

The IBUC`s Tx 1:1 Advantage

All IBUC 1:1 protection systems are equipped with cutting-edge intelligent technology and benefits:

- Innovative Hot Standby Mode. Simplicity using IBUC intelligence - No external logic controller
- User-configurable alarm thresholds
- Includes Eco-mode option for warm standby, reducing energy consumption
- Arrives pre-assembled for easy installation
- Independent from LNB switching
- Higher MTBF for your SATCOM Systems
- Weatherized RJ45 ethernet interface for simplified connection
- Additional RJ45 ethernet port conveniently allowing integration with Rx LNB Systems

ULTIMATE MANAGEMENT & CONTROL

- » RS485/232 Serial Ports «
- » Handheld Terminal Access for Non-Cyber Hardened Versions «
- » NMS-Friendly SNMP Interface «
- » Local Web Interface with Side-By-Side Display «
- » + Additional functionality from your IBUC model «

Applications

For critical links where service interruption results in SLA penalties or lost revenue, uplink redundancy is a justified investment. Government networks, Air Traffic Control networks & any situation where communication must get through are candidates for IBUC redundancy.

Terrasat, as an industry innovator, developed the IBUC 1:1 redundancy system. Rather than rely upon earlier technology that used an external, rack-mounted logic controller, Terrasat took advantage of the intelligence in the IBUCs to rethink redundancy. The secondary IBUC continuously monitors the primary, and if an alarm is triggered, the secondary IBUC initiates the switch-over. The result is a compact, integrated package ready to install.

The system on a mounting plate is provided with factory-default alarm settings. Several alarm thresholds can be customized during installation according to the customer's preferences and local conditions. An included feature is Eco-mode. When Eco-mode is selected, the secondary unit is put into a warm standby mode with the M&C and all sensors in operation, but the power is removed from the amplifier. In high power systems, Eco-mode can deliver significant savings on the energy bill.

C-Band | X-Band | Ku-Band | Ka-Band IBUC 1:1 Redundant System

Transmit (Tx) 1:1 Innovative Integrated Solution



Transmit 1:1 Redundancy System

TX 1:1 Interface Module L-Band

Frequency Range	950 to 2150 MHz (Optional: 950 to 2750 MHz)
Insertion Loss	5 dB Max (Includes Split)
Flatness	
Any 36 MHz Band	1 dB p-p Max
Full Band	2 dB p-p Max
Connector Options	N-Type, F-Type, TNC
Input/Output VSWR	1.5:1 Max for N Type 2.0:1 Max for F Type 2.0:1 Max for TNC Connector

10 MHz Reference (from External Mod)

Insertion loss	4 dB Max (Includes Split)
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Sensors

A and B L-Band Input Composite Level	
10 MHz Reference Level Detectors for:	External demodulator External reference Internal reference (single or dual)

FSK Communication

Frequency Range	580 to 720 kHz
Insertion Loss	5 dB Max (Includes Split)

LED Indicators

Power	
A and B Alarm	A Side B Side
Ethernet Activity	User Interface Ethernet (RJ-45) User Interface (Circular Connector) AUX Ethernet

A and B Online

Multiband

WG Switch Control

Pulse for WG Switch Generated at the IBUCs	
Manual / Auto	Controller pulses WG switch
Emergency	Toggle triggers pulse for WG switch

System size varies with IBUC model selected. Different power levels and frequency bands will define different plate sizes for 1:1 Redundant Systems
Examples:

