



**Ku-Band Block Downconverter for Satellite Earth Stations**

**MODEL: DC-17A317A8-1010**



**INTERFACE**

**RF INPUT CHARACTERISTICS:**

Frequency	17.30 to 17.80 GHz
Return Loss (50 Ohm)	20 dB Typical, 18 dB Minimum

**IF OUTPUT CHARACTERISTICS:**

Frequency	950 to 1,450 MHz
Return Loss (50 Ohm)	20 dB Typical, 18 dB Minimum
Power @ 1 dB GCP	+10 dBm Minimum
3 <sup>rd</sup> Order Intercept Point	+20 dBm Minimum
Output Monitor Level	-13 ± 2 dBc

**EXTERNAL REFERENCE INPUT:**

Frequency	10 MHz
Power Level	-3 ± 3 dBm
Input SSB Phase Noise	-120 dBc/Hz @ 10 Hz -140 dBc/Hz @ 100 Hz -145 dBc/Hz @ 1 kHz -150 dBc/Hz @ ≥10 kHz

**REMOTE MONITOR AND CONTROL:**

Format / Protocol:	ITS Document OM1026
Interface	Serial RS-422

**SUMMARY ALARM:**

Interface	Type-C Contact Closure
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**AC POWER SUPPLY INPUT:**

Voltage	90 – 250 VAC
Frequency	47 – 63 Hz
Power Consumption	100 VA Maximum

**CONNECTORS:**

RF Input	3.5mm Female
IF Output	Type N Female, 50 Ohm
IF Output Monitor	Type N Female, 50 Ohm
External Reference	BNC Female, 50 Ohm
Monitor & Control	ITT Cannon PN KPT07E8-4P
Summary Alarm	ITT Cannon PN KPT07E8-3P
AC Power Input	ITT Cannon PN KPT07E12-3P

**PERFORMANCE**

**TRANSFER CHARACTERISTICS:**

Conversion Type	Single Conversion
Frequency Sense	No Inversion
Constant Gain	+10 ± 2 dB
Gain Stability	±0.25 dB/24 hours @ constant temperature
Gain Stability vs. Temp.	±0.5 dB ptp over entire range
Gain Flatness	±1.0 dB ptp over entire band ±0.25 dB ptp over any 40 MHz
Image Rejection	60 dB Minimum
NF	15 dB Maximum
Group Delay Variation over Entire Bandwidth	1.5 ns ptp Typical, 2.0 ns ptp Maximum
Spurious, Signal Related and In-band	-65 dBc max. upto 0 dBm output
Spurious, Signal Independent	-80.0 dBm Maximum
LO Leakage at RF Input	-80.0 dBm Maximum
Output SSB Phase Noise	-43 dBc/Hz @ 10 Hz, -73 dBc/Hz @ 100 Hz, -83 dBc/Hz @ 1 kHz, -93 dBc/Hz @ 10 kHz, -103 dBc/Hz @ 100 kHz, -115 dBc/Hz @ ≥1 MHz

**INTERNAL REFERENCE CHARACTERISTICS:**

*The downconverter automatically operates from its internal reference when the external reference is not present.*

Frequency Stability	±1 × 10 <sup>-7</sup> over -40 to 60 °C ±5 × 10 <sup>-10</sup> /day
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**MECHANICAL**

*The downconverter is suitable for outdoor use in severe environments.*

Dimensions	12.15" × 8.15" × 2.54"
Weight	10 lbs
Finish	Chemical conversion coating per MIL-C-5541, class 3. Then, white paint

**ENVIRONMENTAL**

**OPERATING:**

Temperature	-40 to +60 °C
Humidity	Up to 100% Condensing
Altitude	10,000 Feet AMSL Maximum

**NON-OPERATING:**

Temperature	-50 to +70 °C
Altitude	55,000 Feet AMSL Maximum
Shock	Operational after 10G Shock

*Specifications are Subject to Change without Notice  
Errors & Omissions Excepted*

**Response, Innovation, Craftsmanship**

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