance cellular network coverage and fill blind spots, this repeater is normally used in complex environments where fiber resource is available to replace BTS with its low installation & maintenance cost.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Option: Base Station coupling or wireless reception
- One donor unit supports two remote units
- Either directional antenna or omni directional antenna could be used under specific circumstance
- Intelligent ALC technology
- High linearity PA, high system gain
- Embedded power with protection system and backup maintenance-free power supply interface
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Item	Downlink	Uplink
Frequency Range (MHz)	935~960 (Under Request)	890~915 (Under Request)
Max Output Power (dBm)	27/30/33/37/40/43/46±2	5±2
Max Gain (dB)	48±3(0.5W/1W/2W) 65±3(5W/10W/20W/40W)	43±3(0.5W/1W/2W) 60±3(5W/10W/20W/40W)
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure (dB)	—	≤5
VSWR	≤1.5	≤1.5
Output Optical Power (dBm)	0±1	0±1
Delay(μS)	≤5	≤5
RF Connector	N(f)	
Optical Connector	SC/APC	
Impedance (Ω)	50	
Power Supply (V)	$DC-48^{+4.8}_{-7.2}$ (Donor Unit); $AC220^{+22}_{-33}$,45~55Hz (Remote Unit)	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (Donor Unit) (mm)	135×485×265	
Weight (Donor Unit) (kg)	8	
Dimensions (Remote Unit) (mm)	430×303×180(0.5W/1W/2W), 500×400×220(5W/10W/20W)	
Weight (Remote Unit) (kg)	14(0.5W/1W/2W), 30(5W/10W/20W)	

Product Series

No.	Product Type	Output Power	Model
1	Fiber Optic Repeaters	40W	OT-910/46A
2		20W	OT-910/43A
3		10W	OT-910/40A
4		5W	OT-910/37A
5		2W	OT-910/33A
6		1W	OT-910/30A
7		0.5W	OT-910/27A

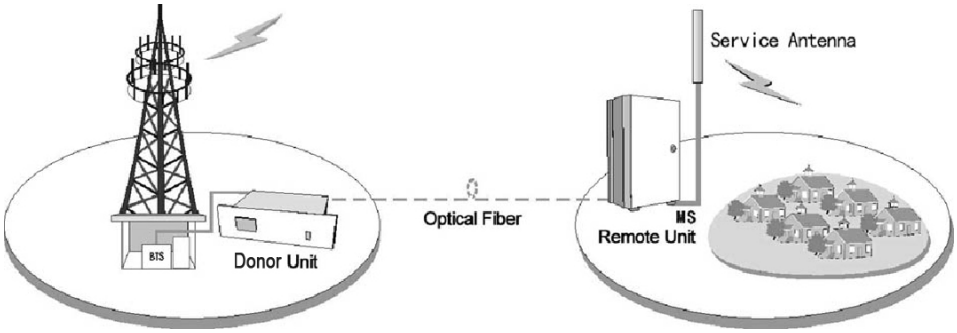
(4) Fiber Optic Repeater (DCS 1800MHz)

Introduction (OT-1810)

The Fiber Optic Repeater takes optical fiber as a transmission medium to enhance cellular network coverage and fill blind spots, this repeater is normally used in complex environments where fiber resource is available to replace BTS with its low installation & maintenance cost.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Option: Base Station coupling or wireless reception
- One donor unit supports two remote units
- Either directional antenna or omni directional antenna could be used under specific circumstance
- Intelligent ALC technology
- High linearity PA, high system gain
- Embedded power with protection system and backup maintenance-free power supply interface
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Item	Downlink	Uplink
Frequency Range (MHz)	1805~1880 (Under Request)	1710~1785 (Under Request)
Max Output Power (dBm)	30/33/37/40/43/46±2	5±2
Max Gain (dB)	48±3（1W/2W） 65±3（5W/10W/20W/40W）	43±3（1W/2W） 60±3（5W/10W/20W/40W）
ATT Adjustment in 1 dB Steps	0~30	0~30
Noise Figure (dB)	—	≤5.0
VSWR	≤1.5	≤1.5
Output Optical Power(dBm)	0±1	0±1
Delay(μS)	≤5	≤5
RF Connector	N(f)	
Optical Connector	SC/APC	
Impedance (Ω)	50	
Power Supply (V)	$DC-48^{+4.8}_{-7.2}$ (Donor Unit); $AC220^{+22}_{-33}$,45~55Hz (Remote Unit)	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (Donor Unit) (mm)	135×485×265	
Weight (Donor Unit) (kg)	8	
Dimensions (Remote Unit) (mm)	430×303×180(1W/2W), 500×400×220(5W/10W/20W)	
Weight (Remote Unit) (kg)	14(1W/2W), 30(5W/10W/20W)	

Product Series

No.	Product Type	Output Power	Model
1	Fiber Optic Repeaters	40W	OT-1810/46A
2		20W	OT-1810/43A
3		10W	OT-1810/40A
4		5W	OT-1810/37A
5		2W	OT-1810/33A
6		1W	OT-1810/30A

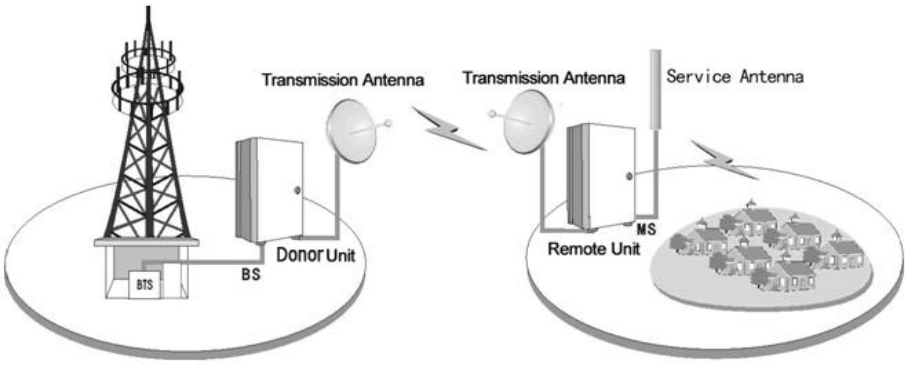
(5) Frequency Shifting Repeater (GSM 900MHz)

Introduction (FM-910)

Frequency Shifting Repeater is designed to enhance cellular network coverage and fill blind spots. It consists of two parts: Donor Unit receives the signal from Base Station and transforms it to another frequency, then transmits it to the Remote Unit; Remote Unit receives the signal and transforms it to original frequency, then amplifies, and retransmits it to cover the target area by service antenna.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Designed with advanced frequency shifting technology to ensure system stability.
- Support one point to multipoint
- Without high antenna isolation requirements of FSR, easy for location selection
- Avoid co-frequency interference, omni directional coverage is possible
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Item (Donor Unit)	Downlink	Uplink
Frequency Range (MHz)	935~960	890~915
Output Power (dBm)	33±2	-5±2
Max Gain (dB)	50±3	45±3
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure(dB)	—	≤5
VSWR	≤1.5	≤1.5
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply (V)	$DC-48^{+4.8}_{-7.2}$	
Temperature(℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (Donor Unit) (mm)	500×400×220	
Weight (Donor Unit) (kg)	30	

Item (Remote Unit)	Downlink	Uplink
Frequency Range (MHz)	935~960	890~915
Max Output Power (dBm)	37/40/43/46±2	33±2
Max Gain (dB)	105±3	
ATT Adjustment in 1 dB Steps	0~30	
ALC(dB)	≤ |±2.0|	
Frequency Error (ppm)	≤0.05	
Noise Figure (dB)	≤5	
VSWR	≤1.5	
Delay(μS)	≤5	
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply(V)	$AC220^{+22}_{-33}$,45~55Hz	

Temperature(℃)	-40~+55
Humidity (%)	≤95
Monitor Access Options	RS-232, Wireless Modem
Dimensions (Remote Unit) (mm)	550×420×240(5W/10W/20W)
Weight (Remote Unit) (kg)	37

Product Series

No.	Product Type	Output Power	Model
1	Wide Band Repeaters	40W	FM-910/46A
2		20W	FM-910/43A
3		10W	FM-910/40A
4		5W	FM-910/37A
5	Channel Selective Repeaters	40W	FM-920/46A
6		20W	FM-920/43A
7		10W	FM-920/40A
8		5W	FM-920/37A

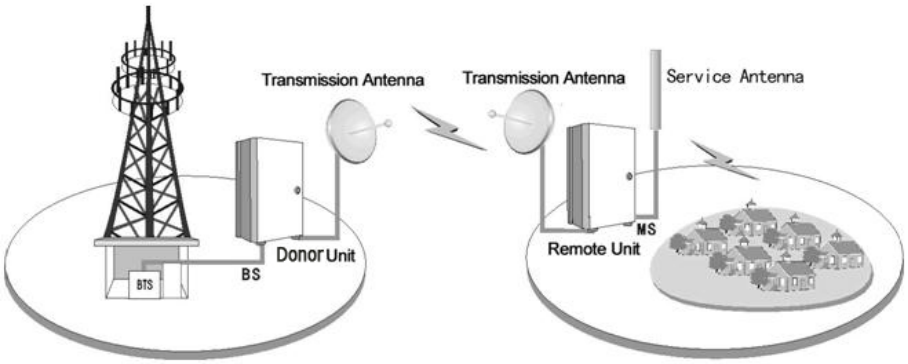
(6) Frequency Shifting Repeater (DCS 1800MHz)

Introduction (FM-1810)

Frequency Shifting Repeater is designed to enhance cellular network coverage and fill blind spots. It consists of two parts: Donor Unit receives the signal from Base Station and transforms it to another frequency, then transmits it to the Remote Unit; Remote Unit receives the signal and transforms it to original frequency, then amplifies, and retransmits it to cover the target area by service antenna.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Designed with advanced frequency shifting technology to ensure system stability.
- Support one point to multipoint
- Without high antenna isolation requirements of FSR, easy for location selection
- Avoid co-frequency interference, omni directional coverage is possible
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Item (Donor Unit)	Downlink	Uplink
Frequency Range (MHz)	1805~1880	1710~1785
Output Power (dBm)	33	0
Max Gain (dB)	50±2	50±2
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure(dB)	—	≤5
VSWR	≤1.5	≤1.5
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply (V)	$DC-48^{+4.8}_{-7.2}$ (Under Request)	
Temperature(℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (Donor Unit) (mm)	500×400×220	
Weight (Donor Unit) (kg)	31	

Item (Remote Unit)	Downlink	Uplink
Frequency Range (MHz)	935~960	890~915
Max Output Power (dBm)	33/37/40/43/46±2	33±2
Max Gain (dB)	95±2	
ATT Adjustment in 1 dB Steps	≥30	
ALC(dB)	≤2	
Frequency Error (ppm)	≤0.05	
Noise Figure (dB)	≤5	
VSWR	≤1.5	
Delay(μS)	≤5	
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply(V)	$DC-48^{+4.8}_{-7.2}$ (Under Request)	

Temperature(℃)	-40~+55
Humidity (%)	≤95
Monitor Access Options	RS-232, Wireless Modem
Dimensions (Remote Unit) (mm)	430×303×175(1W/2W), 500×400×200(5W), 550×420×230(10/20W)
Weight (Remote Unit) (kg)	15(1W/2W), 37(5W/10W), 43(20W)

Product Series

No.	Product Type	Output Power	Model
1	Wide Band Repeaters	40W	FM-1810/46A
2		20W	FM-1810/43A
3		10W	FM-1810/40A
4		5W	FM-1810/37A
5		2W	FM-1810/33A
6		1W	FM-1810/30A
7	Channel Selective Repeaters	40W	FM-1820/46A
8		20W	FM-1820/43A
9		10W	FM-1820/40A
10		5W	FM-1820/37A
11		2W	FM-1820/33A
12		1W	FM-1820/30A

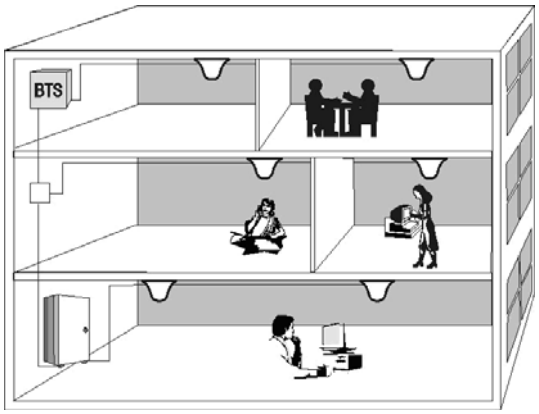
(7) Bi-Directional Amplifier(GSM 900MHz)

Introduction (MP-910)

GSM Bi-Directional Amplifier is the equipment used in indoor distribution system, which amplifies the signal to enlarge the network coverage. Weak GSM signals amplified by Bi-Directional Amplifier will be routed through passive devices and then be distributed to different areas in doors.

Applications

Applicable to indoor coverage of shopping mall, supermarket, conference center, office building, hotel and tower building.



Features

- Customized products can cater to needs of different carrier .
- Use coaxial filter with high suppression ratio, represent excellent out of band suppression capability.
- Capable of remote monitoring and control, enabling easy maintenance.

Specifications

Item	Downlink	Uplink
Frequency (MHz)	935~960 (Under Request)	890~915 (Under Request)
Max Output Power (dBm)	27/30/30/33/37/40±2	0±2
Max Gain (dB)	44±2（0.5W/1W/2W） 47±2（5W） 53±2（10W/20W）	44±2（0.5W/1W/2W/5W） 48±2（10W/20W）
Noise Figure (dB)	—	≤5
VSWR	≤1.5	≤1.5
Delay(μS)	≤5	≤5
Radio Connector	N(f)	
Impedance(Ω)	50	
Power Supply (V)	$AC220^{+22}_{-33}$,45~55Hz	
Temperature(℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (mm)	390×260×136 (0.5W/1W/2W/5W), 500× 400×220 (10W/20W)	
Weight (kg)	10 (0.5W/1W/2W/5W), 30 (10W/20W)	

Product Series

No.	Product Type	Output Power	Model
1	GSM Bi-Directional Amplifier	20W	MP-910/43A
2		10W	MP-910/40A
3		5W	MP-910/37A
4		2W	MP-910/33A
5		1W	MP-910/30A
6		0.5W	MP-910/27A

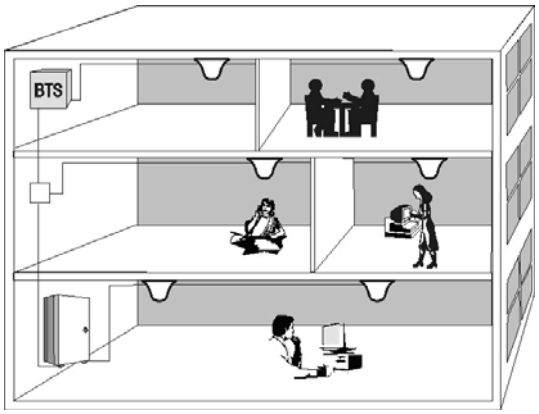
(8) Bi-Directional Amplifier (DCS 1800MHz)

Introduction (MP-1810)

DCS Bi-Directional Amplifier is the equipment used in indoor distribution system, which amplifies the signal to enlarge the network coverage. Weak DCS signals amplified by Bi-Directional Amplifier will be routed through passive devices and then be distributed to different areas in doors.

