# T1000, R1000, TR1000, A1000L/H, B1000L and P1000L

## 1+1 Redundancy Interface for the P7000 & IBUH/ IBDH series of frequency converters, the ILAH series of Line Amplifiers, PTR50 Beacon Receivers and the UPC series of UpLink Power Controllers.

**T1000L, R1000L, TR1000L** for use with **P7000 series** IF/ L-Band Synthesised Converters
**T1000LD, R1000LD, R1000LQ** for use with **P7001D/ 1Q/ 2D series** IF/ L-Band Synthesised Multi-Channel Converters
**T1000H, R1000H, TR1000H** for use with **P7000 series** IF/ SHF (S, C, X, Ku-Band) Synthesised Converters
**T1000H(DBS)** for use with **P7018 series** IF/ SHF (DBS-Band) Synthesised Converters
**T1000HH, R1000HH** for use with **IBUH, IBDH series** L/ SHF (S, C, X, Ku-Band) Block Converters
**T1000HH(DBS)** for use with **IBUH series** L to SHF (DBS-Band) Block UpConverters
**T1000HH(Ka), R1000HH(Ka)** for use with **IBUH(Ka), IBDH(Ka) series** L/ SHF (Ka-Band) Block Converters
**A1000L** for use with **ILAH series** L-Band Line Amplifiers
**A1000H** for use with **ILAH series** SHF Line Amplifiers
**B1000L, B1000Ku** for use with **PTR series** L-Band Beacon Receivers
**P1000/L/Ku, P1001/L/Ku, P1002/L/Ku etc.** for use with **UPC series** multi-channel UpLink Power Controllers

The **T1000, R1000, TR1000, A1000L & P1000series** 1+1 Redundancy Interface units are designed to take advantage of the redundancy control interface which is built in as a standard feature of the **P7000 series** of Synthesized converters, the **IBUH, IBDH series** of Block frequency converters, the **ILAH series** of Line amplifiers, the **PTR series** of Beacon receivers and the **UPC7000 series** of UpLink Power Controllers.

The system is designed to provide redundancy for a single-feed system, maintaining maximum availability whilst allowing routine maintenance and repair work to be carried out on the standby unit, without the normally associated down-time.

The system maintains one unit on-line whilst the other is held in hot standby, and allows the user to select the on-line unit. The redundancy unit is controlled from the front panel of the Converters/ Line Amplifiers/ Beacon Receivers/ AUPCs (Local mode) or via the Converter/ Line Amplifier/ Beacon Receiver/ AUPC RS232/ 485 link to a host computer (Remote mode). In remote mode, the on-line Converter/ Line Amplifier/ Beacon Receiver/ AUPC can be selected and monitored whilst keeping switch-over automatic in case of failure.
In automatic mode, the system monitors the Converter/ Line Amplifier/ Beacon Receiver/ AUPC alarm status and if a fault condition develops within the on-line unit, automatically switches traffic to the standby unit.

The **T1000** Redundancy Interface unit has connections for the Up Converter (Transmit chain) or BUC series, the **R1000** for the Down Converter (Receive chain) or BDC series and the **TR1000** for the combined Up/Down Converter unit. The **A1000L/H** has connections for the Line Amplifier. The **B1000xseries** have connections for the Beacon Receiver. The **P100xxseries** have connections for the UpLink Power Controllers.

The unit is standard 19" Rack Mountable and having no front panel controls (control is via the Frequency Converters/ Line Amplifiers/ Beacon Receivers/ AUPCs), can be mounted in the rear of the rack and connected with the cables provided. For P7000series L-Band Converters and L-Band Line Amplifiers, also L-Band Beacon Receivers and L-Band AUPC (when fitted with DC & 10MHz pass-through options) the units are designed to pass the DC and 10MHz external reference frequency required to lock an LNB or BUC.

