OPTIREP MULTIBAND
703 ~ 2570 MHz

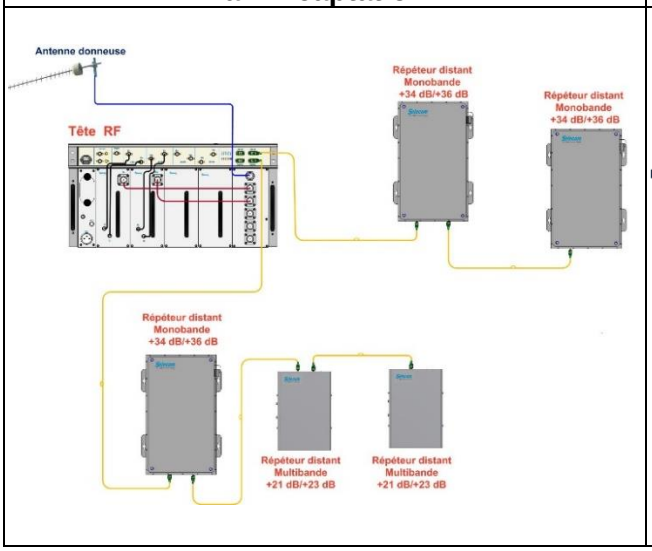
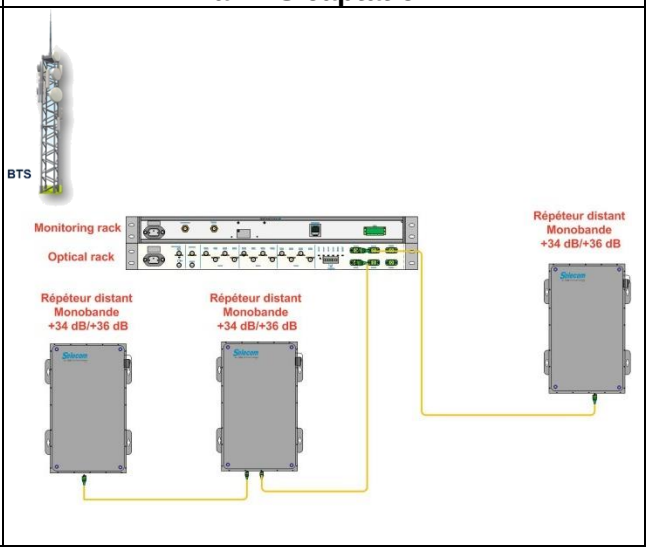
OPTIREP SYSTEM / RF-FO / HIGH FLEXIBILITY
703~2570 MHz 2G 3G 4G 5G

Key features

The **Optirep Multiband system** is flexible equipment that ensures the continuity of the Radiocommunications service in places or infrastructures insufficiently covered.

With the **flexibility of the system, several combinations are possible according to the specificities of each site : RF or BTS captation** compatible with remote repeaters MP and HP. Several optical racks can be combined in the need for distribution on more than 6 fibers.

The equipment can be **monitored remotely** using its E2M monitoring module (integrated WEB / SNMP server). Remote access is possible with all media using IP (modem, satellite ....). All "centralized" units (FO / RF repeater) are supervised (via optical fiber) by the master receiving unit in which the supervision module (WEB / SNMP server) is located.

Example of possible configuration with a RF captation	Example of possible configuration with a BTS captation
	

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Benefits

- ☑ System modularity: Several redundancy concepts,
- ☑ High flexibility and adaptability of the system,
- ☑ Power supply of choice 230 Vac or 48 Vdc,
- ☑ Remote configuration, monitoring and control,
- ☑ Great ease of installation.

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System specifications

The **Optirep Multiband system** includes:

- ✓ Two racks depending on the signal source:
  - A **passive / optical rack** (1U) and a **Digirep rack** (5U integrated ventilation) will be used for RF reception
  - A **monitoring rack** (1U) and 1 **passive / optical rack** (1U) will be used for BTS
- ✓ **Single or multiband remote unit.**

Technical characteristics of the system

RF characteristics		**700 MHz**	**800 MHz**	**900 MHz**	**1800 MHz**	**2100 MHz**	**2600 MHz**
Frequency range	***TX***	758~788 773~803 788~791PPDR	791~821	925~960	1805~1880	2110~2170	2620~2690
	RX	703~733 718~748 733~736PPDR	832~862	880~915	1710~1785	1920~1980	2500~2570
Gain Max	***MP***	80 dB					
	HP	90 dB					
Riplle in bandwidth		≤ 2dB					
Intermodulation		≤ -30 dBm @ ≥ 1 GHz ; ≤ -36 dBm @ ≤ 1 GHz					
Noise factor	***RX***	≤ 4 dB @ Gain Max					
	TX	≤ 5 dB @ Gain Max					
Group delay		≤ 5 µs (out of fiber)					