Applications

Applicable to indoor coverage of shopping mall, supermarket, conference center, office building, hotel and tower building.



Features

- Customized products can cater to needs of different carrier .
- Use coaxial filter with high suppression ratio, represent excellent out of band suppression capability.
- Capable of remote monitoring and control, enabling easy maintenance.

Specifications

Item	Downlink	Uplink
Frequency (MHz)	1805~1820 (Under Request)	1710~1725 (Under Request)
Max Output power (dBm)	30/30/33/37/40±2	0±2
Max Gain (dB)	53±2	48±2
Noise Figure (dB)	—	≤5
VSWR	≤1.5	≤1.5
Delay(μS)	≤5	≤5
Radio Connector	N(f)	
Impedance(Ω)	50	
Power supply (V)	$AC220^{+22}_{-33}$,45~55Hz	
Temperature(℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (mm)	430×303×180（0.5W/1W/2W/5W）, 500×400×220（10W/20W）	
Weight (kg)	10（0.5W/1W/2W/5W）, 30 (10W/20W)	

Product Series

No.	Product Type	Output Power	Model
1	GSM Bi-Directional Amplifier	20W	MP-1810/43A
2		10W	MP-1810/40A
3		5W	MP-1810/37A
4		2W	MP-1810/33A
5		1W	MP-1810/30A

2. CDMA REPEATER SERIES

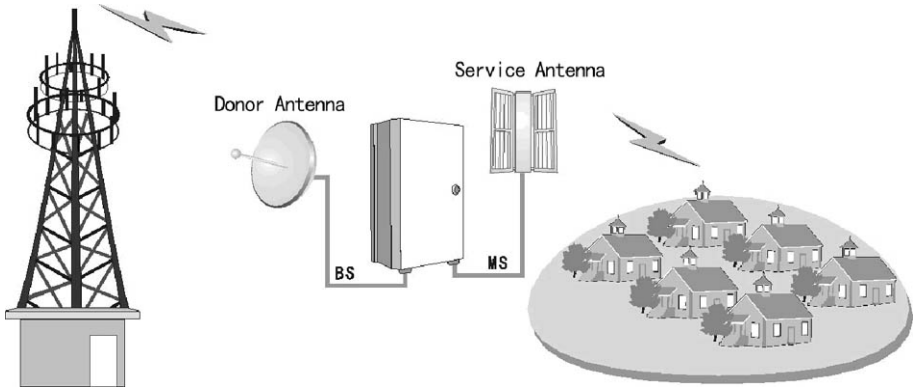
(1) RF Repeater (CDMA 800MHz)

Introduction (WR-810)

RF Repeater is designed to enhance cellular network coverage and fill blind spots. Main operation of the repeater is to receive low-power signal from Base Station (BS) via radio frequency (RF) transmission by its donor antenna, process, amplify and forward the signal to Mobile Stations (MS) in target coverage area by its service antenna.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Designed with PLL control technology, low noise figure, good out-of-band rejection performance
- Intelligent ALC technology
- High linearity PA; high system gain
- Embedded power with protect system and backup maintenance-free power supply interface
- Short construction period, flexible for installation and easy for relocation.
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Items	Forward	Reverse
Frequency Range (MHz)	870~880 (Under Request)	825~835 (Under Request)
Max Output Power (dBm)	$27/30/33/37/40/43^{+0}_{-2}$	$27/33^{+0}_{-2}$
Max Gain (dB)	87±3(0.5W/1W/2W) 98±3(5W/10W/20W)	87±3(0.5W/1W/2W) 95±3(5W/10W/20W)
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure (dB)	≤5	≤5
VSWR	≤1.5	≤1.5
Delay (μS)	≤5	≤5
ϱ	>0.95	>0.96
Impedance(Ω)	50	
RF Connector	N(f)	
Power Supply(V)	$AC220^{+22}_{-33}$,45~55Hz	
Temperature(℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (mm)	430×303×180(0.5W/1W/2W), 500×400×220(5W), 550×420×240(10W/20W)	
Weight (kg)	15(0.5W/1W/2W), 32(5W), 39.5(10W/20W)	

Product Series

No.	Product Type	Output Power	Model
1	Wide Band Repeaters	20W	WR-810/43A/BW
2		10W	WR-810/40A/BW
3		5W	WR-810/37A/BW
4		2W	WR-810/33A/BW
5		1W	WR-810/30A/BW
6		0.5W	WR-810/27A/BW
7	Channel Selective Repeaters (2 channels)	20W	WR-810/43A/C2
8		10W	WR-810/40A/C2
9		5W	WR-810/37A/C2
10		2W	WR-810/33A/C2
11		1W	WR-810/30A/C2

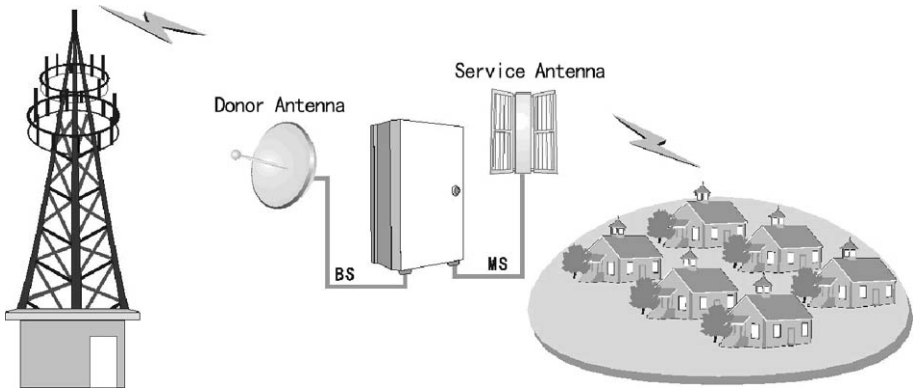
(2) RF Repeater (CDMA 1900MHz)

Introduction（WR -1900）

RF Repeater is designed to enhance cellular network coverage and fill blind spots. Main operation of the repeater is to receive low-power signal from Base Station (BS) via radio frequency (RF) transmission by its donor antenna, process, amplify and forward the signal to Mobile Stations (MS) in target coverage area by its service antenna.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Designed with PLL control technology, low noise figure, good out-of-band rejection performance
- Intelligent ALC technology
- High linearity PA; high system gain
- Embedded power with protect system and backup maintenance-free power supply interface
- Short construction period, flexible for installation and easy for relocation.
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Items	Forward	Reverse
Frequency Range (MHz)	1980~1985 (Under Request)	1900~1905 (Under Request)

Max Output Power (dBm)	$33\ ^{+0}_{-2}$ (2W) $37/40\ ^{+0}_{-2}$ (5W/10W)	$33\ ^{+0}_{-2}$
Max Gain (dB)	90±3(2W) 95±2(5W/10W)	90±3
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure (dB)	≤5	≤5
VSWR	≤1.5	≤1.5
Delay (μS)	≤5	≤5
ϱ	>0.95	>0.96
Impedance(Ω)	50	
RF Connector	N(f)	
Power Supply(V)	$AC220^{+22}_{-33}$,45~55Hz	
Temperature(℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (mm)	500×400×220(2W) ,550×420×240(5W/10W)	
Weight (kg)	32(2W) , 39.5(5W/10W)	

Product Series

No.	Product Type	Output Power	Model
1	RF Repeaters	10W	WR -1900/40A
2		5W	WR -1900/37A
3		2W	WR -1900/33A

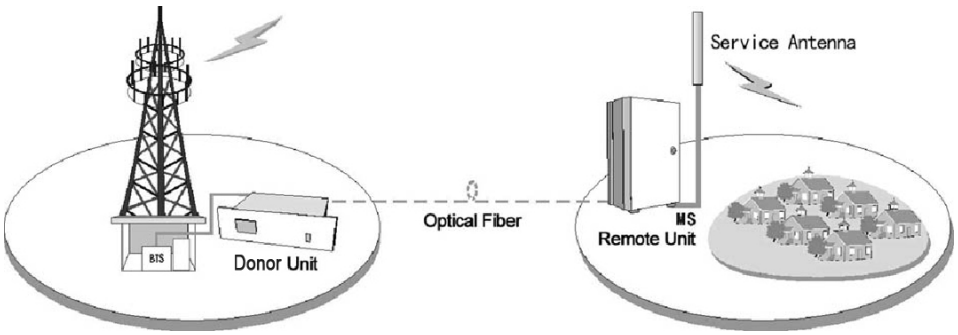
(3) Fiber Optic Repeater (CDMA 800MHz)

Introduction (OT-810)

The Fiber Optic Repeater takes optical fiber as a transmission medium to enhance cellular network coverage and fill blind spots, this repeater is normally used in complex environments where fiber resource is available to replace BTS with its low installation & maintenance cost.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Option: Base Station coupling or wireless reception
- One donor unit supports two remote units
- Either directional antenna or omni directional antenna could be used under specific circumstance
- Intelligent ALC technology
- High linearity PA, high system gain
- Embedded power with protection system and backup maintenance-free power supply interface
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Items	Forward	Reverse
Frequency Range (MHz)	870~880 (Under Request)	825~835 (Under Request)
Max Output Power (dBm)	$27/30/33/37/40/43\ ^{+0}_{-2}$	$-5\ ^{+0}_{-2}$
Max Gain (dB)	45±3(0.5W/1W/2W) 60±2(5W/10W/20W)	45±3(0.5W/1W/2W) 55±2(5W/10W/20W)
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure(dB)	-	≤5
VSWR	≤1.5	≤1.5
Input Optical Power(dBm)	0±1	0±1
Delay(μS)	≤5	≤5
ϱ	>0.95	>0.96
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply(V)	$DC-48^{+4.8}_{-7.2}$ (Donor Unit), $AC220^{+22}_{-33}$,45~55Hz(Remote Unit)	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (Donor Unit) (mm)	135×485×265	
Weight (Donor Unit) (kg)	8.5	
Dimensions (Remote Unit) (mm)	430×303×180(0.5W/1W/2W) , 500×400×220(5W/10W/20W)	
Weight (Remote Unit) (kg)	15(0.5W/1W/2W) ,32(5W/10W/20W)	

Product Series

No.	Product Type	Output Power	Model
1	Fiber Optic Repeaters	20W	OT-810/43A
2		10W	OT-810/40A
3		5W	OT-810/37A
4		2W	OT-810/33A
5		1W	OT-810/30A
6		0.5W	OT-810/27 A

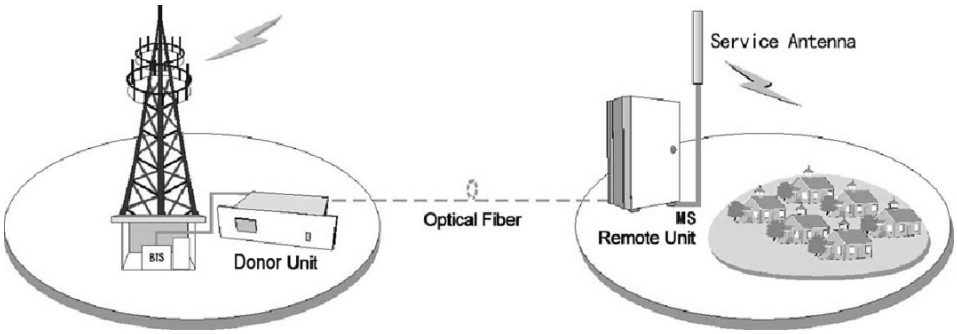
(4) Fiber Optic Repeater (CDMA 1900MHz)

Introduction(OT-1900)

The Fiber Optic Repeater takes optical fiber as a transmission medium to enhance cellular network coverage and fill blind spots, this repeater is normally used in complex environments where fiber resource is available to replace BTS with its low installation & maintenance cost.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Option: Base Station coupling or wireless reception
- One donor unit supports two remote units
- Either directional antenna or omni directional antenna could be used under specific circumstance
- Intelligent ALC technology
- High linearity PA, high system gain
- Embedded power with protection system and backup maintenance-free power supply interface
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Items	Forward	Reverse
Frequency Range (MHz)	1980~1985 (Under Request)	1900~1905 (Under Request)
Max Output Power (dBm)	30/33/37/40/43±2	0
Max Gain (dB)	60±2	55±2
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure(dB)	-	≤5
VSWR	≤1.5	≤1.5
Input Optical Power(dBm)	0±1	0±1
Delay(μS)	≤5	≤5
ϱ	>0.95	>0.96
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply(V)	AC220±20% (Under Request)	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (Donor Unit) (mm)	485×265×135	
Weight (Donor Unit) (kg)	9	
Dimensions (Remote Unit) (mm)	500×400×200(1W/2W/5W) , 550×420×230(10W/20W)	
Weight (Remote Unit) (kg)	37(1W/2W/5W) , 43(10W/20W)	

Product Series

No.	Product Type	Output Power	Model
1	Fiber Optic Repeaters	20W	OT-1900/43A
2		10W	OT-1900/40A
3		5W	OT-1900/37A
4		2W	OT-1900/33A
5		1W	OT-1900/30A

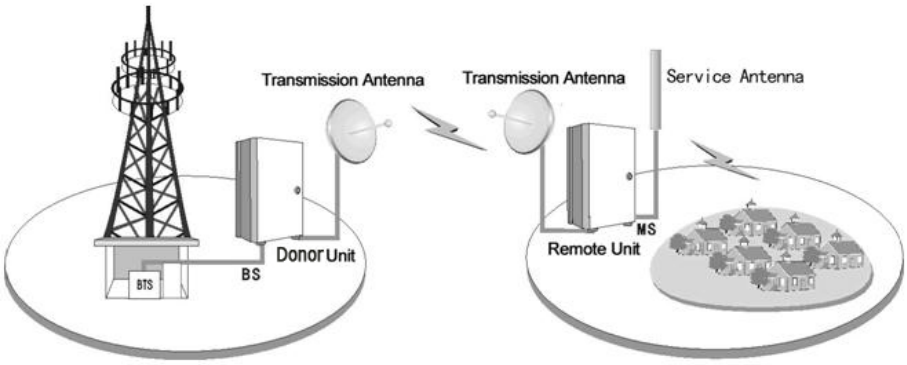
(5) Frequency Shifting Repeater (CDMA 800MHz)

