REPEATERS
FIELD EXTENDERS
FOR CELLULAR TELEPHONE

- GSM 900 MHz
- DCS 1800 MHz
- UMTS 2100 MHz
- LTE 2600 MHz
- LTE 800 MHz

Exclusive
MICROSET
INVENTION
Patented

Move the signal where you want

Electromagnetic field limitation

- EU TEST APPROVAL
- FREE USE

ANNIVERSARY
45
YEARS
1973 2018

MICROSET®

EDITION 2018

PRESENTATION

The MICROSET **repeaters-field extenders** are very reliable and efficient equipments, useful to repeat the mobile telephone signal from outdoor (roof) where it is operative to indoor of the building where low level or absent, also outdoor-outdoor in shadow areas.

All models are **RTTE ETSI test approval,** free use and installation.
Microset invention, patented since 1995.
Sold in more than 40 Countries all over the world.

Warning of imitations, they are not reliable and without test approval.
Only Microset is experienced from more than 25 years.

- **Bands applications**
  GSM 900 2G Voice and standard data: mod. **BT10 - BT 20L.**

  GSM 2G UMTS 3G Dual bands voice and high speed data: mod. **BT20 DUAL - the most useful.**

  GSM 2G DCS 1800 Dual bands voice and high speed data: mod. **BT20 DUAL G-D.**

  UMTS 3G High speed data: mod. **BT15.**

  4G-LTE 2600MHz supports only data ultra fast.

  LTE low band 800MHz supports data traffic in countryside.

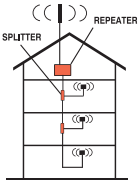
  Available **multi-bands repeaters system**
  GSM+UMTS+LTE or GSM+DCS+ UMTS+LTE, pag. 17.

- **Channels capacity**
  All models are **wide band** and repeat all communications, the limit of the channels is only from provider cell.
  The indicated channel capacity is only the Rules recommendation.

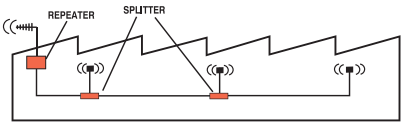
- **Technical support**
  For large applications like **shopping centres, hotels, plants, warehouses, hospitals** etc., Microset can make a **project** for sure operating and easy installation.

- **Electromagnetics field limitations**
  With Microset repeaters use, there is relevant limitation of the electromagnetic fields generated by the cellular telephone.
  Tested safety applications for residential use.

- **Standard delivery kit**
  All models include the necessary hardware for installation, included coaxial cables 10 mt. with assembled connectors.
  Optional: **extension coax cables,** pag. 20;
  splitter to expand and improve **indoor coverage,** pag. 19.



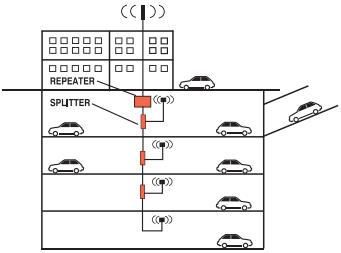
Buildings



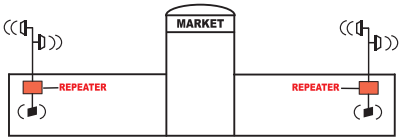
Manufacturing plants

Houses

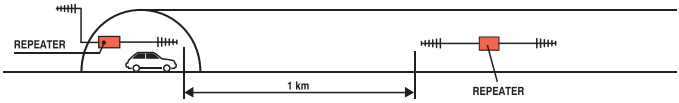
THE MOST ADVANCED IN THE MARKET !



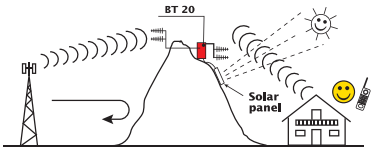
Underground car park



Shopping Centres



Motorway tunnels



Hills areas

MOBILE TELEPHONES REPEATERS
2G GSM – DCS – 3G UMTS – 4G LTE

BAND	MODEL	VERSION	TYPICAL COVERAGE
2G GSM **900MHz** Voice and data GPRS-EDGE **OUTDOOR APPLICATION**	**BT10**	Single-direction	**200-300m²**
	BT20L-Standard	Single-direction	**500-1.200m²** Splitter 2.500m²
	BT20L-OM	Multi-directions	**400-800m²**
	BT20L-LOG10 NEW	Single-direction	**500m** straight on
	BT20-CT4	Single-direction	**500-2.000m** straight on
2G GSM **3G UMTS** **DUAL BAND** **900MHz+2100MHz** Voice and data GPRS-EDGE HSPA - Fast internet	**BT20-DUAL standard**	Single-direction	**800-1.500m²** Splitter 3.600m²
	BT20-DUAL OM	Multi-directions	**400-800m²**
	BT20-DUAL COL2	Multi-directions	**1.000-1.800m²** Splitter 3.600m²
	BT20-DUAL COL4	Multi-directions	**1.000-2.000m²** Splitter 6.000m²
2G GSM + DCS **DUAL BAND** **900MHz+1800MHz** Voice and data GPRS - EDGE	**BT20-DUAL G-D standard**	Single-direction	**800-1.500m²** Splitter 3.000m²
	BT20-DUAL G-D/OM	Multi-directions	**500-700m²**
3G UMTS **2100MHz** HSPA - Fast internet	**BT15**	Single-direction	**100-200m²**
DCS 1800MHz Voice and data GPRS/EDGE	**BT20-DCS**	Single-direction	**500-900m²**
4G LTE **2600MHz** Ultra fast internet	**BT20-LTE**	Single-direction	**600-800m²**
	BT20-LTE COL2	Multi-directions	**800-1.200m²** Splitter 2.500m²
	BT20-LTE COL4	Multi-directions	**1.000-1.500m²** Splitter 3.000m²
4G LTE **800MHz** Fast internet	**BT14** NEW	Single-direction	**300-1.000m²**

