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OTUC-440x3 & OTDC-440 4 BAND UP / DOWN CONVERTER SYSTEM

Features / Benefits

- Quadruples available bandwidth.
- The model **OTUC-440x3** contains three up-converters, (each with a high power optical transmitter) which will multiplex four 5 to 42MHz return bands into a transmitted frequency return band of 4.5MHz to 206.5MHz.
- The model **OTDC-440** Down-Converter receives and then de-multiplexes the combined band back into the original four 5-42 MHz outputs.
- Up / Down converters are phase locked to a common reverse system pilot.
- Excellent phase noise performance that makes the system transparent to any form of modulation.
- High dynamic range active mixers and custom designed wide band sharp cut-off SAW filters limit image responses to typically 60dB below the desired responses.
- Low power dissipation (12 Watts) for reliable long term operator.



Quality / Engineering / Innovation

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OTUC-440x3



SPECIFICATIONS

Input Frequency Range	5MHz to 42MHz	
(Four Inputs)		
Output Spectrum	5MHz to 206.5MHz	
(Spectrum Inverted on Bands 2,3,4)	Band 1	- 5MHz to 42MHz (Non-converted)
	Band 2	- 51.5MHz to 88.5MHz
	Band 3	- 121.5MHz to 158.5MHz
	Band 4	- 169.5MHz to 206.5MHz
Frequency Accuracy	Each converted band phase locked to internal 4.5MHz pilot	
Gain	Each input to combined output 15dB \pm 1dB	
Gain Flatness	<3dB in any band	
Noise Figure	14dB maximum	
Maximum Input Signal	+15dBmV/carriers (6 carriers)	
Phase Noise	>-110dBc Hz @ 10KHz	
Input Return Loss	>15dB (5MHz to 42MHz)	
Output Return Loss	>15dB (5MHz to 206.5MHz)	
3 rd Order I.M. @ +15 dBmV Input/Carrier	>55dB typically >60dB (6 carriers)	
2 nd Order I.M. @ +15 dBmV Input/Carrier	>55dB (6 carriers)	
L.O. Rejection	Band 2	- 93.5162MHz >15dB
Measured relative to input	Band 3	- 163.5469MHz >15dB
Carriers @ +15 dBmV/carrier	Band 4	- 211.500MHz >15dB
Image Rejection	Band 2	- 98.5MHz to 133.5MHz
(55 dB minimum., 60 dB typical)	Band 3	- 168.5MHz to 203.5MHz
	Band 4	- 216.5MHz to 251.5MHz
Pilot Output	4.5MHz @ +25dBmV	
Power Requirements	90-250 VAC @ 50-60Hz , IEC 320 Power Receptacle	
Size	1.75"H x 19"W x 12"D	

1310nm Optical Transmitter (3)

Output Power	3mW
Composite Triple Beat	>55dB below 6 carriers @ 10% mod. index
Composite Second Order	>55dB below 6 carriers @ 10% mod index
Wavelength	1310 \pm 10 (each)
Return Loss (5-210mhz)	>15dB (each)
Frequency Response	5MHz to 300MHz
Ripple (Peak to Valley)	\pm 0.5dB (each)
Optical Connector.....	SC/APC (each)

OTDC-440

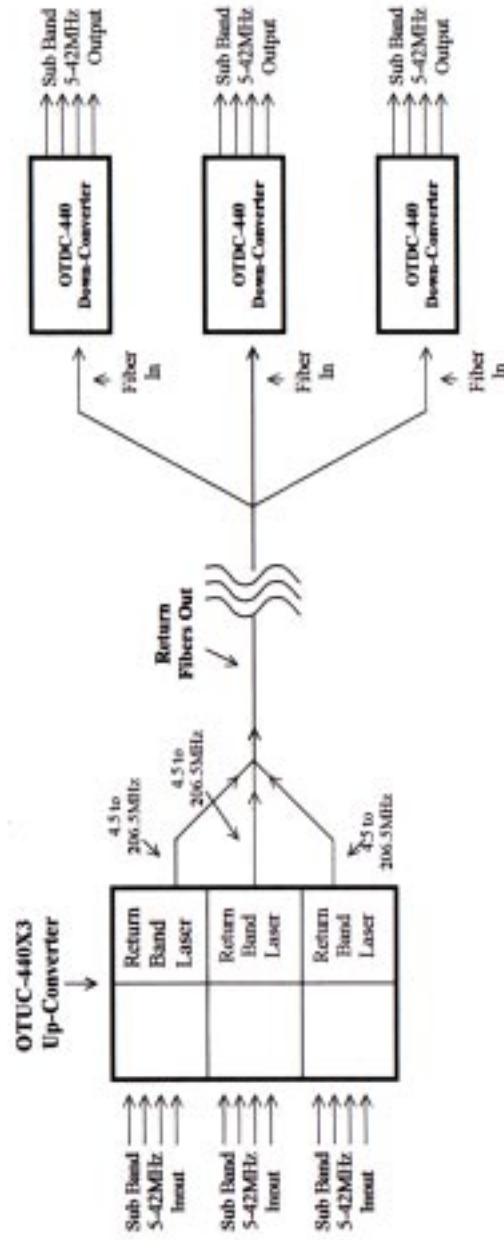


SPECIFICATIONS

Input Frequency Range	5MHz to 206.5MHz	
	Band 1	- 5MHz to 42MHz
	Band 2	- 51.5MHz to 88.5MHz
	Band 3	- 121.5MHz to 158.5MHz
	Band 4	- 169.5MHz to 206.5MHz
Optical Input	-8dBm minimum to 0 dBm maximum	
Optical Connector	SC/UPC or specify	
RF Input Level	+20dBmV \pm 10dB	
RF Connectors	Type F	
Output Frequency	Four outputs of 5MHz to 42MHz	
Frequency Accuracy	Locks to 4.5MHz pilot from up-converter 4.5MHz \pm 150Hz	
Phase Noise	>-110dBc Hz @ 10KHz	
AGC Range	+35dBmV/carrier RF output \pm 2dB for 8dB Optical input change or 16dB RF input change	
	Output level rear panel control adjustable Downward by 5dB minimum.	
*3 rd Order I.M. @ +30 dBmV/Carrier Output	>55dB	} Measured using Block up-converter @+15dBmV/carrier input
(Six carriers)		
*2 nd Order I.M. @ +30 dBmV/Carrier Output	>55dB	
Image Rejection	Band 2	- 98.5MHz to 133.5MHz 55dB minimum, 60dB typical
	Band 3	- 168.5MHz to 203.5MHz 55dB minimum, 60dB typical.
	Band 4	- 216.5MHz to 251.5MHz 55dB minimum., 60dB typical.
Output Return Loss	>15dB 5MHz to 42MHz Each of 4 outputs	
Power requirements	90 - 250 VAC @ 50-60Hz IEC 320 Power Receptacle	
Size	1.75" rack enclosure, 12" deep	

*Measured without optical path - Up-converter output is connected to down converter after the photodiode.

System Application Diagram



SPECTRUM FOR UP-CONVERTERS