Introduction (FM-810)

Frequency Shifting Repeater is designed to enhance cellular network coverage and fill blind spots. It consists of two parts: Donor Unit receives the signal from Base Station and transforms it to another frequency, then transmits it to the Remote Unit; Remote Unit receives the signal and transforms it to original frequency, then amplifies, and retransmits it to cover the target area by service antenna.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Designed with advanced frequency shifting technology to ensure system stability.
- Support one point to multipoint
- Without high antenna isolation requirements of FSR, easy for location selection
- Co-frequency interference, omni directional coverage is possible
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Items(Donor Unit)	Forward	Reverse
Frequency Range (MHz)	870~880(Under Request)	825~835 (Under Request)
Max Output Power (dBm)	$30/33\ ^{+0}_{-2}$ $37\ ^{+0}_{-2}$	$-5\ ^{+0}_{-2}$
Max Gain (dB)	46±3(1W/2W) 50±3(5W)	46±3
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure(dB)	-	≤5
VSWR	≤1.5	≤1.5
Delay(μS)	≤5	≤5
ϱ	>0.95	>0.96
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply(V)	$DC-48^{+4.8}_{-7.2}$	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (Donor Unit) (mm)	500×400×220	
Weight (Donor Unit) (kg)	32	

Item (Remote unit)	Forward	Reverse
Frequency Range (MHz)	870~880(Under Request)	825~835 (Under Request)
Max Output Power (dBm)	$30/33\ ^{+0}_{-2}$ $37/40/43\ ^{+0}_{-2}$	$27\ ^{+0}_{-2}$ $33\ ^{+0}_{-2}$
Max Gain (dB)	95±3(1W/2W) 100±3(5W/10W/20W)	95±3
ATT Adjustment in 1 dB Steps	0~30	0~30

Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure(dB)	-	≤5
VSWR	≤1.4	≤1.4
Delay(μS)	≤5	≤5
ρ	≥0.95	≥0.96
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply(V)	$AC220^{+22}_{-33}$,45~55Hz	
Temperature(℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (Remote Unit) (mm)	500×400×220(1W/2W) ,550×420×240(5W/10W/20W)	
Weight (Remote Unit) (kg)	33(1W/2W) ,39.5(5W/10W/20W)	

Product Series

No.	Product Type	Output Power	Model
1	Frequency Shifting Repeaters	20W	FM-810/43A
2		10W	FM-810/40A
3		5W	FM-810/37A
4		2W	FM-810/33A
5		1W	FM-810/30A

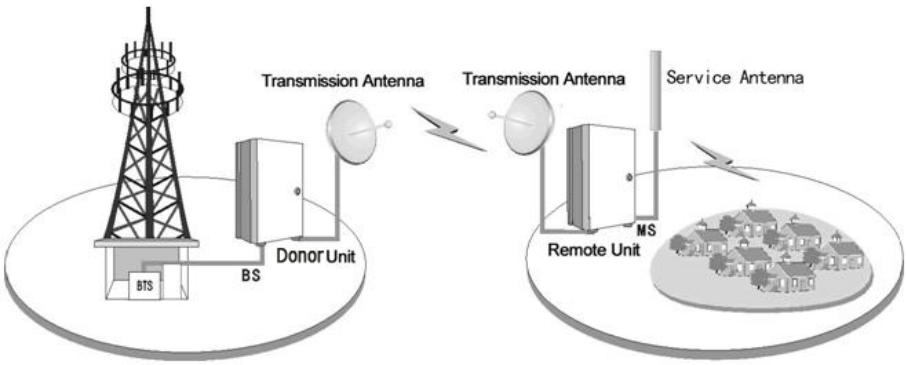
(6) Frequency Shifting Repeater (CDMA 1900MHz)

Introduction(FM-1900)

Frequency Shifting Repeater is designed to enhance cellular network coverage and fill blind spots. It consists of two parts: Donor Unit receives the signal from Base Station and transforms it to another frequency, then transmits it to the Remote Unit; Remote Unit receives the signal and transforms it to original frequency, then amplifies, and retransmits it to cover the target area by service antenna.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Designed with advanced frequency shifting technology to ensure system stability.
- Support one point to multipoint
- Without high antenna isolation requirements of FSR, easy for location selection
- Co-frequency interference, omni directional coverage is possible
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Items(Donor Unit)	Forward	Reverse
Frequency Range (MHz)	1980~1985 (Under Request)	1900~1905 (Under Request)
Max Output Power (dBm)	37	-
Max Gain (dB)	50±2	50±2
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure(dB)	-	≤5
VSWR	≤1.5	≤1.5
Delay(μS)	≤5	≤5
ϱ	>0.95	>0.96
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply(V)	AC220±20%/DC24 (Under Request)	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (Donor Unit) (mm)	400×500×220	
Weight (Donor Unit) (kg)	33	

Item (Remote Unit)	Forward	Reverse
Frequency Range (MHz)	1980-1985 (Under Request)	1900~1905 (Under Request)
Max Output Power (dBm)	27/30/33/37/40/43±2	33±2
Max Gain (dB)	95±2	95±2
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure(dB)	-	≤5
VSWR	≤1.4	≤1.4
Delay(μS)	≤5	≤5
ϱ	≥0.95	≥0.96
RF Connector	N(f)	
Impedance(Ω)	50	

Power Supply(V)	AC220±20%/DC24 (Under Request)
Temperature(℃)	-40~+55
Humidity (%)	≤95
Monitor Access Options	RS-232, Wireless Modem
Dimensions (Remote Unit) (mm)	430×303×175(1W/2W), 500×400×200(5W/10W),550×420×230(20W)
Weight (Remote Unit) (kg)	15(1W/2W), 37(5W/10W), 43(20W)

Product Series

No.	Product Type	Output Power	Model
1	Frequency Shifting Repeaters	20W	FM-1900/43A
2		10W	FM-1900/40A
3		5W	FM-1900/37A
4		2W	FM-1900/33A
5		1W	FM-1900/30A

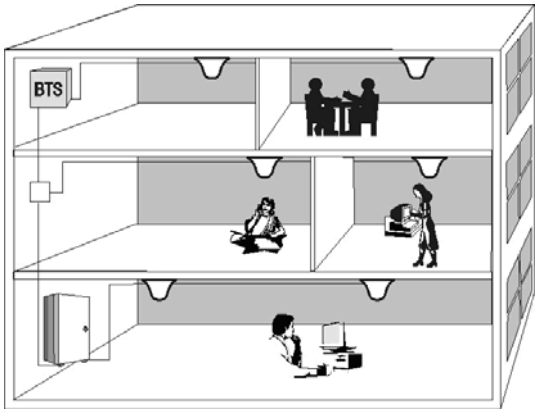
(7) Bi-Directional Amplifier (CDMA 800MHz)

Introduction (MP-810)

CDMA800 Bi-Directional Amplifier is the equipment used in indoor distribution system, which amplifies the signal to enlarge the network coverage. Weak CDMA signals amplified by Bi-Directional Amplifier will be routed through passive devices and then be distributed to different areas in doors.

Applications

Applicable to indoor coverage of shopping mall, supermarket, conference center, office building, hotel and tower building.



Features

- Customized products can cater to needs of different carriers.
- Use coaxial filter with high suppression ratio, represent excellent out of band suppression capability.
- Capable of remote monitoring and control, enabling easy maintenance (optional).

Specifications

Item (Slave unit)	Forward	Reverse
Frequency (MHz)	870~880 (Under Request)	825~835 (Under Request)
Max Out Power (dBm)	$27/30/33/37/40/43^{+0}_{-2}$	0^{+0}_{-2}
Max Gain (dB)	44±3（0.5W/1W/2W） 47±3（5W） 53±3(10W/20W)	44±3（0.5W/1W/2W/5W） 48±3(10W/20W)
Frequency Error (Hz)	≤5	≤5
Noise Figure(dB)	-	≤5
VSWR	≤1.5	≤1.5
Delay(μS)	≤5	≤5
ρ	>0.95	>0.96
Radio Connector	N(f)	
Impedance(Ω)	50	
Power Supply (V)	$AC220^{+22}_{-33}$,45~55Hz (Under Request)	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (mm)	390×260×136 (0.5W/1W/2W/5W),500×400×220 (10W/20W)	
Weight (kg)	10 (0.5W/1W/2W/5W),32 (10W/20W)	

Product Series

No.	Product Type	Output Power	Model
1	CDMA800 Bi-Directional Amplifier	20W	MP-810/43
2		10W	MP-810/40
3		5W	MP-810/37
4		2W	MP-810/33
5		1W	MP-810/30
6		0.5W	MP-810/27

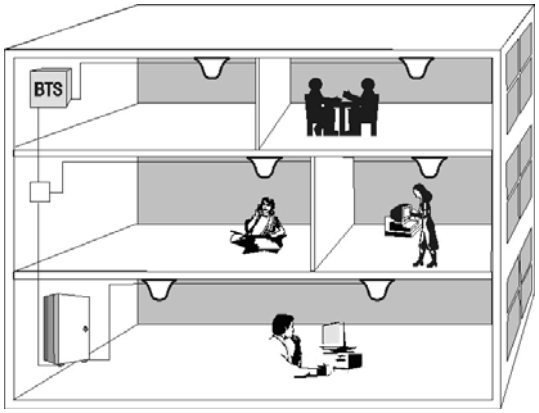
(8) Bi-Directional Amplifier (CDMA 1900MHz)

Introduction (MP-1900)

CDMA1900 Bi-Directional Amplifier is the equipment used in indoor distribution system, which amplifies the signal to enlarge the network coverage. Weak CDMA1900 signals amplified by Bi-Directional Amplifier will be routed through passive devices and then be distributed to different areas in doors.

Applications

Applicable to indoor coverage of shopping mall, supermarket, conference center, office building, hotel and tower building.



Features

- Customized products can cater to needs of different carriers.
- Use coaxial filter with high suppression ratio, represent excellent out of band suppression capability.
- Capable of remote monitoring and control, enabling easy maintenance (optional).

Specifications

Item	Forward	Reverse
Frequency (MHz)	1980~1985 (Under Request)	1900~1905 (Under Request)
Max Out Power (dBm)	$33/37/40\ ^{+0}_{-2}$	$0\ ^{+0}_{-2}$
Max Gain (dB)	48±3（2W） 53±3(5W/10W)	48±3
Frequency Error (Hz)	≤5	≤5
Noise Figure(dB)	-	≤5
VSWR	≤1.5	≤1.5
Delay(μS)	≤5	≤5
ϱ	>0.95	>0.96
Radio Connector	N(f)	
Impedance(Ω)	50	
Power Supply (V)	$AC220^{+22}_{-33}$,45~55Hz (Under Request)	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (mm)	500×400×220	
Weight (kg)	32	

Product Series

No.	Product Type	Output Power	Model
1	CDMA1900 Bi-Directional Amplifier	10W	MP-1900/40
2		5W	MP-1900/37
3		2W	MP-1900/33

3. CDMA450 REPEATER SERIES

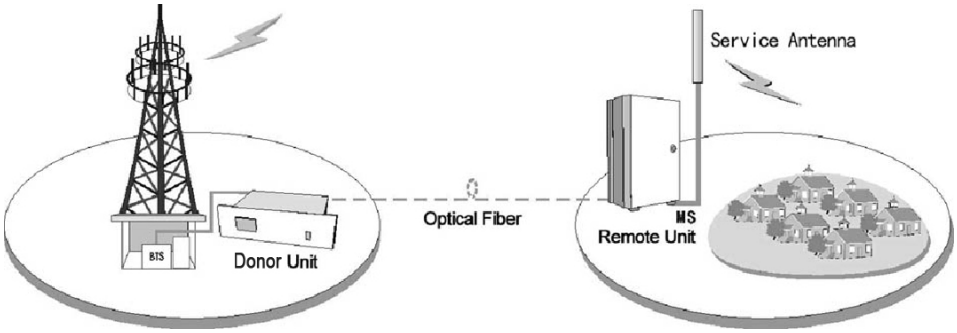
(1) Fiber Optic Repeater

Introduction (OT-410)

The Fiber Optic Repeater takes optical fiber as a transmission medium to enhance cellular network coverage and fill blind spots, this repeater is normally used in complex environments where fiber resource is available to replace BTS with its low installation & maintenance cost.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Option: Base Station coupling or wireless reception
- One donor unit supports two remote units
- Either directional antenna or omni directional antenna could be used under specific circumstance
- Intelligent ALC technology
- High linearity PA, high system gain
- Embedded power with protection system and backup maintenance-free power supply interface
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Items	Forward	Reverse
Frequency Range (MHz) (Under Request)	463~467.5 460~464.8	453~457.5 450~454.8
Max Output Power (dBm)	$30/33/37/40/43^{+0}_{-2}$	-5^{+0}_{-2} (1W/2W) $+5^{+0}_{-2}$ (5W/10W/20W)
Max Gain (dB)	52±3	48±3
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure (dB)	-	≤5
VSWR	≤1.5	≤1.5
Input Optical Power (dBm)	0±1	0±1
Delay (μS)	≤5	≤5
ϱ	>0.95	>0.96
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply(V)	$DC-48^{+4.8}_{-7.2}$ (Donor Unit), $AC220^{+22}_{-33}$,45~55Hz(Remote Unit)	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (mm)	485×265×135 (Donor Unit), 420×550×240 (Remote Unit)	
Weight (kg)	9(Donor Unit), 40 (Remote Unit)	

Product Series

No.	Product Type	Output Power	Model
1	Fiber Optic Repeater (453-457.5/463-467.5)	20W	OT-410/43A/4.5
2		10W	OT-410/40A/4.5
3		5W	OT-410/37A/4.5
4	Fiber Optic Repeater (450-454.8/460-464.8)	20W	OT-410/43A/4.8
5		10W	OT-410/40A/4.8
6		5W	OT-410/37A/4.8

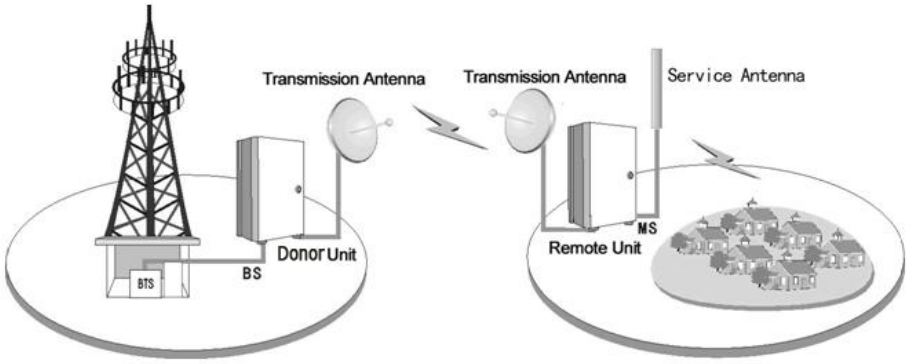
(2) Frequency Shifting Repeater

Introduction (FM-410)

Frequency Shifting Repeater is designed to enhance cellular network coverage and fill blind spots. It consists of two parts: Donor Unit receives the signal from Base Station and transforms it to another frequency, then transmits it to the Remote Unit; Remote Unit receives the signal and transforms it to original frequency, then amplifies, and retransmits it to cover the target area by service antenna.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Designed with advanced frequency shifting technology to ensure system stability.
- Support one point to multipoint
- Without high antenna isolation requirements of FSR, easy for location selection
- Co-frequency interference, omni directional coverage is possible
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm.