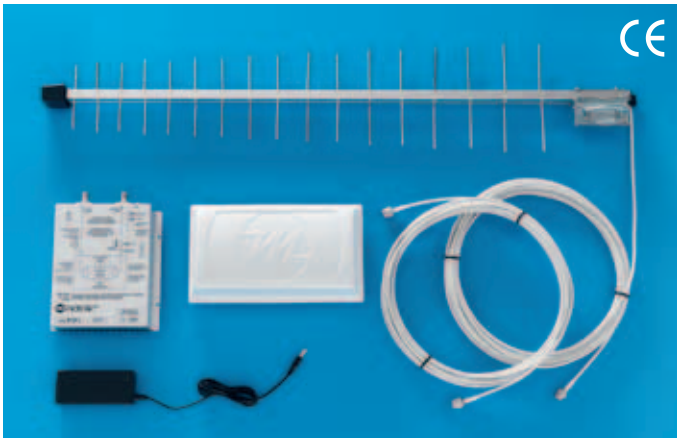
Versions **SINGLE DIRECTION:**
include roof high gain directional antennas, useful where the outside signal level is low and only one provider to support, or more operators service with cells placed on the same direction.

SELECTION TABLE

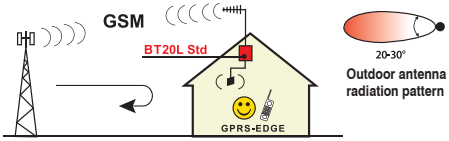
ROOF ANTENNA	DOWN LINK GAIN	PLUGS	Vdc	PAGE
Directional LOG5 (70-80°)	50-55dB	SMA-F	9V	**9**
Directional LOG10 (20°)	65dB	TNC-F	9V	**6**
Omni MC900 (360°)	65dB	TNC-F	9V	**7**
Directional LOG10 (20°)	65dB	TNC-F	9V	**6**
Two directional LOG10 (20°)	90-95dB	TNC-F	10V	**8**
Directional MD14 (70-90°)	65dB	TNC-F	9V	**10**
Omni MD6 (360°)	65dB	TNC-F	9V	**11**
Collinear COL2 (2 panels)	65dB	TNC-F	9V	**11**
Collinear COL4 (4 panels)	65dB	TNC-F	9V	**11**
Directional MD14-GD (70°)	65dB	TNC-F	9V	**12**
Omni MD6 (360°)	65dB	TNC-F	9V	**12**
Directional MPU15 (60°)	50-55dB	SMA-F	9V	**16**
Directional MPD15 (70-90°)	65dB	TNC-F	9V	**13**
Directional M15-LTE (50-60°)	65dB	TNC-F	12V	**15**
Collinear COL2-LTE (2 panels)	65dB	TNC-F	12V	**15**
Collinear COL4 LTE (4 panels)	65dB	TNC-F	12V	**15**
Directional LOG5 (70-80°)	60dB	TNC-F	5V	**14**

Versions **MULTI DIRECTIONS:**
include external omnidirectional antenna; use where outside signal level is strong and more operators cells placed in different positions.

BT 20L-std



Mod. BT20L-STANDARD SINGLE DIRECTION



The **BT20L Standard** is a reliable professional repeater, gain 65dB and automatic level control (ALC), interference alarm signalling, very efficient, able to expand **GSM signal** up to 1.000 square meters, 3.000 by use option kit splitter.

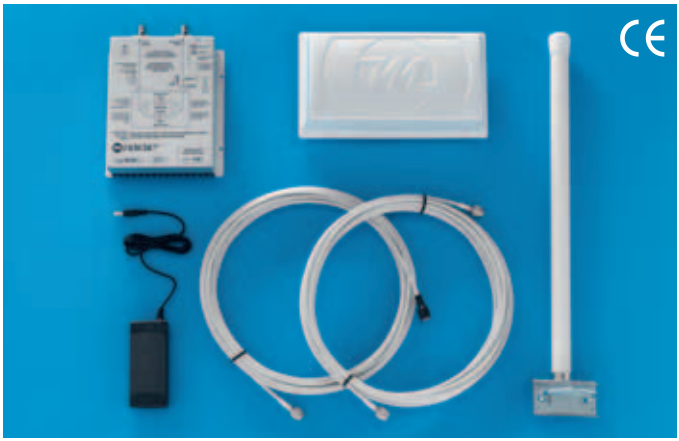
Equipped with high gain directional antenna 20-30° radiation.
Recommended where outside signal is weak and provider cell is faraway.

It supports voice **20-30 simultaneous communications** and medium speed data service also in critical applications.

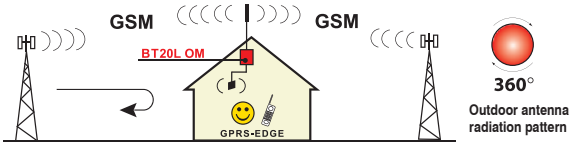
Delivery kit the main hardware for easy installation:
- **1 roof directional antenna with 10mt cable and connectors**
- **1 indoor panel antenna with 10mt cable and connectors**
- **1 amplifier 60-65dB gain**
- **1 power supply 110-230VAC**

Options:
- Kit splitter, see page 19
- Extension coax cables **PR10-20-33,** page 20
- Collinear roof antenna **COL2-COL4,** page 23.

