

Alcatel 9774- Ku-Band Synthesized DownConverter

Product description

The Alcatel 9774 - series of Down-Converters operating in the Ku – communication band offer the best quality/performance spec's available on the market.

- An extended M&C feature list allows easy integration in existing Earth Station equipment and is upwards 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.

Main Characteristics

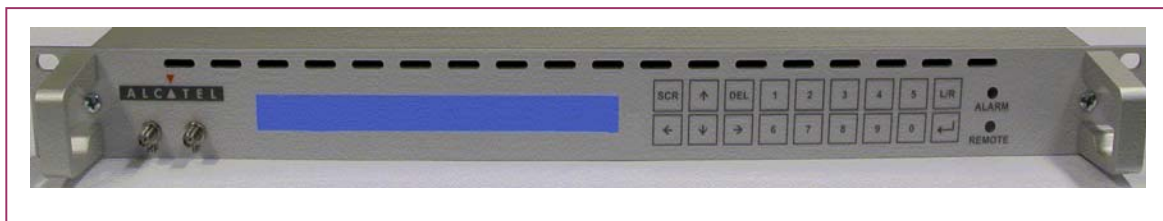
- Excellent phase noise providing margin w.r.t. IESS 310 specification
- Extended remote control interfaces as TCP/IP,RS232/RS485.
- High performance is offered with a cost effective conversion scheme.
- Optional N+1 redundancy switch

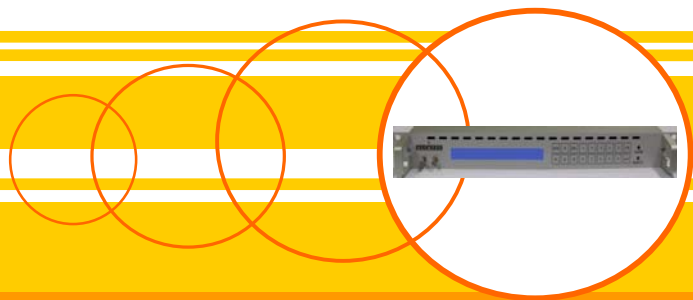
Ordering info

A9774-314	10.95-11.70 GHz	70 MHz
A9774-315	10.95-11.70 GHz	140 MHz
A9774-316	10.70-12.75 GHz	70/140 MHz
A99774-350	N+1 option	

Applications

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





Down-Converter Specifications

- Input section
RF input frequency: refer to ordering info table
- LO leakage : -80 dBm
- Noise figure : 15 dB max. at 0 dB attenuation
- Output section
IF output frequency:
70 MHz \pm 18 MHz
140 MHz \pm 36 MHz
Level at 1 dB compression :
+15 dBm min., typ. 20 dBm
- Transfer Characteristics
Gain : 45 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 50 °C

IM3 distortion:
60dBc at 0 dBm output SCL

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

AC line spurs: -45 dBc
maximum input power : +15 dBm

Group Delay per 40 MHz :
Linear : 0.03 ns/MHz
Parabolic : 0.01 ns MHz²
Ripple : 1 ns peak to peak

AM/PM conversion : 0.1°
(for output up to 0dBm)

(*) contact Manufacturer

Local Oscillators

- Stepsize : 1 kHz or 125 kHz
Frequency stability using internal reference
per day: $\pm 10^{-9}$
over temperature: $\pm 10^{-8}$
- Phase noise at
- | | |
|---------|---------------|
| 10 Hz | : -60 dBc/Hz |
| 100 Hz | : -80dBc/Hz |
| 1 kHz | : -90 dBc/Hz |
| 10 kHz | : -92 dBc/Hz |
| 100 kHz | : -93 dBc/Hz |
| 1MHz | : -112 dBc/Hz |
- superior to IESS-309 : $< 2.8^\circ$ RMS (typical $< 1.0^\circ$)
External reference : 5 or 10 MHz, level $> +1$ dBm

Environmental

- Weight : 9 kg max
Operating temperature range : 0 to 50°C

Power Requirements

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

Power consumption : 45 W

Interfaces

- RF input interface : 50 Ω SMA-type female
Return loss : 20 dB min.

IF output interface : 50 Ω SMA-type female
Return loss : 20 dB min.

- M&C : RS232/485, TCP/IP, SNMP (*)

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