Repeater Equipments

Isofrequency / Transposer Repeater Equipments *COVERTEL*

I / T24 | **I / T30**

The Gap-filler family of **Wish Soluciones** has been designed to provide small towns with DTTV (Digital Terrestrial Television) coverage. In these towns the signal is received in the surrounding area but the reception at home is impossible.

COVERTEL I / T24 and ***COVERTEL I / T30*** can work transposing the frequency channel or in single frequency networks (SFN). Covertel I/T has two local oscillators that are tuned depending on the necessities of the client. Thanks to a topology without internal narrow band filters and based on upconverters with high rejection to not desired mixing and local oscillator, the equipments operate without any necessity of manipulation.

Thanks to a topology without internal narrow band RF filters and based on upconverters with high rejection to not desired mixing and local oscillator, the equipments are tuned without any necessity of manipulation.

All the functions are controlled by means of the Local Management System –incorporated into each of the mono-channel equipments – that will be installed in a terminal (PC).

In addition Wish Soluciones has a Remote Management System based on a client-server architecture that is accessible through the Internet using a password. Thanks to this system several gap-filler equipments will be able to be pilled up and managed.

COVERTEL I / T24 and ***COVERTEL I / T30*** offer the possibility of incorporating our excellent adaptive echoes canceller but only when the equipment works in isofrequency mode. This accessory works with input signal-to-echo ratios (S/E) up to -20 dB, being the output signal-to-echo ratio in the order of 25 dB for extreme signal-to-echo ratios, with a cancellation greater than 40 dB.

COVERTEL I / T has an excellent global MER figure (≥35dB) providing higher range of coverage than other gap-fillers available on the market to the same output power.

Main Characteristics

- Output power: 0,25 W in COVERTEL I/T24; 1 W in COVERTEL I/T30
- Low noise figure.
- High selectivity in intermediate frequency by means of a SAW filter.
- High global IP3 based on active devices that have high P1dB.
- Low phase noise in local oscillators in UHF.
- Good impedance matching at input and output ports.
- Double automatic gain control both in reception –wide band and narrow band– and in transmission -equalization and output power control and power ramping-.
- We can control how it works in a lively and simple way through its Local Management System.
- Power supply redundancy is possible.

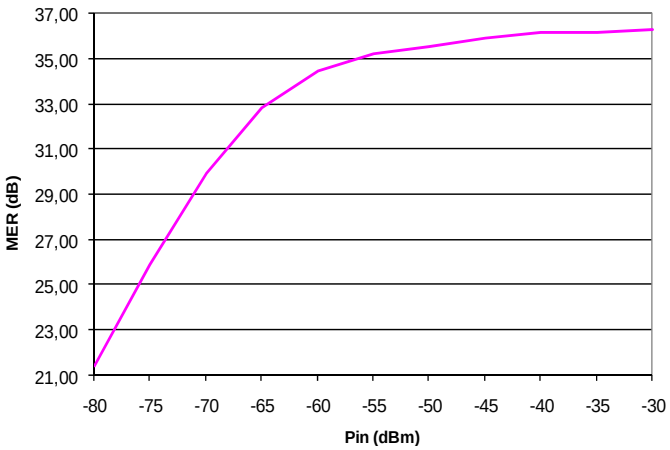
With the Wish Soluciones equipments it is possible to provide Professional Broadcasting quality in the field of low power, offering complete and professional gap-fillers at domestic prices.

Isofrequency / Transposer Covertel

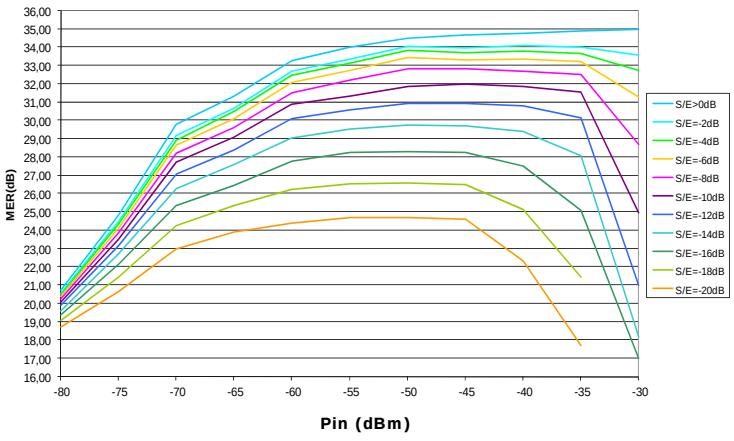
Technical Specifications

Identificador	Covertel I/T24	Covertel I/T30	Comment
General Characteristics			
Frequency range	470-862 MHz (UHF Bands IV and V)		
Channel bandwidth	8 MHz		
Intermediate frequency	70 MHz		
IF Selectivity	50 dB at the beginning of the adjacent channel		
I/O Impedance	50 Ω		
I/O Matching	≥15 dB		
I/O Isolation	>130 dB		
Operating temperature range	0-45 ºC		
Power supply, Voltage	100-240 V AC		
Power consumption	<65 VA		
RF In/Out connector	N Female		
Dimensions (LxWxH)	480x430x40 mm		
Weight	8 Kg		
RF OFDM Input			
Min./max. sensitivity	-80 dBm/-20 dBm		
Noise Figure, max. sensitivity	3 dB		Without Rx filter
Noise Figure, min. sensitivity	38 dB		Without Rx filter
RF OFDM Output			
Nominal power	24 dBm	30 dBm	Without Tx filter
Power stability	±0,5 dB		
Min./max. Gain	40 dB/120 dB		
Dynamic range	70 dB		
IP3 at maximum sensitivity	45 dBm		
IP3 at minimum sensitivity	45 dBm		
Out-of-band intermodulation level at nominal power	≤-43 dBc		Without Tx filter
In-band intermodulation level al nominal power	≤-35 dBc		
Image rejection (downconvertion)	≥30 dBc		Without Rx filter
Not desired mix rejection (upconvertion)	≥35 dBc		Without Tx filter
LO rejection (upconvertion)	≥30 dBc		Without Tx filter
Synthesis spurious	≤-50 dBc		With 5-pole Tx filter
MER	35 dB		See table
Local Ocillators (LOs)			
Frequency	544-928 MHz		
Synthesis resolution	4 MHz		
Phase noise	-93 dBc/Hz @ 100 Hz -101 dBc/Hz @ 1 KHz -105 dBc/Hz @ 10 KHz -110 dBc/Hz @ 100 KHz -125 dBc/Hz @ 1 MHz		
Master Oscillator			
Type/Frequency	OCXO-12 MHz		
Frequency tolerance	±2 ppm		
Frequency stability depending on temperature	±0.1 ppm		
Power test output			
Power/Impedance	-41 dBm/50 Ω	-35 dBm/50 Ω	
Connector	BNC Female		

Output MER depending on the Input Power without any echoes



Output MER depending on the Input Power for different signal-to-echo ratios



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