BT 20L-om



Mod. BT20L-OM MULTI-DIRECTIONS



The **BT20L-OM** operates on **GSM 900MHz wide band** for voice and GPRS-EDGE data (standard speed); typical channel capacity **up to 20-30 simultaneous communications** from outside buildings where signal is well operative to inside where is poor or absent.

The **OM** version equipped with roof **omnidirectional antenna,** not need any direction set-up (360° radiation), **but limited gain,** usable only with strong roof signal.

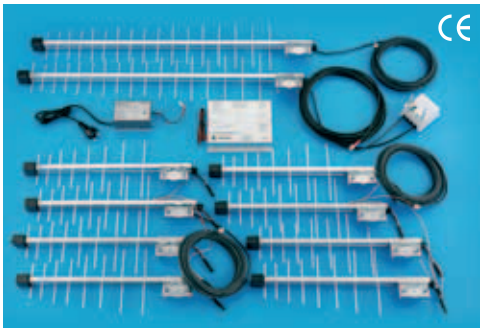
Applications: shops, restaurants, offices, plants, buildings, tunnels, underground car-parks, etc.

Delivery kit the main hardware for easy installation:

- **1 omnidirectional antenna with 10mt cable and connectors**
- **1 indoor panel antenna whit 10mt cable and connectors**
- **1 amplifier 60-65dB gain**
- **1 power supply 110-230VAC**

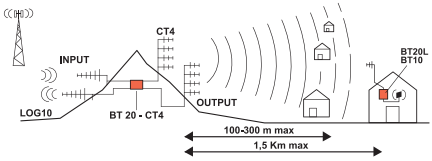
Options:

- Kit splitter, page 19
- Extension coax cables **PR10-20-33,** page 20
- Collinear roof antenna **COL2-COL4,** page 23.



MINIMUM REQUIREMENTS TO OPERATE:

- **GOOD INPUT SIGNAL LEVEL**
- SIGNAL COMING DIRECTLY FROM PROVIDER CELL, **NO REFLEXION**
- **GOOD ELECTRIC SHIELD INSULATION** BETWEEN INPUT AND OUTPUT SIDE OF REPEATER ANTENNAS



Example of outdoor outdoor installation

To obtain sure shield between input and output, use **coax cables extensions 10-20-33mt or hills.**

BT20-CT4 2G is an efficient and very reliable repeater for mobile telephone OUTDOOR-OUTDOOR applications able to extend **GSM-GPRS signal on 900MHz band on small valleys, villages, hills and open-air working areas, shadow zones.**

It operates on **wide band** and supports voice and standard speed data traffic with capacity of **20-30 simultaneous communications** in good field condition on input side.

Very high gain down-link **better than 95dB** with low noise antenna preamplifier. **Double antennas system,** two directional antennas on input side (angle 20-30°) and two collinear output antennas with adjustable radiation angle, to have max efficiency.

Installation:

- **Input antennas** must be placed in good signal position.
- **Output collinear antennas** on shield position than input side against oscillations and signal interference also into provider network.

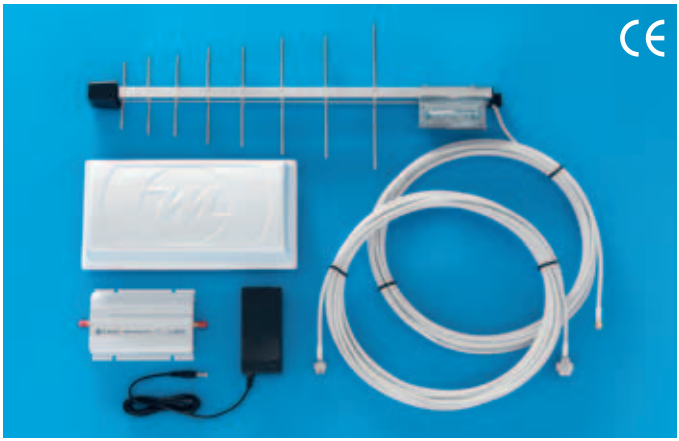
After installation check correct operation by spectrum analyser instruments. Installation strictly by qualified technician.

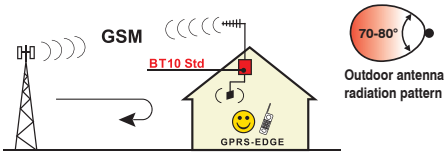
Options:

- Extension coax cables **PR10-20-33mt,** page 20
- Solar panel with battery kit, page 21
- Very high gain input collinear antennas **COL2-COL4,** page 23.

GSM - GPRS 900MHz 2G
Small-Medium coverage 200-300m²

BT 10





The **BT10** is a professional repeater with **50-55dB** gain, very reliable and efficient able to operate on **GSM 900MHz wide band** for voice and GPRS-EDGE data.
Useful to expand **up to 20 simultaneous communications** inside building where signal is poor or absent from roof where well operative.

The directional input antenna operate on 70-80° pattern radiation, must be installed on the roof directed to provider cell to have the max efficiency.

