

# Quad ODU Outdoor Unit

Enclosure for 2991XX-ODU L-Band Links



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## Applications

- TVRO
- Broadcast
- Earth Stations
- Headends
- VSAT
- Shipboard

## Features

- Weatherized
- Redundant DC Power Input
- DC Input +24 VDC
- +13 V and +17 V Selectable LNB Power
- RS-422 Serial Buss
- L-Band Tx/Rx
- 50 MHz to 2500 MHz Input

EMCORE's Quad Outdoor Unit (ODU) provides power and environmental protection for up to four 2991TS-ODU transmitters or 2991R-ODU receivers. With a weather-tight seal and all the necessary internal connections and mounting hardware, these ODU's may be placed directly at the antenna to provide greater flexibility in design.



Two DC power supplies drive the four transmitters or receivers and provide enough additional current for four LNB's. Further, these power supplies are redundant, so if one fails the facility staff can replace it and still maintain 100% signal availability.

## Performance Highlights

	Min.	Typ.	Max	Units
DC Input	-	+24	-	VDC
LNB Power, total for all outputs	-	+13 or +17	-	V
	-	-	2.0	A
Ambient Air Temperature	-30	-	50	°C

## Environmental

	Min.	Typ.	Max	Units
Storage Temperature	-40	-	+85	°C
Start-Up Temperature	0	-	-	°C
Ambient Outside Air Temperature	-30	-	50	°C
Humidity, non-condensing	5	-	95	%
Absolute Maximum Rating (damage may occur beyond these limits)	< -30	-	> +70	°C

## Electrical

DC Power Input (Connector J6 and J7)  
Compatible with 0.5 inch cable diameters and styles

Parameter	Min.	Typ.	Max	Units
DC Voltage	23	24	25	VDC
DC Current	-	-	2	AMPS

# Quad ODU Outdoor Unit

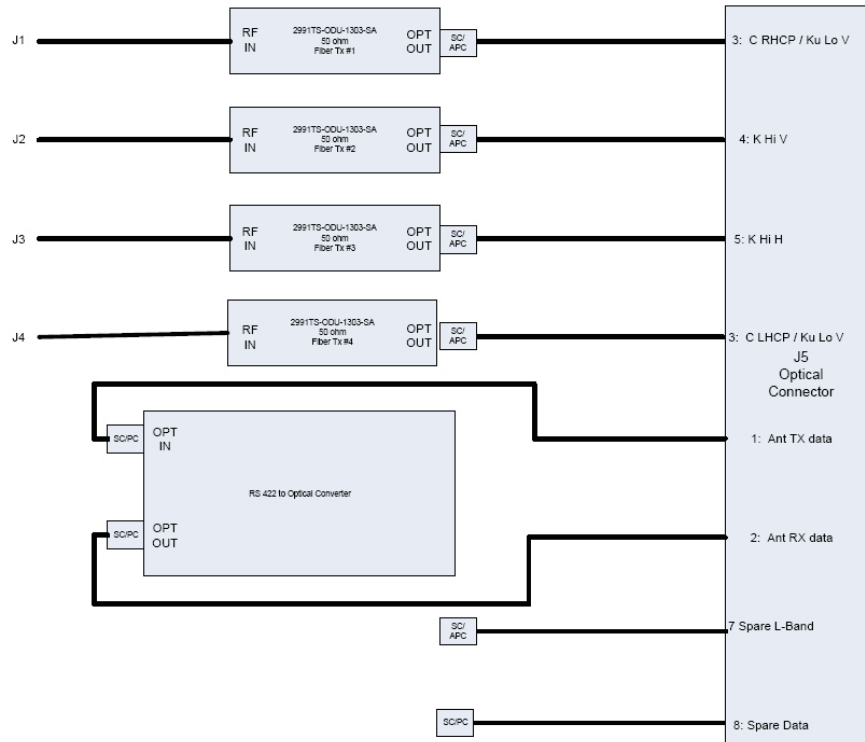
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## Quad ODU Diagram\*



\*This version represents SeaTel Antenna System. Other configurations available upon request.

