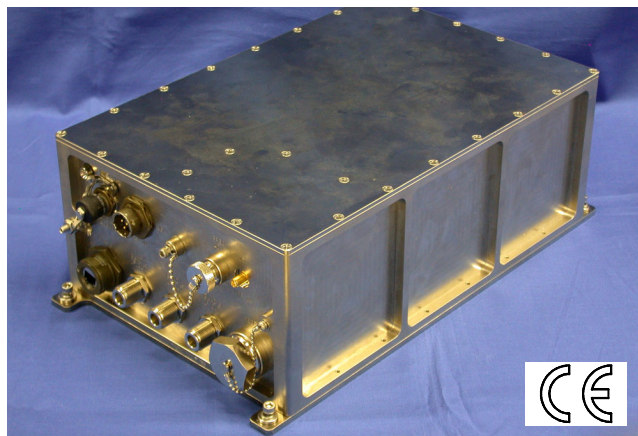




Tri-Band Block Downconverters for Satellite Earth Stations



These tri-band block downconverters provide a frequency translation of Ka-band inputs to L-band outputs.

FEATURES:

- High linearity.
- Low phase noise.
- Outdoor antenna hub mount suitable for severe environments.
- Automatically operate from the internal reference when the external reference is not present.
- Three frequency bands operate simultaneously or individually.

Model Number	Input Frequencies (GHz)	Output Frequencies (MHz)
DC-28A1030A00TR-1825	Band 1: 28.100 – 28.600	Band 1: 950 – 1450
	Band 2: 28.600 – 29.100	Band 2: 950 – 1450
	Band 3: 29.500 – 30.000	Band 3: 950 – 1450
DC-28A0029A35TR-1825	Band 1: 28.000 – 28.600	Band 1: 900 – 1500
	Band 2: 28.500 – 29.100	Band 2: 900 – 1500
	Band 3: 28.750 – 29.350	Band 3: 900 – 1500
DC-18A2019A35TR-1825	Band 1: 18.200 – 18.600	Band 1: 950 – 1350
	Band 2: 18.600 – 18.800	Band 2: 950 – 1150
	Band 3: 19.300 – 19.350	Band 3: 1150 – 1200
DC-18A3520A20TR-1825	Band 1: 18.350 – 18.950	Band 1: 900 – 1500
	Band 2: 18.800 – 19.300	Band 2: 950 – 1450
	Band 3: 19.700 – 20.200	Band 3: 950 – 1450
DC-18A3519A70TR-1825	Band 1: 18.350 – 18.950	Band 1: 900 – 1500
	Band 2: 18.850 – 19.450	Band 2: 900 – 1500
	Band 3: 19.100 – 19.700	Band 3: 900 – 1500

Other frequency bands available. Contact ITS for details.

ITS Proprietary information

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

Response, Innovation, Craftsmanship

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Tri-Band Block Downconverters for Satellite Earth Stations

INTERFACE

RF INPUT CHARACTERISTICS:

Frequency Bands	See Model Number Table
Return Loss (50 Ohm)	18 dB Minimum
Power Level per Band	Up to -10 dBm

IF OUTPUT CHARACTERISTICS:

Frequency Bands	See Model Number Table
Return Loss (50 Ohm)	19 dB Minimum
P _{1dB} @ Max. Gain Setting	+18 dBm Minimum
IP3 @ Max. Gain Setting	+26 dBm Minimum

EXTERNAL REFERENCE INPUT:

Frequency	10 MHz
Power Level	-10 to +13 dBm
Input SSB Phase Noise	-120 dBc/Hz @ 10 Hz, -150 dBc/Hz @ 100 Hz, -160 dBc/Hz @ 1 kHz, -160 dBc/Hz @ ≥ 10 kHz

INTERNAL REFERENCE CHARACTERISTICS:

Frequency Stability	±5 × 10 ⁻⁸ , -40 to +50 °C
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REMOTE MONITOR AND CONTROL:

Interface	10/100 Base-T Ethernet
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SUMMARY ALARM:

Interface	Type-C Contact Closure
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AC POWER SUPPLY INPUT:

Voltage	90 to 260 V _{AC}
Frequency	47 to 63 Hz
Power Consumption	100 W Maximum

CONNECTORS:

RF Input	3.5mm Female or WR-34 Grooved (†)
IF Output, 3 Bands	Type N Female, 50 Ohm
External Reference	SMA Female
Monitor & Control	Applied Optical Systems P/N: ECRK0103U00
Summary Alarm	ITT Cannon PN: KPT07E8-3P
AC Power Input	ITT Cannon PN: KPT07E12-3P

LED STATUS INDICATOR:

Powered and without Fault	GREEN
Powered and with Fault	RED

- † 3.5mm Female for input range 18 –22 GHz,
WR-34 Grooved for input range 22 – 33 GHz.
‡ Optional WR-34 to K Female adapter available.

PERFORMANCE

TRANSFER CHARACTERISTICS:

Conversion Type	Single Conversion
Frequency Sense	No Inversion
Gain @ Min. Attenuation	+25 ± 1 dB
Gain Control	25 dB in 0.2 dB / step
Gain Setting Accuracy	absolute ±1.0 dB relative ±0.1 dB per step
Gain Stability @ Constant temperature	≤ ±0.25 dB over 24 hours
Gain Stability vs. Temp.	≤ ±0.05 dB/°C
Gain Flatness	1.5 dB ptp over 500 MHz
Image Rejection	60 dB Minimum
NF @ Max. Gain Setting	15 dB Maximum
Group Delay Variation	2.0 ns ptp over 500 MHz
Spurious, Signal Related @ up to 0 dBm Output	-65 dBc Max. In-band -50 dBc Max. Out-of-band
Spurious, Signal Independent	-80 dBm Maximum
Output SSB Phase Noise	-40 dBc/Hz @ 10 Hz, -65 dBc/Hz @ 100 Hz, -80 dBc/Hz @ 1 kHz, -93 dBc/Hz @ 10 kHz, -103 dBc/Hz @ 100 kHz, -115 dBc/Hz @ 1 MHz, -128 dBc/Hz @ 10 MHz, -143 dBc/Hz @ 100 MHz

MECHANICAL

Dimensions	14.4" × 8.5" × 5.03"
Weight	20 lbs
Air Leak Rate	< 10 cm ³ / minute pressurized @ 3 PSI through waveguide port, selected models only
Finish	Electroless Nickel Plating per MIL-C-26074, Class 4

ENVIRONMENTAL

OPERATING:

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

NON-OPERATING:

Temperature	-50 to +70 °C
Altitude	Up to 55,000 Feet AMSL
Shock and Vibration	Normal handling by commercial carriers

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