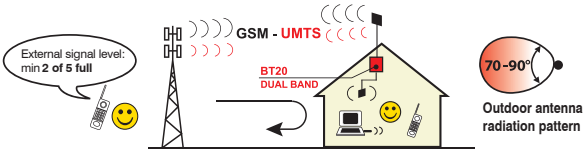
Applications: houses, offices, shops, restaurants, small buildings.

Delivery Kit: the main hardware for easy installation:
- **1 roof antenna with 10mt cable and connectors**
- **1 indoor panel antenna with 10mt cable and connectors**
- **1 amplifier 50-55dB gain**
- **1 power supply 110-230VAC**

Options:
- 2 ways kit splitter to expand indoor coverage on 2 areas, page 19
- Extension coax cable 10mt. **PR10-SMA,** page 20
- Indoor ceiling omnidirectional antenna **C7,** page 22.

BT20 DUAL-std

Mod. BT20-DUAL STANDARD SINGLE DIRECTION



The **BT20-DUAL** both versions are professional **dual band GSM-UMTS** repeaters for mobile telephone applications, **high gain 60-65dB,** automatic level control (ALC) and interference alarm.
Very reliable and efficient, able to cover up to **1.000 square meters** on the standard version; with **option kit splitter** and areas project can reach 2.000-3.000 square meters.

It operates simultaneous on two bands:
2G GSM 900MHz for voice and **3G UMTS 2100MHz** fast data internet and video.

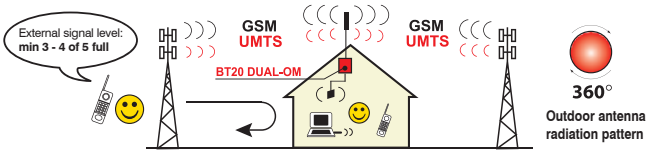
Useful to extend up to **20-30 communications** from outside building where signal is well operative to inside where poor or absent.

BT20-DUAL STANDARD mono direction version uses an external panel antenna **MD14** with high gain (14dBi) that must be direct to one or more provider cells into radiation angle 70-90°.

If required **multiproviders** service and outside signal is low level, it can be use collinear antenna **COL2** (2 panels) or **COL4** (4 panels).

BT20 DUAL-om

Mod. BT20-DUAL OM MULTI-DIRECTIONS

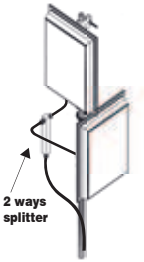


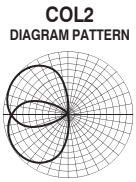
The **BT20-DUAL OM** or **multi-provider version** includes an omnidirectional antenna **MD6** operative on 360° with limited gain (6dBi) but it not need any direction set, useful with outdoor strong signal level.
Coverage 400-700sqm, 1.500-2.000sqm option.

Applications:
offices, factories, warehouses, shopping centers, hotels, resturants, underground car parks, houses.

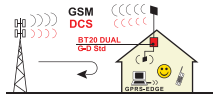
Delivery kit includes all main hardware for easy installation:
- **1 roof antenna with 10mt cable and connectors**
- **1 indoor panel antenna with 10mt cable and connectors**
- **1 amplifier 60-65dB gain**
- **1 power supply 110-230VAC**

Options:
- Kit splitter, see page 19
- Extension coax cables **PR10-20-33**
- Indoor ceiling antenna **C7**
- Collinear high gain antennas **COL2-COL4.**





BT20-DUAL G-D



Mod. BT20 DUAL G-D STANDARD
SINGLE DIRECTION

Mod. BT20 DUAL G-D/OM
MULTI-DIRECTIONS

The **BT20-DUAL G-D** both versions are professional **dual band GSM+DCS** repeaters for mobile telephone applications, **high gain 60-65dB**, automatic level control (ALC) and interference alarm.
Very reliable and efficient, able to cover up to **1.500 square meters** standard version; with **kit splitter option** and adequate project can reach 2.000-3.000 square meters of indoor areas.

It operates on bands **GSM 900MHz** voice and low speed data and **DCS 1800MHz** voice and high speed data.
Transfer signal from outside to inside buildings **20-30 simultaneous communications.**

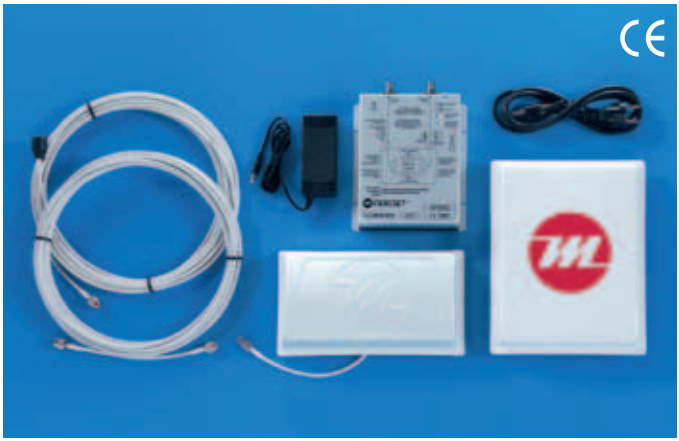
- **BT 20 DUAL G-D STANDARD:** directional panel antenna 14dBi
- **BT 20 DUAL G-D OM:** omnidirectional antenna 6dBi

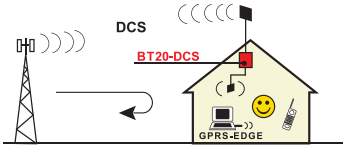
Applications:
shops, restaurants, offices, factories, houses, tunnels, underground car parks.