Sub-band filter

RF characteristics		**700 MHz**	**800 MHz**	**900 MHz**	**1800 MHz**	**2100 MHz**	**2600 MHz**
Number of filters max		12					
For each filter	*Adjust bandwidth*	From 100 kHz to 30 MHz		From 200 kHz to 35 MHz	From 200 kHz to 75 MHz	From 100 kHz to 60 MHz	
	Central frequency adjustment	From f_0 à f_0 + 15 MHz		From f_0 à f_0 + 17.5 MHz	From f_0 à f_0 + 35 MHz	From f_0 à f_0 + 30 MHz	From f_0 à f_0 + 35 MHz
	Adjustement attenuation	de 0 dB à -30 dB					

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Master unit specifications (RF captation)

Technical characteristics of the system

RF characteristics		700 MHz	800 MHz	900 MHz	1800 MHz	2100 MHz	2600 MHz
Frequency range	*TX*	758~788 773~803 788~791PPDR	791~821	925~960	1805~1880	2110~2170	2620~2690
	RX	703~733 718~748 733~736PPDR	832~862	880~915	1710~1785	1920~1980	2500~2570
UL composite nominal output power		+12 dBm					
Gain		Adjustable from 60 to 90 dB					
Ripple in bandwidth	*Frequency Adjustment*	From 200 kHz to full band					
	Frequency response	< ± 1 dB					
Selectivity		40 dB @ ± 400 KHz 50 dB @ ± 600 KHz 55 dB @ ± 1 MHz					
Absolute group delay		≤ 5 µs					
Maximum entry input BS		20 dBm without degradation of specifications and conform to standards / + 0 dBm without damage					
Monitoring		IP RJ45 Access (x2) 2G_3G_4G Modem/SNMP COMPLIANT					
Conformity		Compliant 3GPP					
RF SLOT	*Power supply*	28 VDC					
	Consumption	≤ 80 W					
	Dimensions	177 mm (4U) x 77 mm (15TE) × 393 mm					
	Weight	7 kg					
	Connectors	QN female					
	Protection class	IP68 / IK9					
	Signalisation	A tricolore LED (Green / Yellow / Red) + 1 dry loops					
COMBINER	*Insertion loss*	0.8 dB					
	Isolation	≥ 20 dB					
	VSWR	1,5 : 0					
	Dimensions (L x H x P)	177 mm (4U) x 76 mm x 200 mm					
	Weight	3 kg					
	Connectors	Antenna : 1 N female Rf slot 5x QN female					
SUPPLY	*Power supply*	230 Vac or 48V DC					
	Consumption	500 W					
	Efficciency	86%					
	Dimensions	177 mm (4 U) x 46 mm (9TE) x 370 mm					
	Weight	2.800 kg					

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Technical characteristics of the system

FANS	*Power supply*		28 V DC
	Consumption		6 W
	Dimensions		Binder F
	Weight		344 mm x 167 mm x 39 mm
	Connectors		0.75 Kg
REPEATER RACK	*Dimensions*		177 mm (4 U) x 482.6 mm x 446mm
	Weight *(Multiplexer included)*		10 kg
	Total weight *(Complete rack)*		35 kg
PASSIVE & OPTICAL RACK	*Optical access*		1 to 6 access SC APC (Factory setting)
	Connectors	*RF*	2 SMA femelle per band
		Optics	6 SC APC
	Control of remote units		Remote repeater monitoring by optical link over IP protocol
	Signalisation		Operating LEDs of optical links (Green / Yellow)
	Tension		230 Vac or 48Vdc
	Consommation		30 W
	Dimensions (L x H x P)		44 mm (1U) x 482.6 mm (19') x 260 mm
	Weight		4 Kg
	Protection class		IP20
	Technology		Transmission / reception in WDM on a fiber
	Wavelength emission		1310 nm
	Optical output power		4 dBm ± 2 dB
	CAG ((Automatic Balance Compensation)		12 dBo
Operating temperature			Between - 20 and +50°

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Master unit spécifications (BTS captation)

Technical characteristics

	RF Charactéristics	700 MHz	800 MHz	900 MHz	1800 MHz	2100 MHz	2600 MHz
RACK PASSIF et OPTIQUE	*Optical access*	From 1 to 6 déports (Factory setting)					
	Operators input	Up to 4 operators					
	Monitoring remote unit	Local IP monitoring					
	RF connectors	4 SMA Female					
	Optics connectors	6 SC APC					
	Bargraph	Indication of the distributed composite RF level on the fibers					
	Tension	230 Vac ou 48 Vdc					
	Voltage	30 W					
	Dimensions	44 mm (1U) x 482.6 mm (19') x 260 mm					
	Weight	4 Kg					
	Class protection	IP20					
	Technology	Emission/réception in WDM on a fiber					
	Wavelength emission	1310 nm					
	Optical output power	4 dBm ± 2 dB					
	CAG (Automatic Balance Compensation)	12 dBo					
MONITORING RACK	*Connectors*	2 connectors RF SMA Alarm connector 8 points					
	Dedicaced interface	Developed according to the application and the specifications					
	Monitoring	RJ45 / SIM card port IP monitoring/local / Remote monitoring via 2G / 3G / 4G modem					
	Protocol	HTTP, SNMP					
	Supply	230 Vac or 48 Vdc					
	Consumption	100 mA					
	Dimensions	44 mm (1U) x 482.6 mm (19') x 260 mm					
	Weight	2 Kg					
	Class protection	IP20					

