



OTUC-400 Series
SpectrumPlus Upconverter 4x 5-42MHz
INSTRUCTION MANUAL

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OTUC-400 Series Specifications

RF PERFORMANCE PARAMETERS:

Input Frequency Range (4 Inputs)	5 MHz to 42 MHz
Output Spectrum (stacked) (Spectrum Inverted on Bands 2,3 & 4)	5 MHz to 206.5 MHz Band 1 - 5 MHz to 42 MHz (non-converted) Band 2 - 51.5 MHz to 88.5 MHz Band 3 - 121.5 MHz to 158.5 MHz Band 4 - 169.5 MHz to 206.5 MHz
Frequency Accuracy	Each converted band phase locked to internal 4.5 MHz pilot
Gain (each input to combined output)	15 db +/- 1 dB
Gain Flatness	< 3 dB in any band
Noise Figure	14 dB maximum
Maximum Input Signal	+15 dBmV/carriers (6 carriers)
Phase Noise	> -110dBc Hz @ 10 KHz
Input Return Loss	> 15 dB (5 MHz to 42 MHz)
Output Return Loss	> 15 dB (5 MHz to 206.5 MHz)
3 rd Order I.M. @ +15 dBmV Input/Carrier	> 55 dB; typically > 60 dB (6 carriers)
2 nd Order I.M. @ +15 dBmV Input/Carrier	> 55 dB (6 carriers)
L.O. Rejection	Band 2 - 93.5162 MHz > 15 dB Band 3 - 163.5469 MHz > 15 dB Band 4 - 211.500 MHz > 15 dB
<i>(Measured relative to Input Carriers @ +15 dBmV/carrier)</i>	Band 2 - 98.5 MHz to 133.5 MHz Band 3 - 168.5 MHz to 203.5 MHz Band 4 - 216.5 MHz to 251.5 MHz
Image Rejection <i>(55 dB minimum; 60 dB typical)</i>	4.5 MHz @ +25 dBmV
Pilot Output	

ENVIRONMENTAL PARAMETERS:

Power Requirements	Universal Power, 100-240 VAC @ 16 Watts
Size (Upconverter)	1.25"H x 19"W x 13"D
Operating Temperature Range	-40 to +85 degrees C (-40 to +185 degrees F)

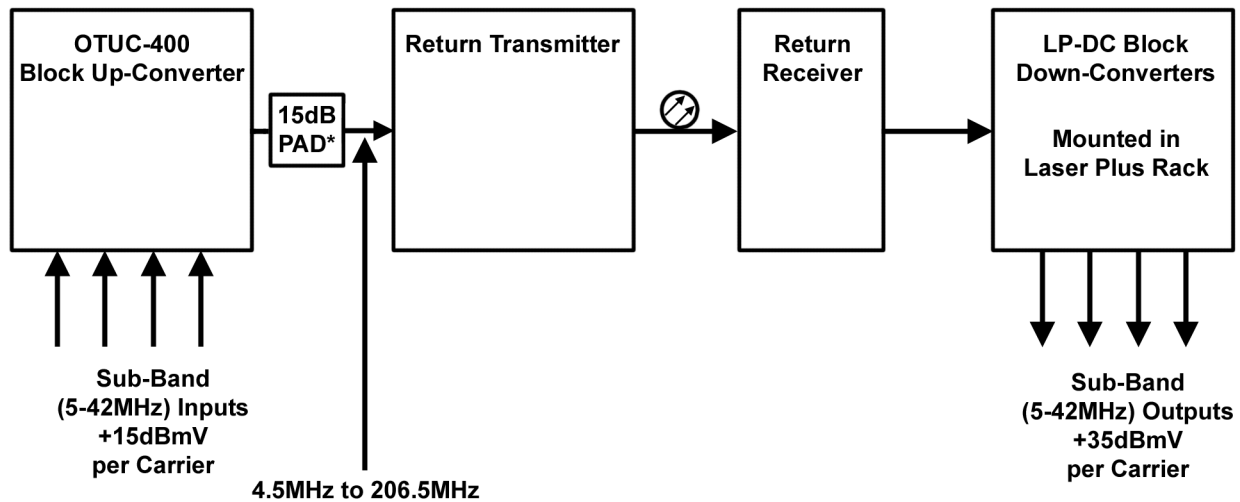
OPERATIONAL SETUP - RF

- The upconverter accepts four separate return inputs, one from each of the four band input ports. It up-converts three of them to three different bands, and combines them with one un-converted band. This combination of four bands plus a pilot carrier at 4.5MHz is fed to the RF Out port on the rear of the unit.
- If the OTUC-400 is installed properly, the frequencies of the four bands and their relationship to the four band input ports are as follows:

BAND ONE	5MHz to 42MHz
BAND TWO	51.5MHz to 88.5MHz
BAND THREE	121.5MHz to 158.5MHz
BAND FOUR	169.5MHz to 206.5MHz

- The specification for MAXIMUM carrier level into each converter band is defined as +15dBmV per (CW) carrier with six carriers present (or 35MHz used). For best return optical system performance, the input level should be a MINIMUM of +12dBmV per (CW) carrier with six carriers present. The carrier levels may be adjusted as necessary to provide channel-loading equivalent to the six-carrier levels.

Typical Operational System Diagram



Ordering Information

OTUC-400	OT "SP" Upconverter; 4X 5-42MHz; 1RU 19" EIA; <i>without</i> 5-300 MHz Upstream Transmitter
OTUC-413	OT "SP" Upconverter; 4X 5-42MHz; 1RU 19" EIA; DFB TX @ 1310nm; 3 mw; SC/APC
OTUC-415	OT "SP" Upconverter; 4X 5-42MHz; 1RU 19" EIA; DFB TX @ 1550nm; 2.5 mw; SC/APC
OTUC-447	OT "SP" Upconverter; 4X 5-42MHz; 1RU 19" EIA; CWDM TX @ 1470nm; 2.5 mW; SC/APC
OTUC-449	OT "SP" Upconverter; 4X 5-42MHz; 1RU 19" EIA; CWDM TX @ 1490nm; 2.5 mW; SC/APC
OTUC-451	OT "SP" Upconverter; 4X 5-42MHz; 1RU 19" EIA; CWDM TX @ 1510nm; 2.5 mW; SC/APC
OTUC-453	OT "SP" Upconverter; 4X 5-42MHz; 1RU 19" EIA; CWDM TX @ 1530nm; 2.5 mW; SC/APC
OTUC-455	OT "SP" Upconverter; 4X 5-42MHz; 1RU 19" EIA; CWDM TX @ 1550nm; 2.5 mW; SC/APC
OTUC-457	OT "SP" Upconverter; 4X 5-42MHz; 1RU 19" EIA; CWDM TX @ 1570nm; 2.5 mW; SC/APC
OTUC-459	OT "SP" Upconverter; 4X 5-42MHz; 1RU 19" EIA; CWDM TX @ 1590nm; 2.5 mW; SC/APC
OTUC-461	OT "SP" Upconverter; 4X 5-42MHz; 1RU 19" EIA; CWDM TX @ 1610nm; 2.5 mW; SC/APC