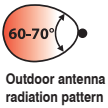
Delivery kit includes all main hardware for easy installation:
- **1 roof antenna with 10mt cable and connectors**
- **1 indoor panel antenna with 10mt cable and connectors**
- **1 amplifier 60-65dB gain**
- **1 power supply 110-230VAC**

Options:
- Kit splitter, see page 19
- Extension coax cables **PR10-20-33,** page 20
- Indoor ceiling omnidirectional antenna **C7,** page 22
- Collinear roof antenna **COL2-GD (120°)** or **COL4-GD (360°),** page 23.

BT20-DCS







Outdoor antenna radiation pattern

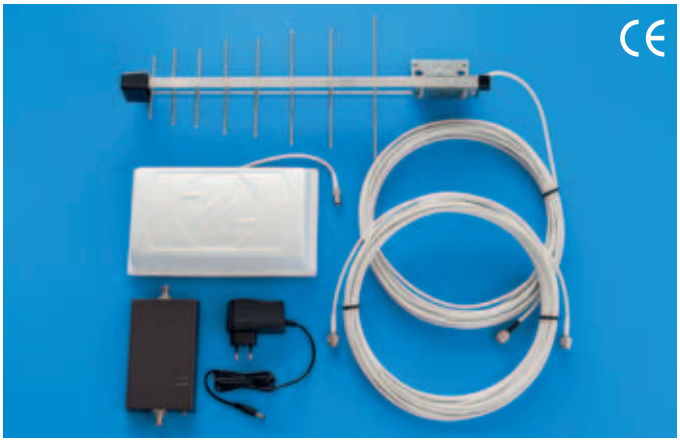
The **BT20-DCS** is a **new** professional repeater with high gain **60-65dB,** automatic level control (ALC) and interference alarm.
Very reliable and efficient, it operates on **DCS 1800MHz wide band:** voice and GPRS-EDGE data traffic, able to cover up to **900m²** expandable by option kit splitter, typical capacity up to **10-20 simultaneous communications.** Useful to expand the signal inside buildings where poor or absent level, from roof where well operative.

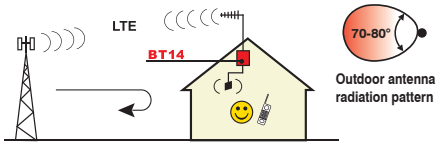
It can be installed **alone for mono-band service DCS 1800** (no GSM 900), or **combined with a BT20-DUAL to have 3 bands repeaters** system GSM-DCS-UMTS. See installation draft on page 17.

Delivery kit includes main hardware for easy installation:
- **1 roof high gain antenna MPD15 with 10mt cable and connectors**
- **1 indoor panel antenna with 10mt cable and connectors**
- **1 amplifier 60-65dB gain**
- **1 power supply 110-230VAC**

Options:
- Kit splitter 2 or 3 ways, see page 19
- Extension coax cables **PR10-20-33,** page 20
- Indoor ceiling omnidirectional antenna **C7,** page 22
- Collinear roof antenna **2 or 4 panels,** page 23.

BT 14





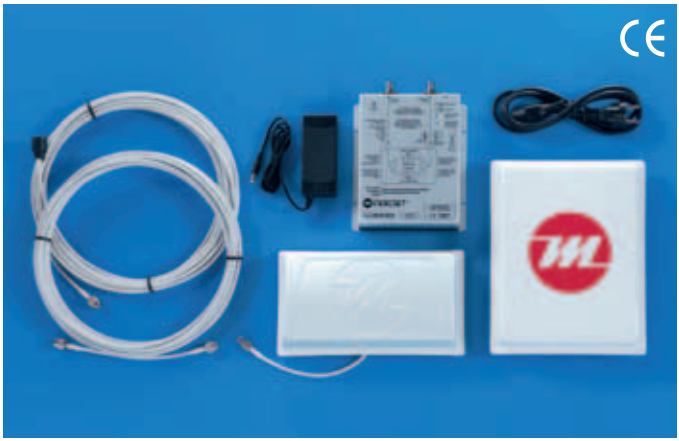
The **BT14** is a reliable and efficient repeater for **the new LTE low spectrum band** mobile telephone application, high speed service, **30-40Mb** on long distance.
Typically use on countryside far from the provider cell, where the LTE high band 2,6GHz or UMTS 2,1GHz are not operative due long distance or limited by obstacles and land curve attenuation.
The system is broadband able to repeat many communications simultaneously from outside roof position where signal has well level, to inside the building.

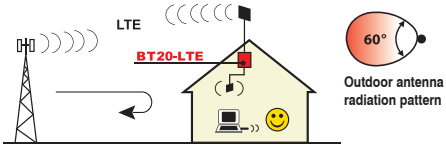
Applications:
houses, offices, hotels, restaurants, plants on countryside position far away from the city.

Delivery kit includes all main hardware for easy installation:
- **1 roof antenna with 10mt cable and connectors**
- **1 indoor panel antenna with 10mt cable and connectors**
- **1 amplifier 60-65dB gain**
- **1 power supply 110-230VAC**

Options:
- **CT4** high gain outdoor collinear antenna to increase efficiency and radiation pattern
- **Extension** coax cables **10-20-33mt,** page 20
- **Kit splitter** 2-3 ways for indoor extensions.

BT 20-LTE





The **BT20-LTE 4G** is a new reliable and very efficient repeater operative on the new **LTE band 2600MHz** very fast speed of data transmission up to 100Mb. Actually the LTE network is in progress, still operative in the main cities and countries.