Specifications

Items(Donor Unit)	Forward	Reverse
Frequency Range (MHz) (Under Request)	463~467.5 460~464.8	453~457.5 450~454.8
Max Output Power (dBm)	$33/37\ ^{+0}_{-2}$	$-5\ ^{+0}_{-2}$
Max Gain (dB)	52±3	47±3
ATT Adjustment in 1 dB Steps	0~30	0~30
Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure(dB)	-	≤5
VSWR	≤1.5	≤1.5
Delay(μS)	≤5	≤5
ϱ	>0.95	>0.96
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply(V)	$DC-48^{+4.8}_{-7.2}$ (Donor Unit), $AC220^{+22}_{-33}$,45~55Hz(Remote Unit)	
Temperature (℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (Donor Unit) (mm)	550×420×240	
Weight (Donor Unit) (kg)	39	

Item (Remote Unit)	Forward	Reverse
Frequency Range (MHz)	463~467.5 460~464.8	453~457.5 450~454.8
Max Output Power (dBm)	$30/33/37/40/43\ ^{+0}_{-2}$	$30/33\ ^{+0}_{-2}$ (1W/2W/5W) $33\ ^{+0}_{-2}$ (10W/20W)
Max Gain (dB)	105±3	105±3
ATT Adjustment in 1 dB Steps	0~30	0~30

Frequency Error (ppm)	≤0.05	≤0.05
Noise Figure(dB)	-	≤5
VSWR	≤1.4	≤1.4
Delay(μS)	≤5	≤5
ρ	≥0.95	≥0.96
RF Connector	N(f)	
Impedance(Ω)	50	
Power Supply(V)	$AC220^{+22}_{-33}$,45~55Hz	
Temperature(℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Dimensions (Remote Unit) (mm)	550×420×240	
Weight (Remote Unit) (kg)	39.5	

Product Series

No.	Product Type	Output Power	Model
1	Frequency Shifting Repeaters (453-457.5/463-467.5)	20W	FM-410/43A
2		10W	FM-410/40A
3		5W	FM-410/37A
4		2W	FM-410/33A
5		1W	FM-410/30A

4. WCDMA REPEATER SERIES

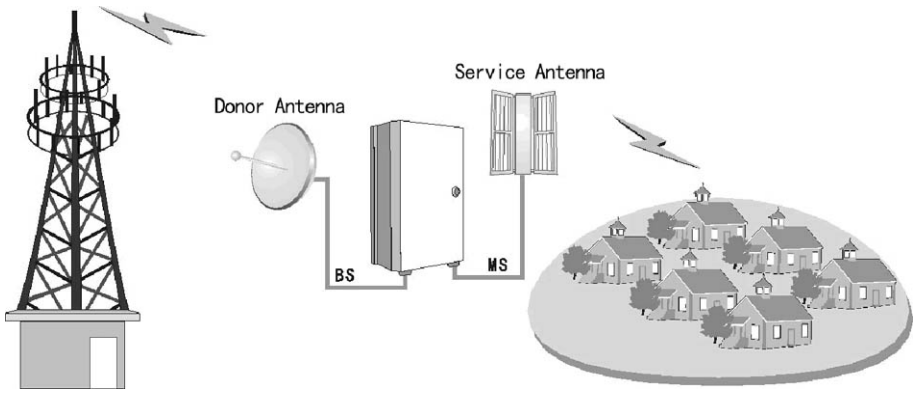
(1) RF Repeater

Introduction (WR-2110)

RF Repeater is designed to enhance cellular network coverage and fill blind spots. Main operation of the repeater is to receive low-power signal from Base Station (BS) via radio frequency (RF) transmission by its donor antenna, process, amplify and forward the signal to Mobile Stations (MS) in target coverage area by its service antenna.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Low noise figure, good out-of-band rejection performance
- Intelligent ALC technology
- High linearity PA; high system gain
- Embedded power with protect system and backup maintenance-free power supply interface
- Short construction period, flexible for installation and easy for relocation.
- Aluminum alloy enclosure for excellent heat dissipation; weatherproof design for all-weather installation
- Local and remote monitoring with automatic fault alarm

Specifications

Items	Downlink	Uplink
Frequency Range (MHz)	2110~2170	1920~1980
Bandwidth(MHz)	15~20 (Under Request)	15~20 (Under Request)
Max Output Power(dBm)	30/33/37/40 ±2	27 ±2
Max Gain(dB)	90±3(1W/2W) 95±3(5W/10W)	90±3
ATT Adjustment in 1 dB Steps	0~30	
Frequency Error(ppm)	≤ ｜±0.01｜	
Transmission Delay(μS)	≤5	
VSWR	≤1.5	
Noise Figure(dB)	≤5	
Spectrum Emission Mask	Meets 3GPP	
Temperature(℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Power Supply (V)	$AC220^{+22}_{-33}$,45~55Hz	
Dimension(mm)	430×303×180(1W/2W) ,550×420×220(5W/10W)	
Weight (kg)	15(1W/2W),32(5W/10W)	

Product Series

No.	Product Type	Output Power	Model
1	Wide Band Repeaters	10W	WR-2110/40A
2		5W	WR-2110/37A
3		2W	WR-2110/33A
4		1W	WR-2110/30A

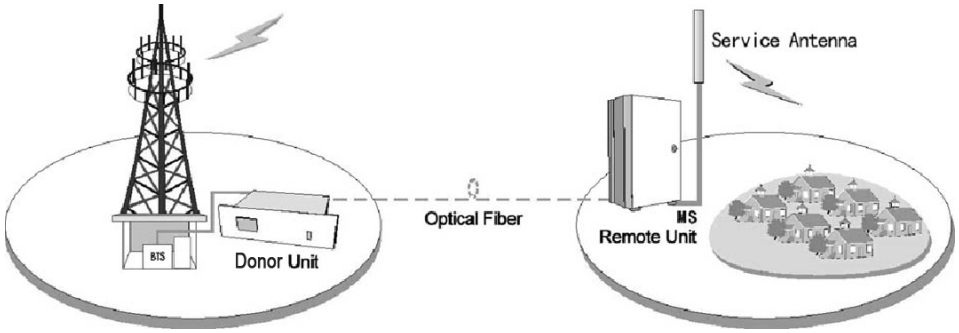
(2) Fiber Optic Repeater

Introduction (OT-2110)

The Fiber Optic Repeater takes optical fiber as a transmission medium to enhance cellular network coverage and fill blind spots, this repeater is normally used in complex environments where fiber resource is available to replace BTS with its low installation & maintenance cost.

Applications

Repeater is a cost-effective solution that will cut the overall cost of signal coverage extension without adding more BTS sites. It can be applied to various of environments including large public buildings, shopping malls, exhibition halls, parking lots, tunnels, remote villages, mountains, highways and other area without signal coverage.



Features

- Point-to-multipoint.
- One donor unit can connect to 3 remote unit.
- Single-mode fiber, WDM technology and APC interface.
- Intelligent ALC technology
- High linearity PA, high system gain
- Local and remote monitoring with automatic fault alarm

Specifications

Items	Downlink	Uplink
Frequency Range (MHz)	2110~2170	1920~1980
Bandwidth(MHz)	20/60 (Under Request)	20/60 (Under Request)
Max Output Power(dBm)	30/33 ±2(1W/2W) 37/40 ±2(5W/10W)	-5 ±2(1W/2W) 0 ±2(5W/10W)
Max Gain(dB)	50±2	
ATT Adjustment in 1 dB Steps	0~30	
Ripple in Band (P-P)	≤2dB/3.84MHz	
Frequency Error(ppm)	≤ | ±0.01 |	
Transmission Delay(μS)	≤5	
VSWR	≤1.5	
Noise Figure (dB)	≤5 (Uplink)	
Spectrum Emission Mask	Meets 3GPP	
Temperature(℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Power Supply (V)	$DC-48^{+4.8}_{-7.2}$ (Donor Unit), $AC220^{+22}_{-33}$,45~55Hz(Remote Unit)	
Dimension(Donor Unit) (mm)	135×485×265	
Weight(Donor Unit) (kg)	≤8.5	
Dimension(Remote Unit) (mm)	430×303×180(1W/2W),500×400×220(5W/10W)	
Weight(Remote Unit) (kg)	15(1W/2W),32(5W/10W)	

Product Series

No.	Product Type	Output Power	Model
1	Wide Band Fiber Optic Repeaters	10W	OT-2110/40A
2		5W	OT-2110/37A
3		2W	OT-2110/33A
4		1W	OT-2110/30A
5	Channel Selective Fiber Optic Repeaters	10W	OT-2120/40A/C
6		5W	OT-2120/37A/C
7		2W	OT-2120/33A/C
8		1W	OT-2120/30A/C

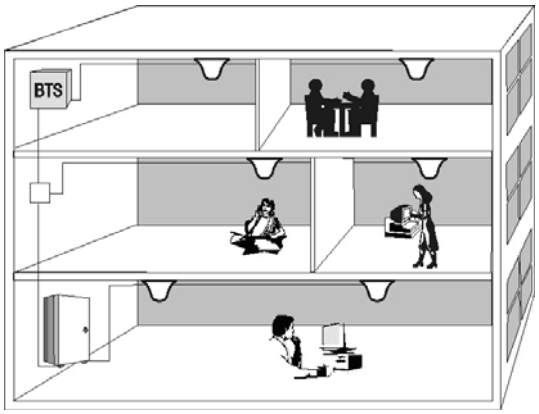
(3) Bi-Directional Amplifier

Introduction (MP-2110)

WCDMA Bi-Directional Amplifier is the equipment used in indoor distribution system, which amplifies the signal to enlarge the network coverage. Weak WCDMA signals amplified by Bi-Directional Amplifier will be routed through passive devices and then be distributed to different areas in doors.

Applications

Applicable to shopping mall, supermarket, conference center, office building, hotel and indoor coverage of tower building.



Features

- Customized products can cater to needs of different carriers.
- Use coaxial filter with high suppression ratio, represent excellent out of band suppression capability.
- Capable of remote monitoring and control, enabling easy maintenance (optional).

Specifications

Items	Forward	Reverse
Frequency Range (MHz)	2110~2170	1920~1980
Bandwidth(MHz)	20/60 (Under Request)	20/60 (Under Request)
Max Power Output（dBm）	30/33/37/40±2	0 ±2
Max Gain（dB）	48±3(1W/2W) 52±3(5W/10W)	48±3
ATT Adjustment in 1 dB Steps	0~30	
Ripple in Band (P-P)	≤2dB/3.84MHz	
Frequency Error(ppm)	≤ ｜±0.01｜	
Transmission Delay（μS）	≤5	
VSWR	≤1.5	
Noise Figure（dB）	≤5	
Spectrum Emission Mask	Meets 3GPP	
Temperature(℃)	-40~+55	
Humidity (%)	≤95	
Monitor Access Options	RS-232, Wireless Modem	
Power Supply (V)	$AC220^{+22}_{-33}$,45~55Hz	
Dimension(Remote Unit) (mm)	430×303×180(1W/2W/5W) ,500×400×220(10W)	
Weight(Remote Unit) (kg)	14(1W/2W/5W) , 32(10W)	

Product Series

No.	Product Type	Output Power	Model
1	WCDMA Bi-Directional Amplifier	10W	MP-2110/40A
2		5W	MP-2110/37A
3		2W	MP-2110/33A
4		1W	MP-2110/30A

5. MINI REPEATER SERIES

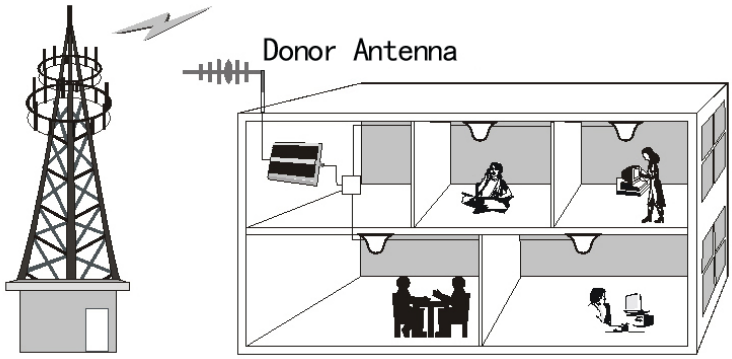
(1) Mini Repeater (Civil Grade)

Introduction

Mini repeater is a co-frequency amplifying device used inside the building, which amplifies the weak signal to expand indoor coverage.

Applications

Mini repeater is an affordable solution to be applied to small shopping center, emporia, conference center, pub, ballroom, high-rise building, and underground space to resolve weak signal problems.



Features

- Low cost, excellent performance
- Modularization design and uniform interface
- Adopt ALC technology
- Compact design, excellent mechanical structure, convenient installation
- Adopt advanced power supply, strong adaptability
- Uplink, downlink fault alarm and isolation alarm indicators
- Customized design under request

Specifications

Items	Downlink/Forward		Uplink/Reverse	
Frequency Range (MHz)	GSM	935~960	GSM	890~915
	DCS	1805~1850/1840~1880	DCS	1710~1755/1745~1785
	CDMA	869~894	CDMA	824~849
	PCS	1930~1990 (Bandwidth:15 MHz) (optional)	PCS	1850~1910 (Bandwidth:15 MHz) (optional)
	WCDMA	2110~2170	WCDMA	1920~1980
Max Gain (dB)	65±3		65±3	
Max Output Power (dBm)	10/15/17/20		10/15/17/20	
VSWR	≤1.6		≤1.6	
Ripple in Band (dB)	≤4		≤4	
ALC Range(dB)	≥20		≥20	
ATT Adjustment in 1 dB Steps	0~31			
Noise Figure (dB)	≤5			
Temperature(℃)	-5~+55			
Humidity (%)	≤85			
RF Connector	SMA(f)			
Operation and Maintenance	DIP Switch			
Power Supply (V)	AC100~240, 50~60Hz			
Dimensions (mm)	130×85×25			
Weight (kg)	2.5			

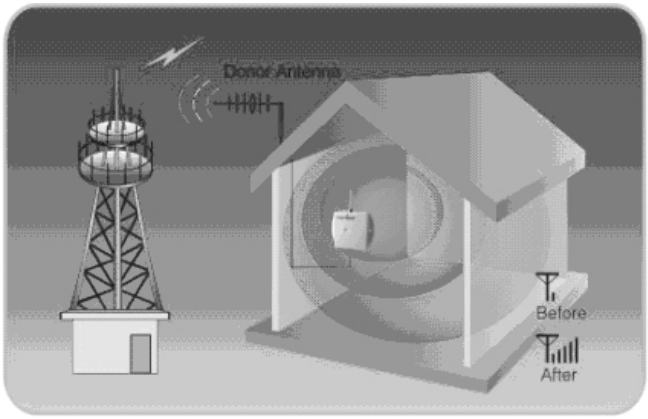
(2) Mini Repeater (Carrier Grade-Single band)

Introduction

Mini repeater is a co-frequency amplifying device used inside the building, which amplifies the weak signal to expand indoor coverage.

