

42-83J-05 Series Receive Multicouplers



HIGHSTAGE #
6/17/2024

TX RX Systems Receive Multicouplers are a key component in an efficient received-signal distribution system. The Receive Multicouplers amplify signals and then split them to the requisite number of output ports. The design has been optimized to handle strong signals without overloading, while maintaining a good noise figure.

Product Features

- Quadrature coupled low noise amplifier that provides multiple levels of redundancy to ensure continuous operation
- A test port is located on the front panel for easy access to allow for non-intrusive testing and benchmarking
- Expandable from 8 to 16 ports. Contact TX RX Systems for custom configurations beyond 16 ports
- Amplifier current fault monitoring is provided and is annunciated through a form-C output alarm contact that can be integrated into an external alarm system
- Gain is easily adjustable in increments of 1dB through an electronic attenuator
- Additional filtering can be provided externally by connecting to the preselector input and output ports that are provided
- Complies with R56 grounding requirements



Specifications

| | |
|----------------------------|-----------------------|
| Frequency Range | 794-902 MHz |
| System Gain | See Model Matrix |
| Amplifier Type | Quadrature Coupled |
| Amplifier Noise Figure | < 1.5 dB |
| Amplifier OIP3 | > +40dBm |
| Number of Output Ports | See Model Matrix |
| RF Port Return Loss | > 14 dB |
| Test Port Coupling | -30dB |
| Antenna Connector | N-female |
| Receiver Connector | See Model Matrix |
| Test Port Connector | BNC-female |
| Rx-Rx Port Isolation (Min) | >20 dB |
| Total Power Dissipation | 4 Watts |
| Attenuator Setting | 15 dB in 1 dB steps |
| Alarm Contacts | Form-C Contacts |
| Power Requirements | See Model Matrix |
| Operating Temperature | 0°-50°C |
| Enclosure | Standard EIA 19" Rack |
| Dimensions (HWD) | See Model Matrix |
| Net Weight | 9 lbs |

Expansion Kits

| Model Numbers | Description | Receive Connectors |
|---------------|---------------------------------|--------------------|
| 75-05-08N | 8 to 16 Port Expansion Kit, N | N |
| 75-05-08B | 8 to 16 Port Expansion Kit, BNC | BNC |

| Model Numbers | 42-83J-05-08N | 42-83J-05-08N-48 | 42-83J-05-08B | 42-83J-05-08B-48 | 42-83J-05-16N | 42-83J-05-16N-48 | 42-83J-05-16B | 42-83J-05-16B-48 |
|--------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
| # of Ports | 8 | 8 | 8 | 8 | 16 | 16 | 16 | 16 |
| System Gain (MAX)* | 18dB | 18dB | 18dB | 18dB | 15dB | 15dB | 15dB | 15dB |
| Power Requirements | 85-264 VAC | -48 VDC | 85-264 VAC | -48 VDC | 85-264 VAC | -48 VDC | 85-264 VAC | -48 VDC |
| Receive Connectors | N | N | BNC | BNC | N | N | BNC | BNC |
| Dimensions | 1RU x 19" x 14" | 1RU x 19" x 14" | 1RU x 19" x 14" | 1RU x 19" x 14" | 2RU x 19" x 14" | 2RU x 19" x 14" | 1RU x 19" x 14" | 1RU x 19" x 14" |

*Electronic Attenuator (0~15 dB range) in each unit can be used to reduce system gain for optimal performance.

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