Useful to extend many simultaneous communications from roof where signal is operative with good level, to inside building where poor or absent. Equipped with efficient automatic level control and interference alarm.

BT20-LTE can be installed **alone, monoband** system, or **combined** with other Microset repeaters **to obtain 3-bands or 4-bands.**

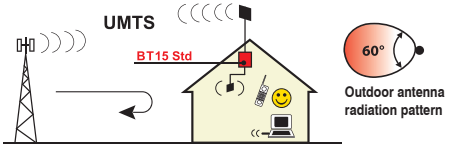
See below installations drafts on page 17.

Applications: houses, offices, shops, factories, etc.

Delivery kit includes main hardware for easy installation:
- **1 roof antenna M15-LTE with 10mt cable and connectors**
- **1 indoor panel antenna with 10mt cable and connectors**
- **1 amplifier 65dB gain**
- **1 power supply 110 - 230VAC 50Hz**

Options:
- **External Collinear antenna COL2 LTE** to expand coverage angle (up to 90-100°) and gain to improve indoor coverage, page 23
- **Kit splitter,** page 19.

BT 15



The **BT15** is a professional repeater on **UMTS band, good gain 50-55dB,** very reliable and efficient able to cover up to **200 square meters indoor.**

It operates on **3G UMTS 2100MHz wide band** for internet data high speed traffic (UMTS-HSPA) and it can expand many simultaneous communications inside buildings where signal is poor or never from roof where well operative.

BT15 NOT supports voice on GSM 900MHz nor DCS 1800MHz.
BT15-STANDARD is equipped with an external **high gain panel antenna,** wide coverage angle 70°, that must be directed to provider cell.

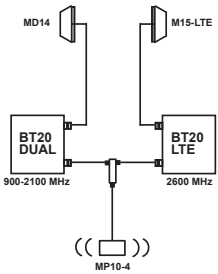
Applications:
houses, small offices, shops, restaurants, small buildings.

Delivery kit includes main hardware for easy installation:
- **1 roof antenna with 10mt cable and connectors**
- **1 indoor panel antenna with 10mt cable and connectors**
- **1 amplifier 50-55dB gain**
- **1 power supply 110-230VAC 50Hz**

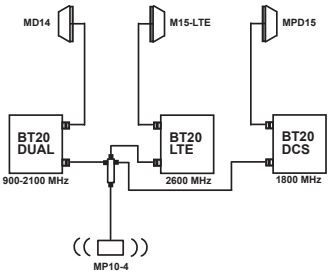
Options:
- **2** ways kit splitter to expand indoor coverage on 2 areas, page 19
- **Extension** coax cables **10mt,** page 20
- Indoor ceiling omnidirectional antenna **C7,** page 22.

MULTI BANDS REPEATERS

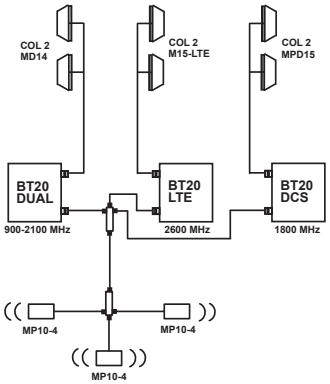
• 3 bands:
2G GSM 900 + 3G UMTS 2100 + 4G LTE 2600MHz



• 4 bands:
2G GSM900 + DCS 1800 + 3G UMTS 2100 + 4G LTE 2600MHz



• 4 bands HIGH GAIN COL2:
2G GSM900 + DCS 1800 + 3G UMTS 2100 + 4G LTE 2600MHz



The most **popular bands are: 2G - GSM 900MHz voice**
3G - UMTS 2100MHz fast data

TECHNICAL SPECIFICATIONS

MOD.	UP-LINK	DOWN LINK	GAIN	POWER SUPPLY
BT14	832-862MHz	791-821MHz	60dB UL 65dB DL	+5Vdc 0.4A
BT10	890-915MHz	935-960MHz	50-55dB	+9Vdc 0.4A
BT20L	890-915MHz	935-960MHz	65dB	+9Vdc 0.4A
BT20-CT4	890-915MHz	935-960MHz	90-95dB DL 60dB UL	+10Vdc 0.4A
BT20-DCS	1710-1785MHz	1805-1880MHz	65dB	+9Vdc 0.4A
BT20-DUAL G-D	890-915MHz 1710-1785MHz	935-960MHz 1805-1880MHz	65dB	+9Vdc 0.9A
BT20-DUAL	890-915MHz 1920-1980MHz	935-960MHz 2110-2170MHz	65dB	+9Vdc 0.9A
BT15	1920-1980MHz	2110-2170MHz	50-55dB	+9Vdc 0.4A
BT20-LTE	2500-2570MHz	2620-2690MHz	65dB	+12Vdc 0.9A

COMMON SPECIFICATIONS	
INPUT LEVEL	-65dBm typical
INTERMODULATION	better than -36dBm
SPURIOUS	-55dBm span 2MHz bw 30kHz
HARMONICS	better than -36dBm up to 20GHz
OUTPUT LEVEL	+10dBm ±2dB
CHANNEL SEPARATION	-55dB typ. , 45MHz test
OPERATING CLASS	A linear
GAIN LINEARITY	± 2dB at 50dB variation
IN/OUT IMPENDANCE	50Ω
ENVIRONMENTAL TEMP.	-15° +45°C (max -15° +50°C)
HUMIDITY	85% max
INSTALLATION	Indoor (amplifer and power supply)
COMPLIANCE TEST APRROVAL	**Directives EU 1999/5/CE - 2014/53/UE** **Standards ETSI EN300609-4** **ETSI EN301489-1** **ETSI EN301908-1** **ETSI EN 60950-1**
NOTIFY BODY	CE **1987 -** CE **0523**