Applications

Mini repeater is an affordable solution to be applied to small shopping center, emporia, conference center, pub, ballroom, high-rise building, and underground space to resolve weak signal problems.



Features

- Low cost, excellent performance
- Modularization design and uniform interface
- Adopt ALC technology
- Compact design, excellent mechanical structure, convenient installation
- Adopt advanced power supply, strong adaptability
- Uplink, downlink fault alarm and isolation alarm indicators
- Customized design under request

Specifications

Items	Downlink/Forward		Uplink/Reverse	
Frequency Range (MHz)	GSM	935~960	GSM	890~915
	DCS	1805~1880 (Bandwidth:60 MHz) (optional)	DCS	1710~1785 (Bandwidth:60 MHz) (optional)
	CDMA	869~894	CDMA	824~849
	PCS	1930~1990	PCS	1850~1910
	WCDMA	2110~2170	WCDMA	1920~1980
Max Gain (dB)	65±3		65±3	
Max Output Power (dBm)	10/15/17/20/23		10/15/17/20	
VSWR	≤1.6		≤1.6	
Ripple in Band (dB)	≤4.5		≤4.5	
ALC Range(dB)	≥25		≥25	
ATT Adjustment in 1 dB Steps	0~31			
Noise Figure (dB)	≤5			
Temperature(℃)	-20~+55			
Humidity (%)	≤85			
RF Connector	N(f)			
Operation and Maintenance	Local handler setting or embedded remote monitoring			
Power Supply (V)	AC100~240, 50~60Hz			
Dimensions (mm)	189×163×42, 270×189×46.2			

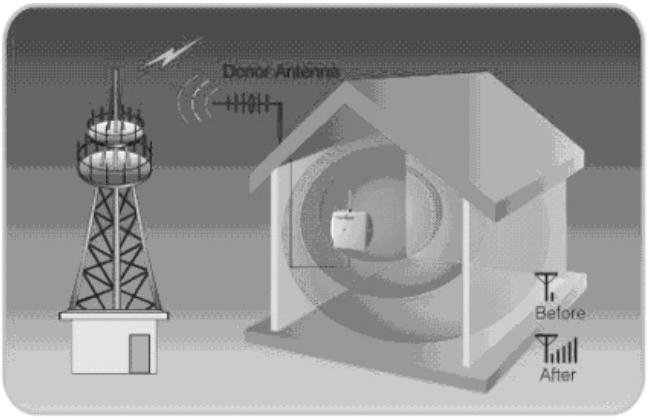
(3) Mini Repeater (Carrier Grade-Dual Band)

Introduction

Mini repeater is a co-frequency amplifying device used inside the building, which amplifies the weak signal to expand indoor coverage.

Applications

Mini repeater is an affordable solution to be applied to small shopping center, emporia, conference center, pub, ballroom, high-rise building, and underground space to resolve weak signal problems.



Features

- Low cost, excellent performance
- Modularization design and uniform interface
- Adopt ALC technology
- Compact design, excellent mechanical structure, convenient installation
- Adopt advanced power supply, strong adaptability
- Uplink, downlink fault alarm and isolation alarm indicators

Specifications

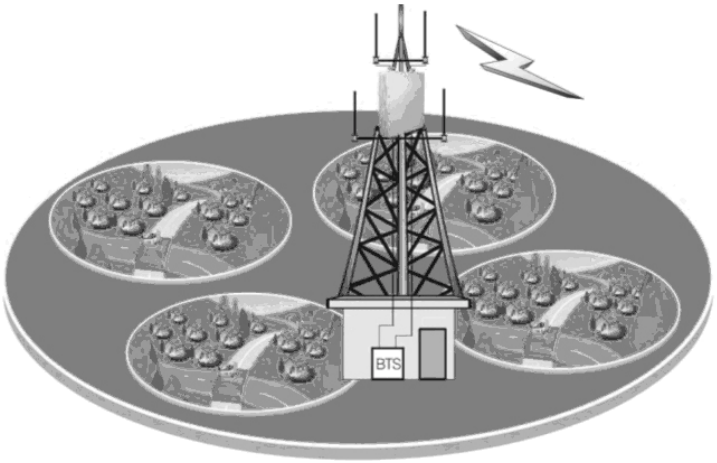
Items	Downlink		Uplink	
Frequency Range (MHz)	935-960	1805-1880 (Bandwidth:40 MHz) (Optional)	890-915	1710-1785 (Bandwidth:40 MHz) (Optional)
	869~894	1930~1990 (Bandwidth:40 MHz) (Optional)	824~849	1850~1910 (Bandwidth:40 MHz) (Optional)
Max Gain (dB)	65±3		65±3	
Max Output Power (dBm)	20		17	
VSWR	≤1.6		≤1.6	
Ripple in Band (dB)	≤5		≤5	
ALC Range(dB)	≥25		≥25	
Noise Figure (dB)	≤8		≤8	
ATT Adjustment in 1 dB Steps	0~31			
Temperature(℃)	-20~+55			
Humidity (%)	≤85			
RF Connector	N(f)			
Operation and Maintenance	Local handler setting or embedded remote monitoring			
Power Supply (V)	AC100~240, 50~60Hz			
Dimensions (mm)	228×163×41			

6. TOWER MOUNTED AMPLIFIER

Introduction

Tower Mounted Amplifier (TMA) is a low noise amplifier (LNA) mounted close to the antenna in Base Transceiver Station (BTS). A TMA reduces the BTS noise figure and therefore improves it's overall sensitivity; in other words TMA extends the BTS signal coverage.

Applications



Features

- High reliability and stability with adjustable power
- Low noise figure
- Feed mode power supply, easy and convenient to install
- Safe automatic bypass for faults and malfunctions
- Dustproof, waterproof and shockproof design
- Lightning strike protection

Specifications

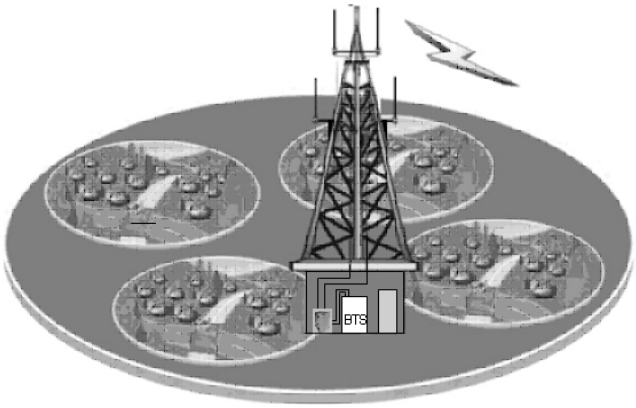
Items	Downlink/Forward		Uplink/Reverse	
Frequency Range (MHz) (Under Request)	GSM	935~960	GSM	890~915
	DCS	1805~1850/1840~1880	DCS	1710~1755/1745~1785
	CDMA	869~894	CDMA	824~849
	WCDMA	2110~2170	WCDMA	1920~1980
	PCS	1930~1990	PCS	1850~1910
Gain (dB)	/		12	
Ripple in Band (dB)	/		<±0.5	
Noise Figure (dB)	/		1.8	
VSWR	≤1.4		≤1.4	
Passive Intermodulation (dBc)	-150 (+43dBm/2 tones)		/	
Third-order Intercept Point (dBm)	/		+25	
Out of Band Rejection (dB)	≥60		/	
Bypass Loss (dB)	/		1.7	
Insertion Loss (dB)	0.60 (typical)		/	
Max Non-destruction Input Level (dBm)	+53		/	
Power Supply (V)	DC+12(300 mA)			
Dimensions (mm)	300×186×87, 340×210×67			
Weight (kg)	5.5			

7. MCPA BASE STATION BOOSTER

Introduction

The Base Station Booster is a kind of linear amplification equipment installed in the Base Station. It consists of high-output linear power amplifier, high performance duplexer, power supply and corresponding monitoring devices, with main applications covering: broadens the coverage area of the Base Station and thus increases cell traffic; enlarges the downlink output power of the Base Station and thus reduces the uplink output power of the mobile phone to improve the electromagnetic environment; It improves the downlink power level of the Base Station and thus promote network quality; reduces the number of required Base Stations and thus cuts investment costs.

Applications



Features

- Excellent compatibility; support all kinds of Base Stations.
- Flexible installation, suitable for indoor and outdoor installation, support landing and wall-mounted installation.
- Easily connected to Base Station and no influence from BS's capacity expansion
- Cooling fan system, excellent cooling effect.
- Convenient installation, setting and maintenance by movable front/back cover board.
- Power failure and MCPA module fault alarm, automatic RF bypass function.
- With advanced predistortion and feed forward techniques, it has good linearity and high efficiency
- Support local or remote monitoring.
- Options: TMA or LNA, providing complete Tx/Rx solution.

Specifications

Items	Specifications
Max Gain (dB)	15±1
Bypass Loss (dB)	≤1.5
Noise Figure (dB)	≤1.2 (Bypass Status); ≤3.0 (Working Status)
Max Downlink Output Power (W)	135 (GSM, CDMA); 120 (DCS)
Third Order Intermodulation (dBc)	-63
VSWR	1.5
Monitor Access Options	RS-232, local or remote monitoring and control
Alarms and Protections	Over power alarm PA bypass alarm Over temperature alarm VSWR alarm Low power alarm Power supply fault alarm Fan fault alarm TMA fault alarm
Power Supply (V)	AC150 ~ 300, 45~65 Hz Or DC-40 ~ -60, or DC + 27
Dimensions (mm)	600×330×635 (single amplifier) 700×390×950 (dual amplifier)

8. IN-BUILDING SOLUTIONS

(1) Cavity Directional Coupler (Power rating≥100W)

Advantages

- Greater power rating
- Lower insertion loss than microstrip directional couplers

Applications

Suitable for high-power signal coupling such as Base Station coupling or areas requiring long-time stability such as indoor distributed system, according to carrier's needs.

Technical specifications

Product name	5dB Coupler	6dB Coupler	7dB Coupler	10dB Coupler	15dB Coupler	20dB Coupler	30dB Coupler
Frequency Range (MHz)	800~2500						
VSWR	≤1.22						
Insertion Loss (dB)	≤1.95	≤1.55	≤1.25	≤0.70	≤0.4	≤0.3	≤0.2
Coupling Flatness (dB)	±0.6	±0.6	±0.6	±0.8	±1.0	±1.0	±1.0
Directivity (dB)	≥18						
Power Rating (W)	≥100						
Port Impedance (Ω)	50						
Operating Temperature (℃)	-40~+70						
Connector Type	N(f)						

Product Series

No.	Product Type	Coupling Value	Model
1	Cavity Directional Coupler (Power Rating≥100W)	5dB	SYD-TCDGP-5/100NK-NK
2		6dB	SYD-TCDGP-6/100NK-NK
3		7dB	SYD-TCDGP-7/100NK-NK
4		10dB	SYD-TCDGP-10/100NK-NK
5		15dB	SYD-TCDGP-15/100NK-NK
6		20dB	SYD-TCDGP-20/100NK-NK
7		30dB	SYD-TCDGP-30/100-NK-NK

(2) Microstrip Directional Coupler

Applications

Suitable for areas requiring low-power signal coupling such as indoor distributed system, according to carrier's needs.

Technical specifications

Product name	5dB Coupler	6dB Coupler	7dB Coupler	10dB Coupler	15dB Coupler	20dB Coupler	30dB Coupler
Frequency Range (MHz)	800~2500						
VSWR	≤1.22						
Insertion Loss (dB)	≤2.05	≤1.65	≤1.35	≤0.80	≤0.45	≤0.35	≤0.25
Coupling Flatness (dB)	±0.6	±0.6	±0.6	±0.8	±1.0	±1.0	±1.0
Directivity (dB)	≥20						
Power Rating (W)	≥50						
Port Impedance (Ω)	50						
Operating Temperature (℃)	-40~+70						
Connector Type	N(f)						

Product Series

No.	Product Type	Coupling Value	Model
1	Microstrip Directional Coupler (Power Rating≥50W)	5dB	SYD-TCDGP-5/50NK-NK
2		6dB	SYD-TCDGP-6/50NK-NK
3		7dB	SYD-TCDGP-7/50NK-NK
4		10dB	SYD-TCDGP-10/50NK-NK
5		15dB	SYD-TCDGP-15/50NK-NK
6		20dB	SYD-TCDGP-20/50NK-NK
7		30dB	SYD-TCDGP-30/50-NK-NK

(3) Cavity Power Divider (Power rating≥100W)

Advantages

- Greater power rating
- Lower insertion loss than microstrip power divider

Applications

Suitable for high-power signal splitting such as Base Station shunt or areas requiring long-time stability such as indoor distributed system, according to carrier's needs.

Technical specifications

Product name	2-way Power Divider	3-way Power Divider	4-way Power Divider
Frequency Range (MHz)	800~2500		
VSWR	≤1.22		
Insertion Loss (dB)	≤3.3	≤5.1	≤6.2
PIM (dBc)	≤-140		
Power Rating (W)	≥100		
Port Impedance (Ω)	50		
Service Temperature (℃)	-35~+70		
Connector Type	N(f)		

Product Series

No.	Product Type	Splitting way	Model
1	Cavity Power Divider (Power rating≥100W)	2	SYD-SCDGP-2/100
2		3	SYD-SCDGP-3/100
3		4	SYD-SCDGP-4/100

(4) Microstrip Power Divider

Applications

Suitable for areas requiring low-power signal splitting such as outdoor retransmission antenna and indoor distributed system, according to carrier's needs.