### *Peak Features*

- High quality, matched IF, L-Band & RF (as appropriate) cable set included as standard
- Does not require rack 'front panel' space
- Fully compatible with Peak **P7000, IBUH, IBDH, ILAH, PTR50 and UPC7000series** units

# *T1000, R1000, TR1000, A1000, B1000 & P1000series - Typical Specification*

### IF, L-band & RF Interfaces

Frequency

| | |
|---|---|
| IF | 50 to 200MHz |
| L-band/RF | DC to 14.5GHz |
| RF (DBS) | to 18.4GHz |
| RF (Ka) | to 31.0GHz |

Connections for P7000 series Converters

| | |
|---|---|
| IF | 50Ω, BNC (f). |
| Option 1; | 75Ω, BNC (f) |
| L-band/ RF | 50Ω, N-type (f) |

Connections for IBUH, IBDH series Converters

| | |
|---|---|
| L-Band/ RF | 50Ω, SMA (f) |

Connections for IBUH(Ka), IBDH(Ka) series Converters

| | |
|---|---|
| L-Band | 50Ω, SMA (f) |
| RF (Ka) | 50Ω, K-Type (f) or 2.92mm (f) |

Connections for ILAH series Line Amplifiers

| | |
|---|---|
| L-Band/ RF | 50Ω, SMA (f) |

Connections for PTR50 Beacon receivers

| | |
|---|---|
| L/Ku-Band input | 50Ω, N-Type (f) |
| DC output | BNC (f) |

Connections for UPC series AUPCs

| | |
|---|---|
| L/Ku-Band input | 50Ω, N-Type (f) (applicable for option 2 only) |
| IF/L-Band uplink | 50Ω, SMA (f) |
| DC output | BNC (f) |

### Switch Element Parameters

| | |
|---|---|
| Type | Co-axial, latching |

## Typical System Performance

The following gives the typical performance that can be expected from a system comprising Peak converters/ line amplifiers/ beacon receivers/ AUPCs & using the high quality matched IF, L-band and RF cable sets;

| | |
|---|---|
| Gain flatness | ±1dB full band, band specific |

Insertion loss (excludes converter gain)

| | |
|---|---|
| IF | 3.5dB |
| L-Band | 0.5dB |

Note; B1000L (for PTR50 beacon receivers) and P100xL (uplink power controllers fitted with integral beacon receiver option), are provided with 10dB nom. input insertion loss, with 0.15dB variation for un-terminated input.

| | |
|---|---|
| S-Band | 0.5dB |
| C-Band | 1.5dB |
| X-Band | 2.0dB |
| Ku-Band | 2.5dB |
| DBS-Band | 3.0dB |
| Ka-Band | 3.5dB |
| 10MHz | 0.5dB |
| Switching speed | <800ms (from fault to switch completion) |

Note; B1000x (for PTR50 Beacon Receivers) and P100xx (uplink power controllers fitted with integral beacon receiver option), give 10ms nom. outage on switch-over.

## General

### Mechanical

| | |
|---|---|
| Width | 19”, standard rack mount |
| Height | 1U (1.75”) |
| Depth | 150mm (6”), plus connectors |
| Weight (nom.) | 1.5kgs (3.3lbs) |
| Construction | Aluminium chassis |

### Environmental

| | |
|---|---|
| Operating temp | 0 to +50$^0$C |
| EMC | EN 55022 part B & EN 50082-1 |
| Safety | EN 60950 |

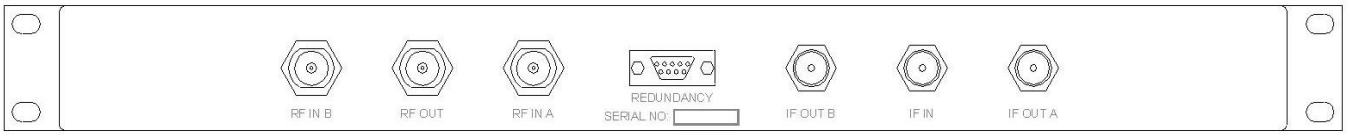
### Control System

| | |
|---|---|
| Converter interface | D-type, 9-way |

## Options

1) 75Ω IF connections.
7) DC & 10MHz pass-through (B1000L & P100xL series only).

## Rear Panel (T1000L example)





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