KIT SPLITTER

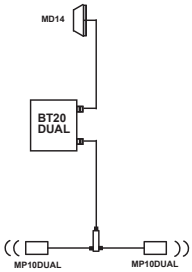
The **kit splitter,** join to Microset repeaters, are useful to expand the mobile telephone signal into buildings with several floors or one floor with shielding walls where signal propagation is limited.
The kit splitter include **the main hardware** for installation:
additional antennas, low loss coax combiners, coax cable 10mt. units with assembled connectors.
Additional extra coax cables option, see page 20.

- **2 ways** kit splitter: **totally 2 indoor** antennas
- **3 ways** kit splitter: **totally 3 indoor** antennas

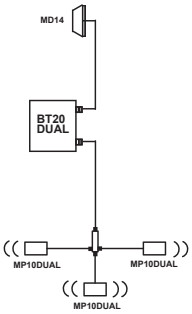
Facility of several 2-3 ways kit splitter on cascade connection for large application with adequate installation project.

REPEATERS	KIT SPLITTER	
BT10	**KS2-10**	2 ways
BT15	**KS2-15**	2 ways
BT20L	**KSL2** **KSL3**	2 ways 3 ways
BT20-DCS	**KS2-DCS** **KS3-DCS**	2 ways 3 ways
BT20-DUAL	**KSD2** **KSD3**	2 ways 3 ways
BT20-DUAL G-D	**KSD2-GD** **KSD3-GD**	2 ways 3 ways
BT20-LTE	**KS2-LTE** **KS3-LTE**	2 ways 3 ways

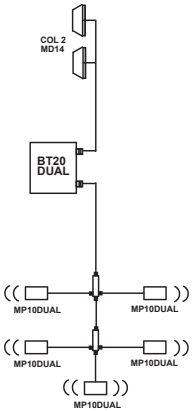
EXAMPLE



2 WAYS - KSD2



3 WAYS - KSD3



5 WAYS - n.2 KSD3

Cascade kit splitter facility for giant applications.

COAX CABLE EXTENSIONS

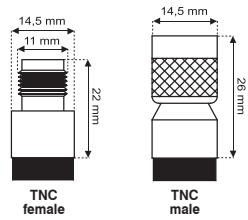
PR-PRS

Very low loss coaxial cables units useful to extend over 10mt the standard delivery coax length (outdoor and indoor antennas); supplied with assembled connectors and electric test, ready to use.

Three available versions:

- **PR:** use **TNC male -TNC female** Useful to **extend antenna cables.**
- **PRS:** use **two connectors TNC male** Splitter to splitter connection.
- **SMA:** available only **10mt** length For **BT10-BT15 repeaters cable** use **SMA male-SMA female.**

CONNECTORS SIZE



MODEL	LENGHT (mt)	DIAMETER Ø (mm)	CONNETTORS	INSERTION LOSS 900MHz	2000MHz
PR 5	**5**	10	TNC M-F	1.2dB	2.0dB
PR 10	**10**	10	TNC M-F	2.0dB	2.8dB
PR 20	**20**	10	TNC M-F	3.5dB	5.0dB
PR 33	**33**	10	TNC M-F	6.0dB	8.0dB
PR10-SMA	**10**	5	SMA M-F	3.5dB	5dB
PRS 5	**5**	10	TNC M-M	1.2dB	2.0dB
PRS 10	**10**	10	TNC M-M	2.0dB	2.8dB
PRS 20	**20**	10	TNC M-M	3.5dB	5.0dB
PRS 33	**33**	10	TNC M-M	6.0dB	8.0dB

WARNING! Different types of coaxial cables, not original Microset, could reduce drastically the repeater efficiency.

HIGH PERFORMANCE COAX CABLES

PRL

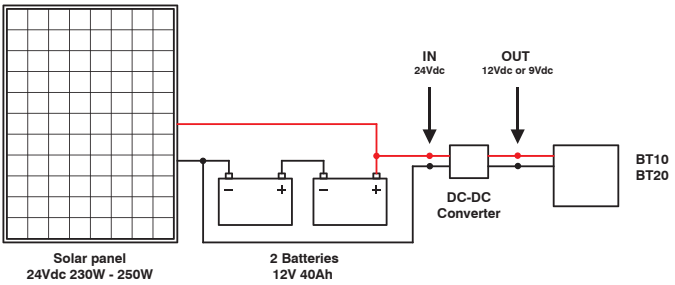
Very low loss coax cables **LMR 600** type, good flexibility, microwave applications and installation where required long extension.
Supplied with assembled connectors TNC.
Full electric attenuation test.

MODEL	LENGHT (mt)	DIAMETER Ø (mm)	CONNETTORS	INSERTION LOSS 900MHz	2000MHz
PRL 10	**10**	15	TNC M-M	1.0dB	1.5dB
PRL 20	**20**	15	TNC M-M	2.0dB	2.8dB
PRL 30	**30**	15	TNC M-M	3.0dB	4.5dB
PRL 40	**40**	15	TNC M-M	4.0dB	5.5dB
PRL 50	**50**	15	TNC M-M	4.8dB	7.0dB

More length on request.
Connector size: Ø 20mm **Band radius:** 40mm

SOLAR GENERATOR 230W

PF



Solar panel system able to generate DC "green" power from the sun, for supplying repeaters or others electronic equipments and lights, without any pollution.