## Mating Connectors

Description
J1: SMA Male
J2: SMA Male
J3: SMA Male
J4: SMA Male
J5: MS3475W12-3S
J6: MS3475W12-3S
J7: MS3476 W10-6S
J8: M28876/6C1S1

## Optical (J5)

Pin	Function
1	Ant Tx Data
2	Ant Rx Data
3	C RHCP / Ku Lo V
4	K Hi V
5	K Hi H
6	No Connection
7	Spare L-Band
8	Spare Data

## Controls and Monitor (J8)

Pin	Function
A	Rx (+)
B	Rx (-)
C	Tx (+)
D	Tx (-)
E	Ground
F	No Connection

## RF (J1, J2, J3, J4)

Description
SMA Female

## DC Power (J6 & J7)

Pin	Function
1	+24 VDC
2	Ground
3	Ground
4	No Connection

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## 2991T RF Specifcaton

L-Band Transmitter for Use in Quad ODU

Parameter	Condition	Min	Max	Unit
Bandwidth		50	2500	MHz
Amplitude Flatness	Any 48 MHz Entire Band	-	0.5 2.0	dB p-p dB p-p
Input Return Loss	50 - 2500 MHz	-	-10	dB
Transmitter Gain (TG) 2991TS-ODU-B5 2991TL-ODU-B5	Std Gain, 50 Ohm Low Gain, 50 Ohm	-10.5 -2.5	-	dB.W/A dB.W/A
Tx C/N	SL = +1 dBm, 2GHz	-	110	dBc/Hz
Noise Figure Standard Gain Low Gain	0 dB loss	-	20 31	dB dB
Tx TOI	2-tones, SL=-25 dBm each 1001 & 1002 MHz	-50	-	dBc
Spurious	SL = +1 dBm, 1.0 GHz	-	-80	dBc

## 2991R RF Specifcaton

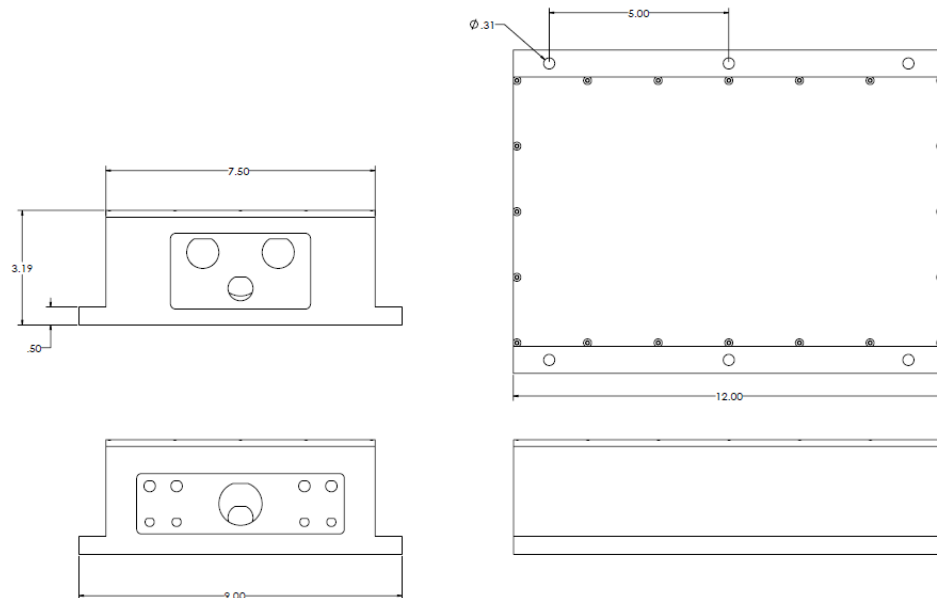
L-Band Receiver for Use in Quad ODU

Parameter	Condition	Min	Max	Unit
Bandwidth		50	2500	MHz
Amplitude Flatness	Any 48 MHz Entire Band	-	0.5 3.0	dB p-p dB p-p
Output Return Loss	50 - 2500 MHz	-	-15	dB
Receiver Gain (RG) 2991R-B5-ODU	50 Ohm	23.0	-	dB. A/W

### Switches

LNB Power +13 VDC / +17 VDC

## Quad ODU Outline Drawing



## Transmitter and Receiver Equipment

The 2991 equipment is ordered separately and can either be factory or field installed.

Transmitter Model Numbers	Description
2991TL-ODU-B5-SA1303	Tx, 50Ω BNC, Low Gain, Mounting Plate, Coaxial Cable and DC Harness
2991TS-ODU-B5-SA1303	Tx, 50Ω BNC, Standard Gain, Mounting Plate, Coaxial Cable and DC Harness

Receiver Model Number	Description
2991R-ODU-B5-SA	Rx, 50Ω BNC, Rx Mounting Plate, Coaxial Cable and DC Harness

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