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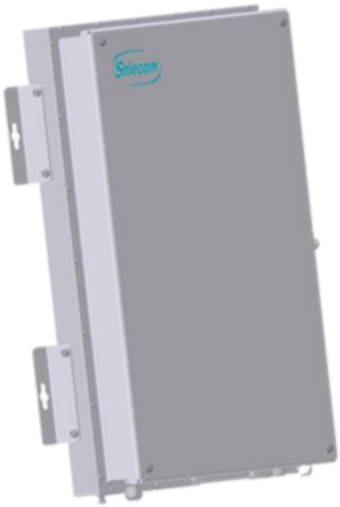
FO/RF single band remote unit

Technical characteristics

RF Charactéristics		700 MHz	800 MHz	900 MHz	1800 MHz	2100 MHz	2600 MHz
Frequency range	TX	758~788 773~803	791~821	925-960	1805~1880	2110~2170	2620~2690
	RX	703-733 718~748	832~862	880~915	1710~1785	1920~1980	2500~2570
DL composite nominal power		+36 dBm		+34 dBm		+36 dBm	
Optical link		2 outputs including 1 available as an option for daisy chain configuration					
OPTICAL INTERFACE	Technology	Transmission / reception in WDM on a fiber					
	Wavelength emission	1550 nm					
	Optical Output Power	4 dBm ± 2 dB					
	CAG (Automatic Balance Compensation)	12 dBo					
	Optical connector	SC / APC					
	Optical fiber	SMF G652D or G657A2					
ALIMENTATION et MECANIQUE	Supply voltage	230 Vac or 48 Vdc					
	Consumption	130 W max					
	Efficacity	86%					
	Connector	N-Female					
	Dimensions	350 mm x 550 MM x 102 mm					
	Weight	13 Kg					
	Cooling	Natural convection					
	Operating temperature	Between -20°C and 50°C					
	Supervision	Centralized at master level via TCP / IP link on fiber					



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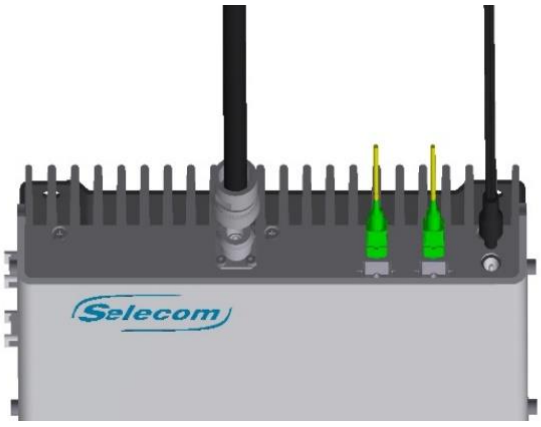
FO/RF multiband remote unit

Technical characteristics

RF Characteristics		700 MHz	800 MHz	900 MHz	1800 MHz	2100 MHz	2600 MHz
Frequency range	TX	758~788 773~803	791~821	925-960	1805~1880	2110~2170	2620~2690
	RX	703-733 718~748	832~862	880~915	1710~1785	1920~1980	2500~2570
DL composite nominal power		+ 23 dBm		+ 21 dBm		+ 23 dBm	
Optical links		2 outputs including 1 available as an option for daisy chain configuration					
OPTICAL INTERFACE	Technology	Transmission / reception in WDM on a fiber					
	Wavelengh emission	1550 nm					
	Optical output power	4 dBm ± 2 dB					
	CAG (Automatic Balance Compensation)	12 dBo					
	Optical connector	SC / APC					
	Optical fiber	SMF G652D or G657A2					
ALIMENTATION et MECANIQUE	Supply voltage	24 Vdc Power supply Plug in 230 Vac or 48 Vdc					
	Consumption	60 W max					
	Connector	1 N female					
	Dimensions (L x H x P)	260 mm x 210 MM x 70 mm					
	Weight	4 Kg					
	Cooling	Natural convection					
	Operating temperature	Between 0°C and +40°C					
	Monitoring	Centralized at master level via TCP / IP link on fiber					
	Optional	2dBi omnidirectional coverage antenna					



More informations: www.see-critical.com

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