1:1 System Size (mounting plate size)	Compatible IBUC models	IBUC unit Size ref.
37.1 x 37.7 in 942.7 x 958.6 mm PN: 375-22201-xxx2	400W IBUC R C-Band GaAs 400W IBUC R X-Band GaAs 200W IBUC R Ku-Band GaAs 300W & 400W IBUC G Ku-Band GaN	29 x 15 x 10.1 in 737 x 381 x 257 mm
30.6 x 27.6 in 777.2 x 701 mm PN: 375-22201-xxx1	400W IBUC G C-Band GaN 200W IBUC G C-Band GaN 100W IBUC R X-Band GaAs 200W IBUC R X-Band GaAs 400W IBUC G X-Band GaN 100W & 125W IBUC R Ku-Band GaAs 150W & 200W IBUC G Ku-Band GaN	24 x 10 x 7.4 in 610 x 254 x 188 mm & 23 x 10 x 7.4 in 584 x 254 x 188 mm
25 x 27 in 635 x 685.5 mm PN: 375-22374-xxx1	100W to 200W IBUC R C-Band GaAs 200W IBUC G C-Band GaN 100W to 175W IBUC R X-Band GaAs	16.2 x 10 x 7.6 in 411 x 245 x 193 mm
20 x 18 in 508 x 45.2 mm PN: 375-22373-xxx1	80W IBUC R X-Band GaAs 80W IBUC G Ka-Band GaN 60W IBUC R Ku-Band GaAs 100W IBUC G Ku-Band GaN	12.2 x 7.2 x 6.5 in 310 x 183 x 173 mm
18.2 x 16 in 462.3 x 406.4 mm PN: 375-22126-xxx1	15W to 30W IBUC 2 C-Band GaAs 5W to 20W IBUC 2e C-Band GaAs 100W IBUC 2G C-Band GaN 5W to 60 W IBUC 2 X-Band GaAs 100W IBUC 2G X-Band GaN 4W to 50W IBUC 2 Ku-Band GaAs 4W to 16W IBUC 2e Ku-Band GaAs 50W, 60W & 80W IBUC 2G Ku-Band GaN	10.5 x 6 x (3.8 to 6.5) in 266.7 x 152.4 mm
16.2 x 16 in 411.5 x 406.4 mm PN: 375-23098-xxx1	8W to 16W IBUC 3 Ku-Band GaAs 25W to 40W IBUC 3G Ku-Band GaN	7 x 5 x 4 in 177.8 x 127 mm

WG Switches

Frequency	C-Band 5.09 - 8.2 GHz	X-Band 7.05 - 10.00 GHz
VSWR	1.05:1 Max	1.10:1 Max
Insertion Loss	0.03 dB Max	0.05 dB Max
Isolation	70 dB	80dB Min
Switching Time	100 ms Max	100 ms Max
Waveguide	WR137	WR112

Ku-Band

Frequency	Ku-Band 10.0 - 15.0 GHz	Ka-Band 26.5 - 40.0 GHz
VSWR	1.10:1 Max	1.10:1 Max
Insertion Loss	0.05 dB Max	0.15 dB Max
Isolation	75 dB Max	60 dB Max
Switching Time	80 ms Max	80 ms Max
Waveguide	WR75	WR28

IBUC Power Supply

Provided by the IBUCs

Monitor & Control

Ethernet

RS232/485

Handheld Terminal Applicable to both sides (A and B)

Connectors RJ-45 (J8 and J10)

PT02E-14-19S (J9)

Summary Alarm A and B Form-C Relays

Monitor & Control - For Cyber Hardened Versions (Optional)

Ethernet (HTTPS, SSHv2, Selectable SNMP V1, V2, V3 with USM and VACM) via RJ45 Connector

RS232 via MS-Type Connector

XSS (Cross Site Scripting)

Two NTP Servers Providing Redundancy

FIPS 140-2 compatible

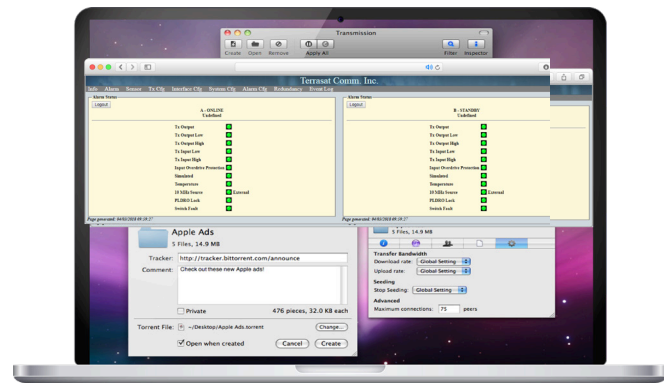
The Cyber Hardened versions have embedded new high-end Cyber Security features, from hardware to software, including a new controller board and the new firmware. For further details, refer to the Cyber Hardened IBUCs' datasheet at [www.https://terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intelligent-bucs/](https://terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intelligent-bucs/)

Environmental

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

Mechanical

Systems Ship Assembled & Pre-Tested



Web Interface Alarm Page

Specifications subject to change without notice.

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