Technical specifications

Product name	2-way Power Divider	3-way Power Divider	4-way Power Divider
Frequency Range (MHz)	800~2500		
Return Loss (dB)	≥20		
Insertion Loss (dB)	≤3.3	≤5.3	≤6.5
Isolation (dB)	≥22		
PIM (dBc)	≤-140		
Power Rating (W)	≥10		
Port Impedance (Ω)	50		
Service Temperature (℃)	-35~+70		
Connector Type	N(f)		

Product Series

No.	Product Type	Splitting way	Model
1	Microstrip Power Divider (Power rating≥20W)	2	SYD-SCDGP-2/20
2		3	SYD-SCDGP-3/20
3		4	SYD-SCDGP-4/20

(5) Combiners

5.1 Dual Band Combiners (CDMA/GSM)

Model No: SYD-DFC-0809

Technical specifications

Band	CDMA	GSM
Frequency Range (MHz)	825~ 880	909~ 960
Reflection Loss (dB)	>18 (All ports)	>18 (All ports)
Insertion Loss (dB)	<0.8	<0.8
Ripple in Band (dB)	<0.5	<0.5
Isolation (dB)	>80 (909~960MHz)	>80 (825~880 MHz)
Out of Band Suppression	>70 (805~300 MHz)	>70 (1030~1710 MHz)
Power Rating (W)	200	
Impedance (Ω)	50	
Temperature Range (℃)	-40~+85	
Connector Type	N(f)	

5.2 Triple Band Combiners (GSM/CDMA/DCS)

Model No: SYD-TFC-080918

Technical specifications

Band	CDMA	GSM	DCS
Frequency Range (MHz)	825 ~ 880	909 ~ 960	1710~1880
VSWR	≤1.22	≤1.22	≤1.22
Insertion Loss (dB)	<0.7	<0.7	<0.7
Ripple in Band (dB)	<0.4	<0.4	<0.4
Isolation (dB)	>80	>80	>80
Power Rating (W)	100		
Impedance (Ω)	50		
Operating Temperature (℃)	-40~ +85		
Connector Type	N(f)		

5.3 Multi-System Combiner (POI)

POI is a compact, low intermodulation, and cost effective platform that combines multi signals, such as GSM, DCS, CDMA, WCDMA, etc. into one set of in-building distributing system.

General specifications

Item	Specification
RF Connectors	7/16DIN(f)
Insertion loss (dB)	≤9.0
Input Power Rating Per Port (W)	100
Operating Temperature(℃)	-10~80
Isolation Between Ports (dB)	≥ 100 (Cross band) ≥ 40 (Same band)
MTBF(hrs)	>200000
Dimension (mm)	540 × 490 × 780
Weight(Kg)	<75

Technical specifications

Tx Channel	Passband (MHz)	Insertion Loss (dB)	Return Loss (dB)	Attenuation (dB)
2G Tx1	870~960	0.4 dB	>18	@1920~1980 >65 dB @2110~2170 >65 dB
2G Tx2	1805~1880	1.0 dB	>18	@1920~1980 >65 dB @2110~2170 >65 dB
3G Tx1	2110.3~2125.1	5.5 dB	>18	@825~960 >80 dB @1710~1880 >80 dB @1920~1980 >80 dB
3G Tx2	2125.1~2139.9	5.5 dB	>18	
3G Tx3	2140.1~2154.9	5.5 dB	>18	
3G Tx4	2154.9~2169.7	5.5 dB	>18	
Receive-M				
2G RxM1	825~915	0.4 dB	>18	@1920~1980 >65 dB @2110~2170 >65 dB
2G RxM2	1710~1785	1.0 dB	>18	@1920~1980 >65 dB @2110~2170 >65 dB
3G RxM1	1920.3~1935.1	5.5 dB	>18	@825~960 >80 dB @1710~1880 >80 dB @2110~2170 >80 dB
3G RxM2	1935.1~1949.9	5.5 dB	>18	
3G RxM3	1950.1~1964.9	5.5 dB	>18	
3G RxM4	1964.9~1979.7	5.5 dB	>18	
Receive-D				
2G RxD1	825~915	0.4 dB	>18	@1920~1980 >65 dB @2110~2170 >65 dB
2G RxD2	1710~1785	1.0 dB	>18	@1920~1980 >65 dB @2110~2170 >65 dB
3G RxD1	1920.3~1935.1	5.5 dB	>18	@825~960 >80 dB @1710~1880 >80 dB @2110~2170 >80 dB
3G RxD2	1935.1~1949.9	5.5 dB	>18	
3G RxD3	1950.1~1964.9	5.5 dB	>18	
3G RxD4	1964.9~1979.7	5.5 dB	>18	

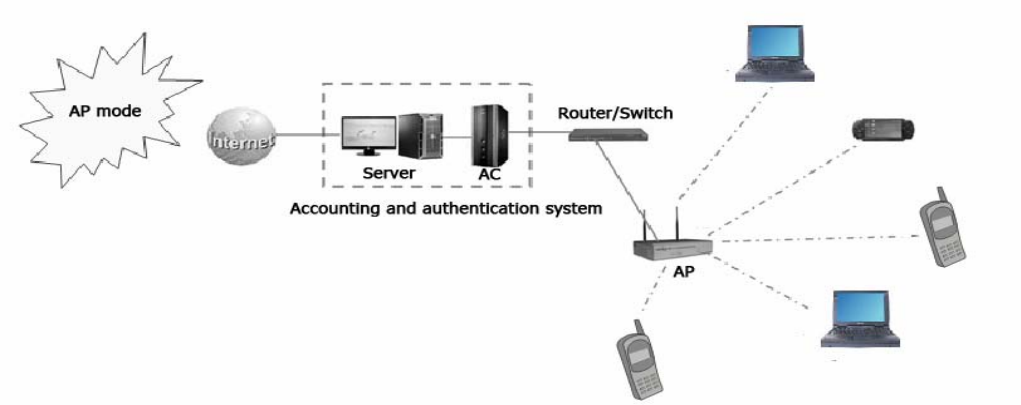
9. ACCESS POINT SERIES

(1) WPB-5000 Series

Introduction

WPB-5000 is a new generation wireless wide band access point, which meets IEEE 802.11g standard, adopts Orthogonal Frequency Division Multiplexing (OFDM) technology; It has several advantages as high speed rate up to 54 Mbps, wide coverage range and therefore provides excellent solution for operator, ISP and users. It not only can provide (0.25W/0.5W/1W) output power but also can realize larger coverage through external antennas.

Applications



Features

- Support Auto Data Transmission Rates Selection
- Comply with RoSH
- Support MAC address filtering
- Support WMM function
- Support link integrity function
- Support auto power adjustment function
- Support auto frequency adjustment function
- Support load balancing control
- Support WEP64/128/152 bit Encryption to ensure secure transmissions
- Support 802.1X, WPA, WPA-PSK, WPA2, WPA2-PSK authentication to ensure secure network

- Support 8 independent VAP (Virtual Access Point) and 802.1Q VLAN
- Support acceleration functions: Super, Regatter
- Easy installation , friendly user management interface ,plug and play
- Provide a variety of ways for configuration management : WEB,SNMP,CLI etc.
- Light weight ;Small size ;Low power consumption
- Remote power supply by Category 5e Cable

Specifications

Feature	
Compliant Standards	IEEE 802.11b (WiFi Compatible), IEEE802.11g (WiFi Compatible) ,IEEE802.3/u 10/100Base-Tx RJ-45, IEEE802.3af (Power Over Ethernet) ,IEEE802.1p (QoS Priority), IEEE802.1q (VLAN) ,IEEE802.1x (Security Authentication) ,IEEE802.11e (Wireless QoS), IEEE802.1d (Spanning Tree Protocol)
Support Network Protocol	TCP/IP IPX NetBEUI
Data Transfer Rate(Mbps)	Best / 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6
Working Mode	AP, Bridge, AP+Bridge
Smart WDS	Support
Multi BSSID	8 Virtual APs
WMM	Support
DHCP	Support
DHCP Relay	Support
Adjust Power	Support
Spanning Tree	Support
Watchdog	Support
Management Agent	Support
Auto Frequency Adjust	Support
Super G	Support
Regatta	Support
Refuse XDos	Support
Link Integrity	Support
Router	Support
AnyIP	Support
NAT	Support

Flow Balance	Support
VoIP	Support
User Control	Support
Throughput Control	Support
Link Test	Support
Radio Switch	Support
Interface	
LAN/ PTE	One 10/100-BaseTX RJ-45 Ethernet Port
Antenna	1 External Antenna Ports
Default Button	Support
Console	One Control Port
Led	1-POWER, 1-Test, 1-LAN, 2-RF
Electricity	
POE/PTE	Yes
Power Consumption	48V@260mA
Radio	
RF Card	One, 11g, Mini-PCI
RF Output Power(dBm)	23±1\27±2\30±2
Sensitivity	Sensitivity @ Packet Error Rate≦8-10% 11g 11b ≤-90dBm@6Mbps ≤-92dBm@1Mbps ≤-88dBm@9Mbps ≤-90dBm@2Mbps ≤-86dBm@12Mbps ≤-88dBm@5.5Mbps ≤-84dBm@18Mbps ≤-87dBm@11Mbps ≤-82dBm@24Mbps ≤-78dBm @36Mbps ≤-75dBm @48Mbps ≤-72dBm @54Mbps
Management	
Secure Web Management	Support
SNMP MIB	Support
SSH	Support
CLI	Support
BWA Viewer	Support

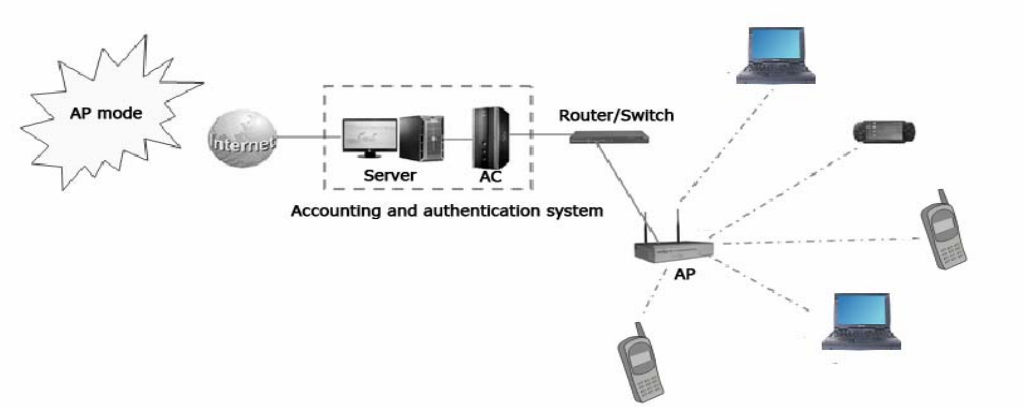
Security	
WEP Encryption(bits)	64 / 128 / 152
WPA	WPA, WPA2, WPA-PSK, WPA2-PSK
802.1x	Support
MAC Control	Support
VLAN	Support
Wireless Client Security Separation	Support
Appearance	
Dimensions(mm)	280×180×44
Specifications	
Working Temperature(℃)	0~50
Store Temperature(℃)	-10~65
Humidity	5 ~ 95%

(2) WPB-7000 Series

Introduction

WPB-7000 is a new generation wireless wide band access point, which meets IEEE 802.11g standard, adopts Orthogonal Frequency Division Multiplexing (OFDM) technology; It has several advantages as high speed rate up to 54 Mbps, wide coverage range and therefore provides excellent solution for operator, ISP and users. It not only can provide (0.25W/0.5W/1W) output power but also can realize larger coverage through external antennas.

Applications



Features

- Support Auto Data Transmission Rates Selection
- Comply with RoSH
- Support MAC address filtering
- Support WMM function
- Support link integrity function
- Support auto power adjustment function
- Support auto frequency adjustment function
- Support load balancing control
- Support WEP64/128/152 bit Encryption to ensure secure transmissions
- Support 802.1X, WPA, WPA-PSK, WPA2, WPA2-PSK authentication to ensure secure network
- Support 8 independent VAP (Virtual Access Point) and 802.1Q VLAN
- Support acceleration functions: Super, Regatter
- Easy installation , friendly user management interface ,plug and play

- Provide a variety of ways for configuration management : WEB,SNMP,CLI etc.
- Light weight ;Small size ;Low power consumption
- Remote power supply by Category 5e Cable

Specifications

Feature	
Standard	IEEE 802.11b (WiFi Compatible), IEEE802.11g (WiFi Compatible) , IEEE802.3/u 10/100Base-Tx RJ-45, IEEE802.3af (Power Over Ethernet) ,IEEE802.1p (QoS Priority), IEEE802.1q (VLAN) , IEEE802.1x (Security Authentication) ,IEEE802.11e (Wireless QoS), IEEE802.1d (Spanning Tree Protocol)
Support protocol	TCP/IP, IPX, NetBEUI
Rate select (Mbps)	Best / 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6
Working model	AP, Bridge, AP+Bridge
Smart WDS	Yes
Multi BSSID	8 virtual APs
DHCP	Support
DHCP Relay	Support
PPPoE	Support
Power adjust	Support
WMM	Support
Spanning tree	Support
Management agent	Support
Auto power	Support
Auto frequency adjust	Support
Super G	Support
Regatta	Support
Refuse XDos	Support
Link integrity	Support
Router	Support
AnyIP	Support
NAT	Support
Flow balance	Support
VoIP	Support

Link Test	Support
Radio	Support
Integrity	
LAN/PTE	One 10/100-BaseTX RJ-45 Ethernet port
Antenna	One N type(Female) antenna port
Default button	Support
Ground interface	Support
Electrical	
PoE/PTE	Support
Power Supply	48V DC/0.83A, Compatible with IEEE 802.3af
Power Consumption	600mA@48V
Radio	
RF card	One, 11g, Mini-PCI
RF output power(dBm)	23±1 /27±1 /30±1
Sensitivity	Sensitivity @ Packet Error Rate≦8-10% 11g 11b ≤-90dBm@6Mbps ≤-92dBm@1Mbps ≤-88dBm@9Mbps ≤-90dBm@2Mbps ≤-86dBm@12Mbps ≤-88dBm@5.5Mbps ≤-84dBm@18Mbps ≤-87dBm@11Mbps ≤-82dBm@24Mbps ≤-78dBm @36Mbps ≤-75dBm @48Mbps ≤-72dBm @54Mbps
Management	
Web manage	Support
SNMP MIB	Support
SSH	Support
CLI	Support
BWA Viewer	Support
Security	
WEP(bits)	64 / 128 / 152
WPA	WPA, WPA2, WPA-PSK, WPA2-PSK
802.1x	Support

