Product Highlights

- Backup support in the event of equipment failure or loss of air interface
- Automatic switchover from the primary to the secondary link in less than 50msec
- RADWIN 2000 and WinLink 1000 can be used interchangeably as either primary or secondary links
- Backup for up to sixteen TDM services for RADWIN 2000 and four TDM services for WinLink 1000
- Subset of the TDM ports can be protected as affordable SLA solution
- Simple architecture and easy installation

Monitored Hot Standby 1+1 Solution

Ensuring 24/7 Business Continuity & Preventing Revenue Loss

Service providers need to guarantee maximum service availability and prevent network downtime which can lead to heavy revenue loss. To ensure network uptime, service providers need a smart backup solution that will assure the continuous flow of traffic 24x7.

RADWIN's Monitored Hot Standby (MHS) 1+1 solution enables service providers to guarantee optimal network availability by providing backup to the primary link. In the event of an equipment failure or loss of air interface in the primary link, TDM traffic is automatically switched over to the secondary link in less than 50 msec.

Monitored Hot Standby 1+1 is available in both RADWIN 2000 and WinLink 1000 products, and the links can be used interchangeably as either primary or backup secondary links.

With Monitored Hot Standby 1+1 in place, service providers can ensure service continuity and revenue flow.

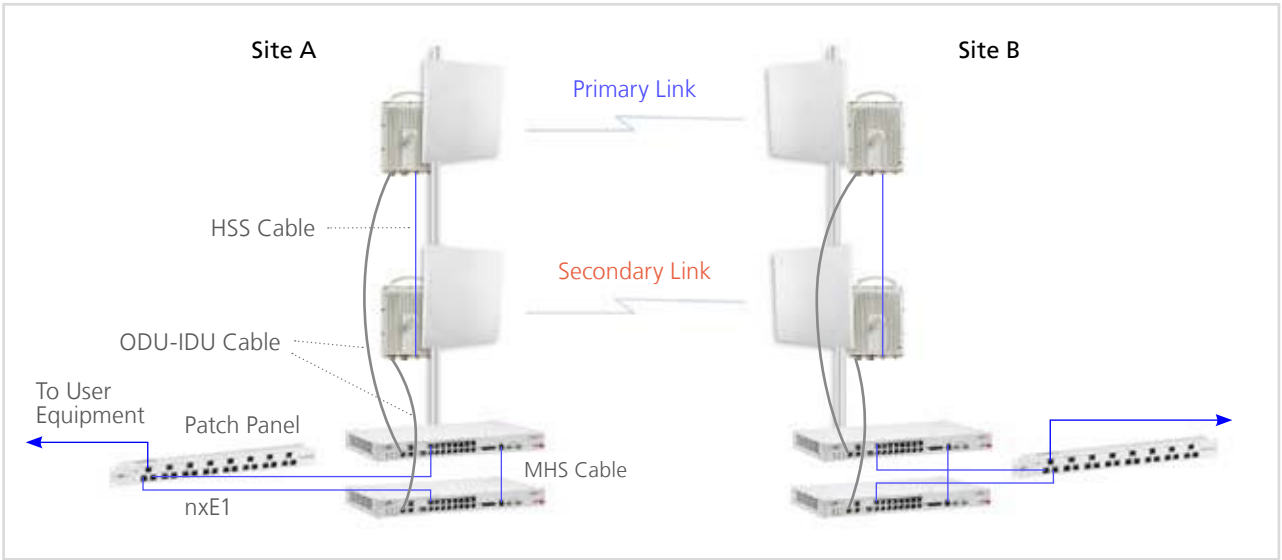
Architecture

Equipment protection is provided for the electrically active network elements, ODU and IDU. The primary IDU and the secondary IDU are connected by a cable to monitor failure and to command protection switching.

The primary link and the secondary link use different frequency channels. If the air interface of the primary link is disturbed and cannot carry the required TDM service, then the system automatically switches to the secondary link.

In addition, improved robustness and frequency planning flexibility is achieved, as the primary and secondary air interfaces can operate in the same frequency bands or in different frequency bands. Automatic Channel Selection (ACS) can be configured for each link to add additional robustness.

The primary and secondary links are synchronized using Hub Site Synchronization (HSS). With TDM MHS, the Ethernet services are carried independently by each link.



RADWIN Monitored Hot Standby 1+1 System Architecture

Switching Logic

During normal operation the system functions as follows:

- TDM services are carried by the primary link
- The secondary link is operating but not carrying TDM traffic
- TDM ports on the secondary IDUs are tri-state

Switching from the primary link to the secondary link will occur following:

- Loss of primary air interface due to sync loss
- Loss of primary air interface due to failure of the receiver to acquire expected TDM data during a period of 24msec
- The primary equipment (either ODU or IDU, local or remote) is powered off

As a result of switching:

- TDM ports on the primary IDUs turn to tri-state
- TDM ports on the secondary IDUs become active
- TDM services are carried by the secondary link

Switching back from the secondary link to the primary link will occur after the primary link has become and remains fully functional for a continuous period of at least one second.

Equipment

To set up an MHS link you require the following equipment per site:

Site A	2 x ODU with antennas 2 x IDU-C MHS Kit (Patch Panel + MHS cable) 1x HSS cable E1/T1 cables 2 x CAT-5e ODU-IDU cables
Site B	2 x ODU with antennas 2 x IDU-C MHS Kit (Patch Panel + MHS cable) 1x HSS cable E1/T1 cables 2 x CAT-5e ODU-IDU cables

Notes

1. When connecting two WinLink 1000 links as 1+1, one dual-polarization antenna may be shared by the primary link and the secondary link per site.
2. RADWIN provides a Y connection Patch Panel. The passive wiring Patch Panel provides 8 x Y connections to the E1/T1 ports, shorting the E1/T1 ports coming from the user equipment with the E1/T1 ports in RADWIN's IDUs. To connect more than 8 ports, use additional patch panel.
3. The MHS cable connects the STANDBY RJ-11 ports in the IDUs to control link monitoring and switching.
4. It is recommended to install both sites with HSS cables, so HSS can be operated from the other site by remote configuration.

Ordering Information

Part number:
RW-9923-0003

Description:
MHS Kit: patch panel (8xRJ45 Y-connection) and cable for Monitored Hot Standby (MHS) configuration

ANMHS-03/02.10

RADWIN The Wireless Choice