TERRASAT Communications, Inc.

IBUC
Receive 1:1 Redundancy System

RX 1:1 System Features

All components are designed for outdoor mounting in weather-proof enclosures.

DC or AC power options

Multiple choices for local and remote M&C including:

- TCP/IP
- SNMP
- RS232/485
- Hand Held Terminal
- Multi-function LED's

Several operating parameters are monitored including:

- LNB current
- Supply voltage
- 10MHz reference level
- Composite power level

Alarm thresholds and switching criteria are configurable for maximum flexibility.

Embedded web pages provide management for small networks using any web browser.

Manual override switch is fitted for test and emergency manual operation.

The Receive 1:1 Redundancy System completes the full 1:1 protection configuration for Terrasat's IBUC Intelligent Block Upconverter system.

A completely outdoor-mounted system, the RX 1:1 interface box is housed in a weatherproof enclosure mounted close to the LNB assembly to minimize cable lengths. The interface box provides LNB monitoring, waveguide switching and user interfaces.

Several operating parameters are monitored including 10MHz reference signal, LNB supply voltage, LNB current consumption, and input composite power level. The user can set high and low threshold values for monitored parameters and alarms are configurable to enable selection of specific alarms and thresholds that will trigger a switchover.

Monitoring and control is available using a convenient TCP/IP interface supported by embedded webpages. The TCP/IP interface enables users to monitor the system remotely from a PC and /or via a LAN. M&C is also available via RS232/485 and separate handheld terminal. Seven LED's provide visual indication of status.

The RX 1:1 system is designed to receive DC power from the redundant power supplies used in Terrasat TX 1:1 systems. Options are available for direct AC or -48VDC input to the RX system.

Mounting the interface box is straightforward using the same universal mounting bracket as other Terrasat products. The LNB assembly can be either plate mounted or attached directly to the antenna feed assembly.

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RX 1:1 Interface Module

L-band

Frequency Range	950 to 2000 MHz (950 to 2750 MHz optional)
Insertion Loss	4 dB max
Flatness	
Any 36 MHz band	1 dB p-p max
Full Band	2 dB p-p max
Input/Output VSWR	2:1 max
Connectors	N-type (F), F-type optional

10 MHz Reference (from external demod)

Insertion loss (includes split)	6 dB max

Sensors

A and B L-band input composite level
10 MHz reference level detector (demod input)
A and B LNB supply voltage detector
A and B LNB supply current detector

LED Indicators

Power	Ethernet Activity
A and B Alarm	Normal / Emergency
A and B Online	

WG Switch Control

Manual/Auto	Controller pulses WG switch
Emergency	Toggle triggers pulse for WG switch

WG Switches	**C-band**	**X-band**
Frequency	3.3-4.9 GHz	7.05-10.00 GHz
VSWR	1.05:1	1.1:1
Insertion Loss	0.02 dB max	0.05 dB max
Isolation	80 dB min	80 dB min
Switching time	200 ms max	100 ms max
Waveguide	WR 229	WR112
	Ku-band	**Ka-band**
Frequency	10-15 GHz	18-26.5 GHz
VSWR	1.1:1	1.1:1
Insertion Loss	0.05 dB max	0.15 dB max
Isolation	75 dB min	60 dB min
Switching time	80 ms max	80 ms max
Waveguide	WR75	WR42

Power Supply

Positive DC Supply option

Connectors,	MS3102R10SL-4P
Input Voltage	20 to 60 VDC
Current (excluding LNBs and WG switch pulses)	
@ 24 V	300 mA max
@ 48 V	150 mA max
LNB Supply Voltage	17 to 19 VDC @ 500 mA max

Negative DC Supply option

Connectors,	MS3102R10SL-4P
Input Voltage	-36 to –60 VDC
Current (excluding LNBs and WG switch pulses)	
@ -48 V	175 mA max
LNB Supply Voltage	15 to 19 VDC @ 500 mA max

AC Supply option

(1 input, 2 inputs, or 2 inputs multi-phase)

Connector	C016 20C003 100 12
Input Voltage	100-240 VAC @800mA max
LNB Supply Voltage	15 to 19 VDC @ 500mA max

M&C Interfaces

Ethernet
RS-232/485
Handheld Terminal

Connector	MS3122E14-19S
Summary Alarm	A and B Form-C relays

Environmental

Operating Temperature	-40°C to +60°C
Relative Humidity	100% condensing
Altitude	10,000 ft., (3,000 m) ASL

Mechanical	AC	DC
Size, Interface Box	12.2x7.2x 3.1 in.	12.2x7.2x1.75in.
Weight, Interface Box	8.2 lbs	6 lbs

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