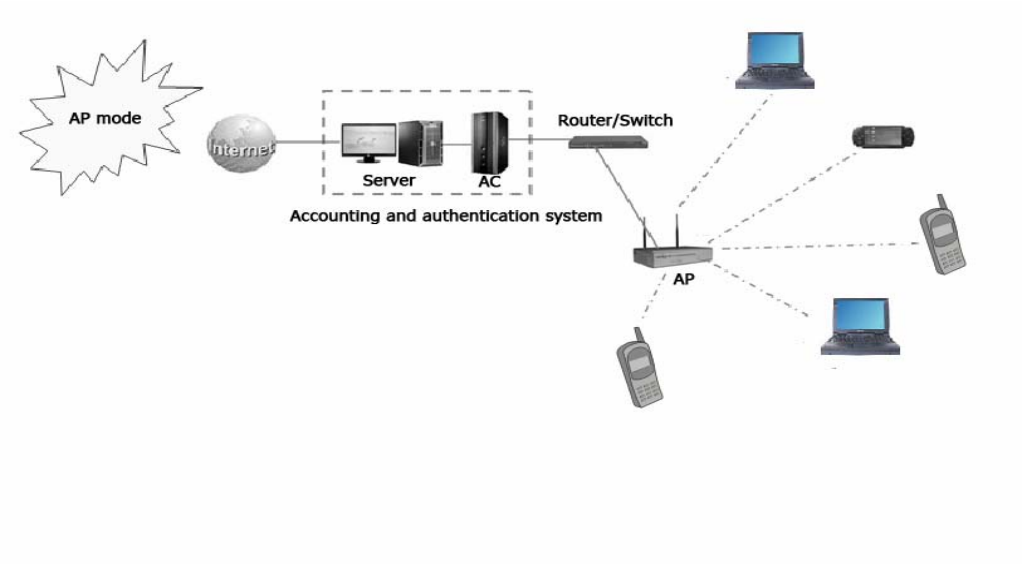
MAC Control	Support
VLAN	Support
Wireless Client Security Separation	Support
Physical	
Dimensions(mm)	305×305×94
Environment	
Working Temperature	0~50
Store Temperature	-10~65
Humidity	5 ~ 95%

(3) WPB-7000-I Series

Introduction

WPB-7000-I is a new generation wireless wide band access point, which meets IEEE 802.11g standard, adopts Orthogonal Frequency Division Multiplexing (OFDM) technology; It has several advantages as high speed rate up to 54 Mbps, wide coverage range and therefore provides excellent solution for operator, ISP and users. It not only can provide (0.25W/0.5W/1W) output power but also can realize larger coverage through external antennas.

Applications



Features

- Support Auto Data Transmission Rates Selection
- Comply with RoSH
- Support MAC address filtering
- Support WMM function
- Support link integrity function
- Support auto power adjustment function
- Support auto frequency adjustment function
- Support load balancing control
- Support WEP64/128/152 bit Encryption to ensure secure transmissions
- Support 802.1X, WPA, WPA-PSK, WPA2, WPA2-PSK authentication to ensure secure network
- Support 8 independent VAP (Virtual Access Point) and 802.1Q VLAN
- Support acceleration functions: Super, Regatter
- Easy installation , friendly user management interface ,plug and play

- Provide a variety of ways for configuration management : WEB,SNMP,CLI etc.
- Light weight ;Small size ;Low power consumption
- Remote power supply by Category 5e Cable

Specifications

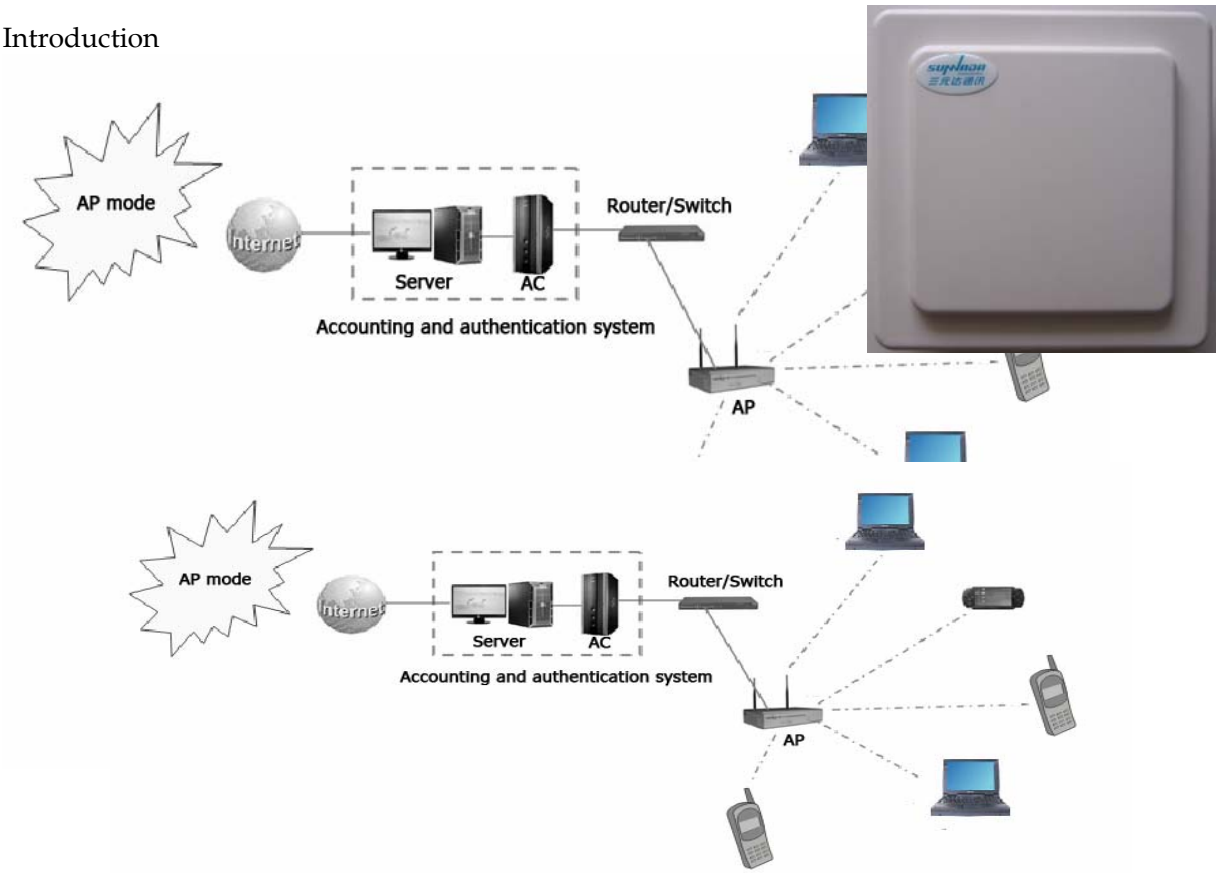
Feature	
Compliant Standards	IEEE 802.11a (WiFi Compatible),IEEE 802.11b (WiFi Compatible), IEEE802.11g (WiFi Compatible) ,IEEE802.3/u 10/100Base-Tx RJ-45, IEEE802.3af (Power Over Ethernet) ,IEEE802.1p (QoS Priority), IEEE802.1q (VLAN) ,IEEE802.1x (Security Authentication) , IEEE802.11e (Wireless QoS), IEEE802.1d (Spanning Tree Protocol)
Support Network Protocol	TCP/IP IPX NetBEUI
Data Transfer Rate(Mbps)	Best / 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6
Working Mode	AP, Bridge, AP+Bridge
Smart WDS	Support
Multi BSSID	8 Virtual APs
WMM	Support
Spanning Tree	Support
Watchdog	Support
Management Agent	Support
Auto Power	Support
Auto Frequency Adjust	Support
Super G	Support
Regatta	Support
Refuse XDos	Support
Link Integrity	Support
Router	Support
AnyIP	Support
NAT	Support
Flow Balance	Support
VoIP	Support
User Control	Support
Throughput Control	Support
Link Test	Support

Radio Switch	Support
PPPoE	Support
DHCP Relay	Support
Interface	
LAN/ PoE	One 10/100-BaseTX RJ-45 Ethernet Port
Antenna	1 External Antenna Ports
Default Button	Support
Console	One Control Port
Power(V)	One DC 12 Power Port
Led	1-POWER, 1-Test, 1-LAN, 2-RF
Electricity	
PoE (Power over Ethernet)	Yes(optional)
Power(V)	DC 12 (optional)
Power Consumption	DC Adapter: +12V DC@450mA POE (802.3af,isolation, 48V@150mA)
Radio	
RF Card	One, 11g, Mini-PCI
RF Output Power	23±1dBm
Sensitivity	Sensitivity @ Packet Error Rate≦8-10% 11a 11g 11b ≤-90dBm@6Mbps ≤-90dBm@6Mbps ≤-92dBm@1Mbps ≤-88dBm@9Mbps ≤-88dBm@9Mbps ≤-90dBm@2Mbps ≤-86dBm@12Mbps ≤-86dBm@12Mbps ≤-88dBm@5.5Mbps ≤-84dBm@18Mbps ≤-84dBm@18Mbps ≤-87dBm@11Mbps ≤-82dBm@24Mbps ≤-82dBm@24Mbps ≤-78dBm @36Mbps ≤-78dBm @36Mbps ≤-75dBm @48Mbps ≤-75dBm @48Mbps ≤-72dBm @108/54Mbps ≤-72dBm @54Mbps
Management	
Secure Web Management	Support
SNMP MIB	Support
SSH	Support
CLI	Support
BWA Viewer	Support

Security	
WEP Encryption(bits)	64 / 128 / 152
WPA	WPA, WPA2, WPA-PSK, WPA2-PSK
802.1x	Support
MAC Control	Support
VLAN	Support
Wireless Client Security Separation	Support
Appearance	
Dimensions(mm)	280×180×44
Specifications	
Working Temperature(℃)	0~50
Store Temperature(℃)	-10~65
Humidity	5 ~ 95%

(4) WPB-7000-O Series

Introduction



Features

- Support Auto Data Transmission Rates Selection
- Comply with RoSH
- Support MAC address filtering
- Support WMM function
- Support link integrity function
- Support auto power adjustment function
- Support auto frequency adjustment function
- Support load balancing control
- Support WEP64/128/152 bit Encryption to ensure secure transmissions
- Support 802.1X, WPA, WPA-PSK, WPA2, WPA2-PSK authentication to ensure secure network
- Support 8 independent VAP (Virtual Access Point) and 802.1Q VLAN
- Support acceleration functions: Super, Regatter
- Easy installation , friendly user management interface ,plug and play
- Provide a variety of ways for configuration management : WEB,SNMP,CLI etc.

Specifications

Feature	
Compliant Standards	IEEE 802.11b (WiFi Compatible), IEEE802.11g (WiFi Compatible) , IEEE802.3/u 10/100Base-Tx RJ-45, IEEE802.3af (Power Over Ethernet) IEEE802.1p (QoS Priority), IEEE802.1q (VLAN) ,IEEE802.1x (Security Authentication) ,IEEE802.11e (Wireless QoS), IEEE802.1d (Spanning Tree Protocol)
Support Network Protocol	TCP/IP IPX NetBEUI
Data Transfer Rate(Mbps)	RF1: Best / 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 RF2: Best / 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6
Working Mode	AP, Bridge, AP+Bridge
Smart WDS	Support
Multi BSSID	8 Virtual APs
WMM	Support
Spanning Tree	Support
Watchdog	Support
Management Agent	Support
Auto Power	Support
Auto Frequency Adjust	Support
Super A/G	Support
Regatta	Support
Refuse XDos	Support
Link Integrity	Support
Router	Support
AnyIP	Support
NAT	Support
Flow Balance	Support
VoIP	Support
User Control	Support
Throughput Control	Support
Link Test	Support
Radio Switch	Support

PPPoE	Support
DHCP Relay	Support
Interface	
LAN	One 10/100-BaseTX RJ-45 Ethernet Port
Antenna	2 External N type Antenna Ports
Default Button	Support
Ground Interface	Support
Console	One Control Port
Led	1-POWER, 1-Test, 1-LAN, 2-RF
Electricity	
PoE/PTE	Yes(optional)
Power Supply	48V DC/0.83A, Compatible with IEEE 802.3af
Power Consumption	350mA@48V
Radio	
RF Card	Mini-PCI, one 11g, one 11a
RF Output Power(dBm)	11g:（30/27/23）±1；11a:16±1
Sensitivity	Sensitivity @ Packet Error Rate≦8-10% 11a 11g 11b ≤-90dBm@6Mbps ≤-90dBm@6Mbps ≤-92dBm@1Mbps ≤-88dBm@9Mbps ≤-88dBm@9Mbps ≤-90dBm@2Mbps ≤-86dBm@12Mbps ≤-86dBm@12Mbps ≤-88dBm@5.5Mbps ≤-84dBm@18Mbps ≤-84dBm@18Mbps ≤-87dBm@11Mbps ≤-82dBm@24Mbps ≤-82dBm@24Mbps ≤-78dBm @36Mbps ≤-78dBm @36Mbps ≤-75dBm @48Mbps ≤-75dBm @48Mbps ≤-72dBm @108/54Mbps ≤-72dBm @54Mbps
Management	
Secure Web Management	Support
SNMP MIB	Support
SSH	Support
CLI	Support
BWA Viewer	Support
Security	
WEP Encryption（bits）	64 / 128 / 152

WPA	WPA, WPA2, WPA-PSK, WPA2-PSK
802.1x	Support
MAC Control	Support
VLAN	Support
Wireless Client Security Separation	Support
Appearance	
Dimensions(mm)	305×305×94
Specifications	
Working Temperature(℃)	0~50
Store Temperature(℃)	-10~65
Humidity	5 ~ 95%

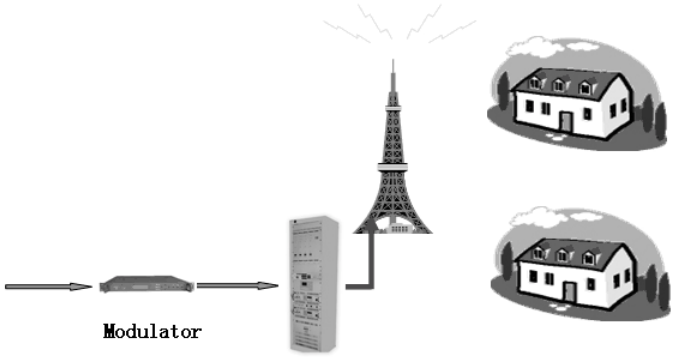
10. DVB-T/H TRANSMITTER SERIES

(1) DTV Transmitter

Introduction (TX-U/TX-S)

DTV Transmitter is designed to amplify and retransmit the modulated DTV signal.