MOD. **PF 12** Output **12Vdc**
MOD. **PF 9** Output **9Vdc**

Delivery kit:
- **1 solar panel 230-250W**
- **2 batteries 12V 40Ah**
- **1 DC-DC converter from 24Vdc to out 9Vdc or 12Vdc**
- **1 connection wiring**

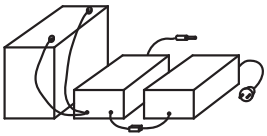
DC U.P.S. FOR REPEATERS
OPERATE ON SHORT OR LONG BLACK-OUT

MSB

Usable with **BT20-DUAL, BT 20L, BT20-DCS, BT10, BT15.**

MOD. **MSB7**
Output **9V** Battery **7Ah**
Autonomy **10-15 h**

MOD. **MSB15**
Output **9V** Battery **15Ah**
Autonomy **20-30 h**



Kit MSB includes:
- **power supply**
- **battery 12V with wiring connection**
- **converter 12V ➔ 9V.**

Without converter, output 12Vdc nominal (use with BT20-LTE).

Option: outdoor waterproof box.

INDOOR ANTENNAS

MP10-DUAL

3 BANDS ANTENNA GSM-DCS-UMTS
WALL PANEL INSTALLATION

FREQUENCY	GAIN	RADIATION
850-960MHz	10dBi	180°
1700-2200MHz	12dBi	160°

Polarization: VERTICAL
Connector: TNC female
Impedance: 50Ω
Dimension (mm): W 255 x D 80 x H 145

MP10-4

4 BANDS VERSION GSM-DCS-UMTS-LTE

C7

3 BANDS ANTENNA GSM-DCS-UMTS
CEILING INSTALLATION

FREQUENCY	GAIN	RADIATION
850-960MHz	7dBi	360°
1700-2200MHz	8dBi	360°

Polarization: VERTICAL
Connector: TNC female
Impedance: 50Ω
Dimension (mm): W 260 x D 126 x H 130

C7-LTE

4 BANDS VERSION GSM-DCS-UMTS-LTE

ROOF OMNIDIRECTIONAL ANTENNAS

MC900

GSM

FREQUENCY	GAIN	RADIATION
850-960MHz	6.5dBi	360°

Polarization:
VERTICAL
Connector:
TNC femmina
Impedance:
50Ω
Dimension (mm):
H 520mm, Ø 25mm

MD6

GSM-DCS-UMTS

FREQUENCY	GAIN	RADIATION
850-960MHz **1700-2200MHz**	6dBi	360°

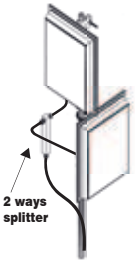
Polarization:
VERTICAL
Connector:
N femmina
Impedance:
50Ω
Dimension (mm):
H 500mm, Ø 50mm

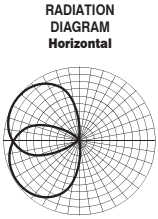
COLLINEAR ANTENNAS - HIGH PERFORMANCE

COL 2 — GSM - UMTS

FREQUENCY	GAIN	RADIATION
880-960MHz	14dBi	120°
1800-2170MHz	16,5dBi	90°

CONNECTOR: **TNC female**

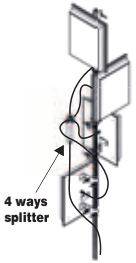


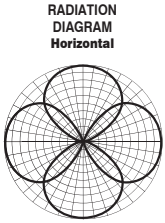


COL 4 — GSM - UMTS

FREQUENCY	GAIN	RADIATION
880-960MHz	14dBi	360°
1800-2170MHz	21dBi	90°

CONNECTOR: **N female**





Very rugged and high gain collinear antennas for outdoor installation to have an efficient aerial system and variety of pattern radiations.

Recommended to increase the low level signal or to compensate the loss of long coax cables or the attenuation of kit splitter use.

- **COL2** including: **two panels,** splitter TNC Female plug and wiring;
- **COL4** including: **four panels,** splitter N Female plug and wiring.

Each panel can be directed on different position to expand radiation or only one direction to improve a lot gain and efficiency.

High speed wind and snow resistance, operative also with very low environmental temperature -50°C.

DCS and LTE bands facility version.

GSM-UMTS DUAL BAND OUTDOOR PANEL ANTENNA — MD14

FREQUENCY	GAIN	RADIATION
880-960MHz **1800-2170MHz**	14dBi	70-90°

Polarization:	VERTICAL
Connector:	N female
Impedance:	50Ω
Dimension (mm):	W 310 x D 90 x H 365

Available also GSM-DCS version.

LAST MINUTE

NEW

Wifi LINKS
HIGH PERFORMANCE

2.6GHz
5GHz

TRANSCEIVER
ON BOARD

High speed operate
Long distance application

- **Rugged alloy construction IP67**
- **Storm lightning protection**
- **Standard of transmission 802.11a/b/g/n.**
- **TX or RX configuration facility - Software included.**
- **Output power +23dBm to +27dBm (selectable)**
- **Speed rate: nominal 300Mbps - real 210Mbps.**
- **PoE 24Vdc and mounting kit delivered.**

More details, see website www.microset.net

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E-mail: **info@microset.net** - **www.microset.net**

Distributor