

## Alcatel 9774- C-Band Synthesized Upconverter

### Product description

The Alcatel A9774- series of Up-Converters operating in the C – communication band offer the best quality/performance spec’s available on the market.

- A full M&C feature list allows easy integration in existing Earth Station equipment and is upward compatible by remote upgrading via Internet.
- Thanks to an increased modularity in the design concept, a very high reliability can be reached with very low spurious behaviour.
- RF, IF and internal Reference Monitoring ports are available
- Automatic Switchover to external 5 or 10 MHz Reference frequency.
- With an Extended bandwidth range from 5.725 to 7.025 GHz, the 9774- series will comply with future specifications and reduces component count in Earth Station equipment.

### Ordering info

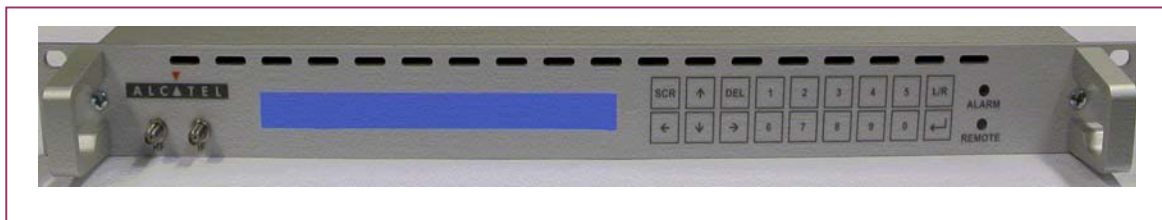
A9774-301	5.850-6.650 GHz	70 MHz
A9774-302	5.850-6.650 GHz	140 MHz
A9774-303	5.725 to 7.025 GHz	70/140 MHz
A99774-350	N+1 option	

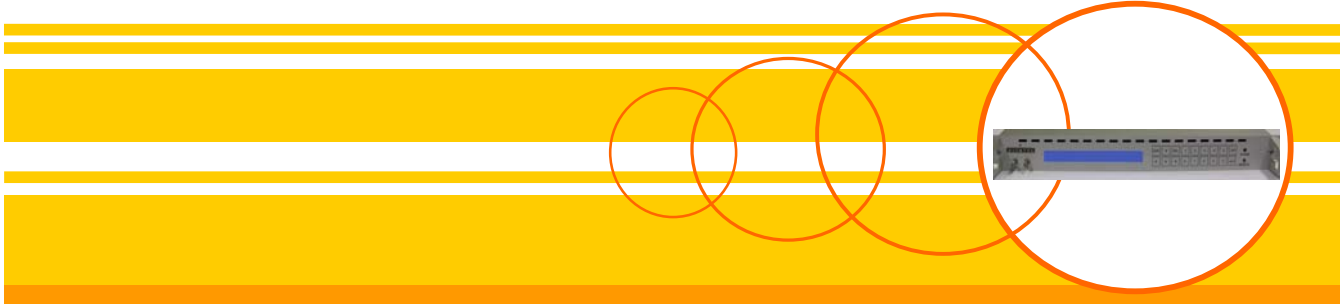
### Main Characteristics

- Excellent phase noise providing margin w.r.t. IESS 310 specification
- Extended remote control interfaces as TCP/IP,RS232/RS485
- Cost effective dual conversion is offered to meet high performance.
- Extended bandwidth
- Optional N+1 redundancy switch

### Applications

- Used for Voice, data and digital/analogue video transmissions.
- Full compliance with international performance specifications like IESS 308, IESS 309 and IESS 310





## Up-Converter Specifications

- Input section  
 IF input frequency:
 

70 MHz	$\pm 18$ MHz
140 MHz	$\pm 36$ MHz
  
- Output section  
 RF output frequency:
 

5.850-6.650 GHz
5.725 to 7.025 GHz

  
 Level at 1 dB compression : +15 dBm
  
- Transfer Characteristics  
 Noise figure : 20 dB max at 0dB attenuation  
  

Gain	:	30 dB $\pm 2$ dB
Gain Slope	:	0.05 dB / MHz

  
 Gain flatness over RF Band :  $\pm 1$  dB  
 IF Band :  $\pm 0.38$  dB  
  
 Gain adjustment :  
 30 dB in 1 dB steps  
 -> continuous over  $\pm 1$ dB  
  
 Gain stability :  
 $\pm 0.25$  dB per day at 23°C  
 $\pm 0.5$  dB between 0 and 40 °C  
  
 IM3 distortion :  
 -50dBc at 0 dBm output SCL  
  

Image rejection :	80 dBc
Spurious, carrier related : ( at 0dBm output )	- 60 dBc
Spurious, non-carrier related:	- 80 dBm
LO leakage :	- 80 dBm
Harmonics:	- 50 dBc

AC line spurs:	- 45 dBc
Maximum input power :	+16 dBm, typ.

  
 Group Delay per 40 MHz :
 

Linear :	0.03 ns/MHz
Parabolic :	0.01 ns MHz <sup>2</sup>
Ripple :	1 ns peak to peak

  
 AM/PM conversion : 0.1°  
 (for output up to 0dBm )  
 Carrier Mute : -70 dB

## Local Oscillators

Stepsize : 1 kHz /125 kHz  
 Frequency stability using internal reference per year:  $\pm 10^{-9}$   
 per day:  $\pm 10^{-8}$   
 Phase noise at
 

10 Hz	: - 60 dBc/Hz
100 Hz	: - 70 dBc/Hz
1 kHz	: - 79 dBc/Hz
10 kHz	: - 89 dBc/Hz
100 kHz	: - 96 dBc/Hz
1MHz	: - 110 dBc/Hz

 superior to IESS-309 : <2.8 ° RMS

## Environmental

Weight : 11 kg max  
 Operating temperature range : 0 to 50 °C

## Power Requirements

Input voltages: 90 to 260 V AC / 47 to 63 Hz

Power consumption : 60 W

## Interfaces

RF input interface: 50  $\Omega$  SMA-type female  
 Return loss: 20 dB min.

IF output interface: 50  $\Omega$  SMA-type female  
 Return loss: 23 dB min.

M&C: RS232/485, TCP/IP

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