Applications



Features

- Meet DVB-T, DVB-H standard
- Low power consumption design, enhanced transmitting power and reduced non-linearity distortion production
- Broad band response, low noise figure
- Extremely low group delay, suitable for DTV transmission
- ALC keeps constant power supply，VSWR output detection
- Support single frequency and multi-frequency network
- Pluggable modular construction, easy for installation, maintenance and upgrade.
- Embedded power lightning arrester avoiding lightning over-voltage and transient over-voltage
- Local monitoring or remote monitoring

Specifications

Items	Specifications
Frequency Range	UHF band、S band (Under Request)
Output Power（dBm）	53~57
Output Power Stability（dB）	≤0.5
Flatness in Band（dB）	≤2
Shoulder Level（f±4.2MHz）（dBc）	≥36
Input Impedance (Ω)	50
Output Impedance (Ω)	50
Temperature Range (℃)	-40~+60
Humidity (%)	10~95
Heat Dissipation	Temperature control, air-cooled system
Lightning Protection	Two grades lightning protection
Operation and Maintenance	RS232, Local or remote monitoring

(2) DTV RF Gap Filler

Introduction (GF-S/GF-U)

With the continuous expansion of DTV network, weak signal areas exist in remote mountainous areas and urban areas, which affect the network coverage quality. DTV RF Gap Filler is designed to enlarge coverage areas and eliminate blind areas, solving this problem in the most cost-effective way.

Applications

Features

- Meet DVB-T, DVB-H standard
- Low power consumption linearity design, enhance transmitting power and reduce non-linearity distortion production
- Broad band response, low noise figure
- Extremely low group delay, suitable for DTV transmission
- ALC keeps constant power supply，VSWR output detection
- Support single frequency and multi-frequency network
- Pluggable modular construction, easy for installation, maintenance and upgrade.
- Embedded power lightning arrester avoiding lightning over-voltage and transient over-voltage
- Local monitoring or remote monitoring

Specifications

Items(UHF Band)	Specifications
Frequency Range (MHz)	470~860 (Under Request)
Output Power (dBm)	27~53
Max Gain (dB)	≤65±2
ATT Adjustment in 1 dB Steps	0~30
ALC Range (dB)	15
Shoulder Level (dBc)	≥36
VSWR	≤1.5
Impedance (Ω)	50
Noise Figure (dB)	≤5
RF Connector	N(f)
Temperature(℃)	-40~+55
Humidity (%)	≤95
Power Supply (V)	220(Under Request)
Lightning Protection	External power lightning arrester, cable lightning arrester
Dimension(mm)	430×300×175(0.5W/1W/2W/5W) 500×400×220(10W/20W)

Items(S Band)	Specifications
Frequency Range (MHz)	2635~2660
Output Power (dBm)	27~53
Max Gain (dB)	≤65±2
ATT Adjustment in 1 dB Steps	0~30
ALC Range (dB)	15
Shoulder Level (dBc)	≥36
VSWR	≤1.5
Impedance (Ω)	50
Noise Figure (dB)	≤5

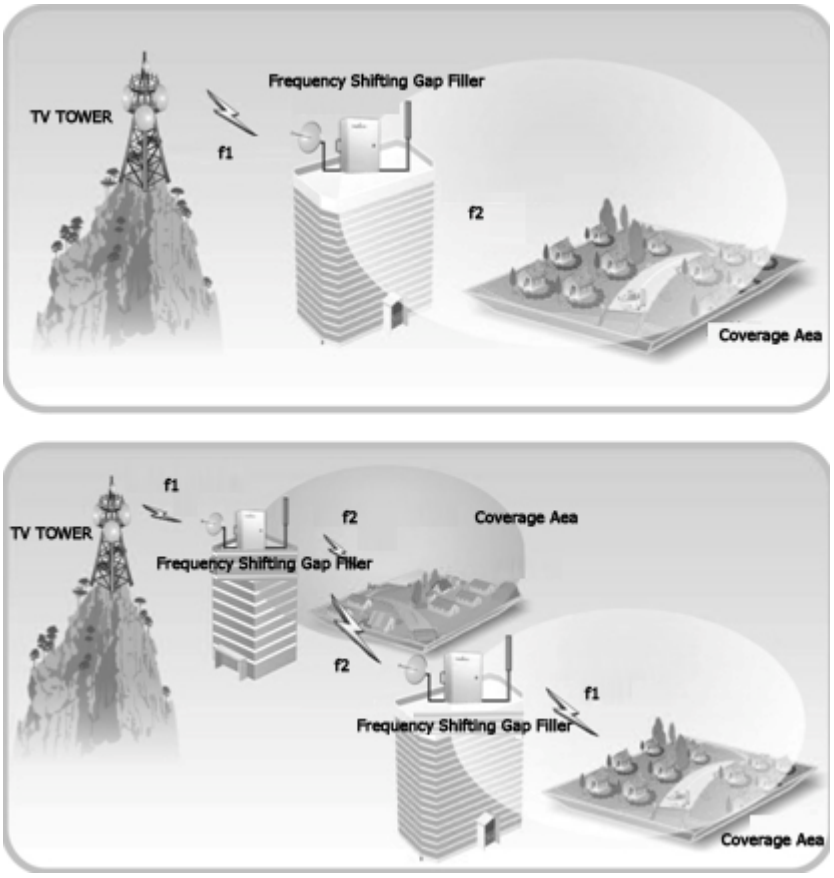
RF Connector	N(f)
Temperature(℃)	-40~+55
Humidity (%)	≤95
Power Supply (V)	220(Under Request)
Lightning Protection	External power lightning arrester, cable lightning arrester
Dimension(mm)	500×400×220(10W) 550×420×240(20W)

(3) DTV Frequency Shifting Gap Filler

Introduction (GF-S/GF-U)

Digital TV Frequency-Shifting Gap Filler is designed to receive, filter, convert, amplify and retransmit signals to cover blind and weak-signal area. Terminals can directly receive the converted signal. It reduces the requirement of isolation and adopts multi-level relay technology to efficiently enlarge the digital TV transmission coverage. It's flexible for network construction, easy for installation and cost saving.

Applications



Features

- Meet DVB-T, DVB-H standard
- Low power consumption linearity design, enhance transmitting power and reduce non-linearity distortion production
- Broad band response, low noise figure
- Extremely low group delay, suitable for DTV transmission

- ALC keeps constant power supply，VSWR output detection
- Support single frequency and multi-frequency network
- Pluggable modular construction, easy for installation, maintenance and upgrade.
- Embedded power lightning arrester avoiding lightning over-voltage and transient over-voltage
- Local monitoring or remote monitoring

Specifications

Items(UHF Band)	Specifications
Frequency Range(MHz)	470-806 (Under Request)
Output Power (dBm)	33/37/40/43/46
Max Gain (dB)	≤105±2
ATT Adjustment in 1 dB Steps	0~30
ALC Range (dB)	15
Shoulder Level(f±4.2MHz) (dBc)	≥36
VSWR	≤1.5
Impedance (Ω)	50
Noise Figure (dB)	≤5
RF Connector	N(f)
Temperature(℃)	-40~+55
Humidity (%)	≤95
Power Supply (V)	220(Under Request)
Lightning Protection	External power lightning arrester, cable lightning arrester
Dimension(mm)	500×400×220(2W/5W) ,550×420×240(10W/20W)

Items(S Band)	Specifications
Frequency Range(MHz) (Under Request)	2635-2660
Output Power (dBm)	40/43±1
Max Gain (dB)	95±3
ATT Adjustment in 1 dB Steps	0~30
ALC Range (dB)	15
Shoulder Level(f±4.2MHz) (dBc)	≥36

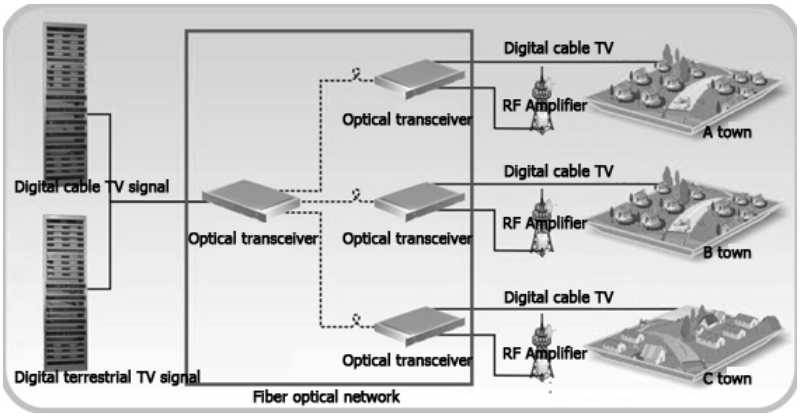
VSWR	≤1.5
Impedance (Ω)	50
Noise Figure (dB)	≤5
RF Connector	N(f)
Temperature(℃)	-40~+55
Humidity (%)	≤95
Power Supply (V)	220(Under Request)
Lightning Protection	External power lightning arrester, cable lightning arrester
Dimension(mm)	500×400×220(10W) ,550×420×240(20W)

(4) DTV RF Amplifier

Introduction

TV cable is inaccessible or the maintenance fee is expensive in rural areas. In order to take more advantage of existing fiber network, we can use an optical transceiver to combine the modulated signal into CATV fiber optic network, then transmit it to rural areas, and receive it by optical transceivers. Digital TV RF Amplifier is designed to amplify the output RF signal from optical transceivers and retransmit it to rural areas.

Applications



Features

- Meet DVB-T, DVB-H standard
- Automatic power control, automatic gain control
- Broad frequency range, ultra-linear power amplifier
- Weatherproof enclosure
- High reliability, easy for maintenance
- Output power display
- Optional backup power and solar power supply system
- Remote monitoring, centralized management

Specifications

Items(UHF Band)	Specifications
Frequency Range(MHz)	470~806 (Under Request)
Output Power (dBm)	27~53

Max Gain (dB)	≤65±2
ATT Adjustment in 1 dB Steps	0~30
ALC Range (dB)	15
Shoulder Level (dBc)	≥36
VSWR	≤1.5
Impedance (Ω)	50
Noise Figure (dB)	≤5
RF Connector	N(f)
Temperature(℃)	-40~+55
Humidity (%)	≤95
Power Supply (V)	220 (Under Request)
Lightning Protection	External power lightning arrester, cable lightning arrester
Dimension(mm)	500×400×220(10W) ,550×420×240(20W)

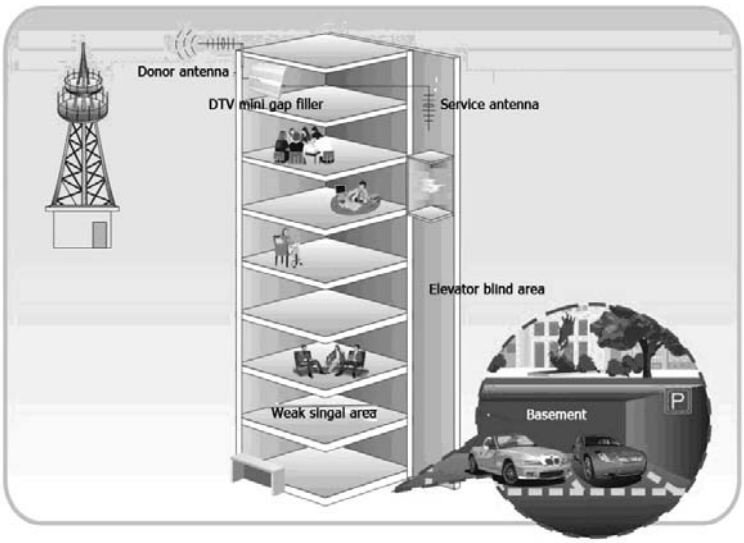
Items(S Band)	Specifications
Frequency Range	2635~2660
Output Power (dBm)	27~53
Max Gain (dB)	≤65±2
ATT Adjustment in 1 dB Steps	0~30
Flatness in Band (dB)	±0.5
Shoulder Level (dBc)	≥36
VSWR	≤1.5
Impedance (Ω)	50
ALC Range (dB)	15
Noise Figure (dB)	≤5
RF Connector	N(f)
Temperature(℃)	-40~+55
Humidity (%)	≤95
Power Supply (V)	220 (Under Request)
Lightning Protection	External power lightning arrester, cable lightning arrester
Dimension(mm)	500×400×220(10W) ,550×420×240(20W)

(5) DTV Mini Gap Filler

Introduction

Digital TV Mini Gap Filler is designed to provide cost-effective coverage over indoor space, such as small shopping malls, conference centers, office buildings, hotels and high-rise buildings.

Applications



Features

- Meet DVB-T, DVB-H standard
- Low noise, good side-band rejection ability, excellent anti-interference ability
- Small size, easy for installation, reliable performance
- High isolation, high gain
- With modular design and uniform interface, maintenance is simplified
- Reserves remote monitoring system interface for centralized monitoring and management.

Specifications

Items (UHF Band)	Specifications
Frequency Range (MHz)	470-806(Under Request)
Output Power（dBm）	17/20/23
Max Gain（dB）	≤65±2
ATT Adjustment in 1 dB Steps	0~30

Ripple in Band (dB)	≤3
Shoulder Level （dBc）	≥36
VSWR	≤1.5
Noise Figure（dB）	≤5
Temperature(℃)	-40~+55
Humidity (%)	≤95
Power Supply (V)	220(Under Request)
Lightning protection	External Power lightning arrester, cable lightning arrester
Dimension(mm)	160×130×30

Items (S Band)	Specifications
Frequency Range (MHz)	2635~2660
Output Power（dBm）	17/23±1
Max Gain（dB）	65±3
ATT Adjustment in 1 dB Steps	0~30
Ripple in Band (dB)	≤3
Shoulder Level （dBc）	≥36
VSWR	≤1.5
Noise Figure（dB）	≤5
Temperature(℃)	-40~+55
Humidity (%)	≤95
Power Supply (V)	220(Under Request)
Lightning protection	External power lightning arrester, cable lightning arrester
Dimension(mm)	160×130×30

Abbreviations

No.	Abbreviations	Description
1	ALC	Automatic Level Control
2	AP	Access Point
3	ATT	Attenuator
4	BS	Base Station
5	BTS	Base Station Transceiver Subsystem
6	CDMA	Code Division Multiple Access
7	DCS	Distributed Control System
8	DTV	Digital Television
9	DVB	Digital Video Broadcasting
10	GSM	Global System for Mobile communication
11	MAC	Media Access Control
12	MCPA	Multi-Carrier Power Amplifier
13	MS	Mobile Station
14	MTBF	Mean Time Between Failures
15	PA	Power Amplifier
16	PCS	Personal Communications Service
17	PLL	Phase Locked Loop
18	POI	Point of Interface
19	OFDM	Orthogonal Frequency Division Multiplexing
20	RF	Radio Frequency
21	VSWR	Voltage Standing Wave Ratio
22	WCDMA	Wideband Code Division Multiple Access