AS8100 Sitespan

User Guide Version 3.7

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8. AS4000 and AS8100 are brands of Airspan Networks Inc

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Safety Instructions - Warnings and Cautions

SAFETY

1. Read and follow all warning notices and instructions marked on the product or included in this manual

2. Do not allow anything to rest on the power cord and do not locate the product where persons could step or walk on the power cord.

3. When installed in the final configuration, the product must comply with the applicable Safety Standards and regulatory requirements of the country in which it is installed. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.

4. No hazardous RF radiation is emitted from the equipment. Measured at the surface of the CRU radome, when transmitting, the maximum total power radiated from the CRU is 0.01% of the UK National Radiological Protection Board basic restriction per kg. of body part.

WARNING - HAZARDOUS VOLTAGES

On AC installations, hazardous voltages exist. Use caution when verifying or working with AC power. Remove metal jewellery that could come into contact with AC power.

On DC sections, short circuiting the low voltage, low impedance circuits can cause severe arcing that may result in burns or eye damage. Remove rings, watches etc. to avoid shorting DC circuits.

Electro-Static Discharge ESD

Electro-Static Discharge. Many circuits contain devices that are susceptible to damage from high impedance voltage sources. To avoid such risks always follow anti-static procedures where marked.

NOTE

To the best of ACL's knowledge, Airspan products do not contain hazardous substances (as defined in UK 'Control of Substances Hazardous to Health Regulations 1989', and the 'Dangerous Substances Regulations 1990'). At the end of any Airspan product's life cycle, the customer should consult with ACL to ensure that the product is disposed of in conformance with the relevant regulatory requirements

CE

The CE Symbol on the Airspan Products signifies that they have been certified according to the EMC directive 89/336/EEC. The products fulfil the requirements according to the following standards:

EN50082-1   Immunity.
EN55022   Group 1 Class A for the Central Terminal Emissions.
EN55022   Group 1 Class B for the Subscriber Terminal Emissions.

WARNING

The Subscriber Terminal equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

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Safety Instructions Warnings and Cautions
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INTRODUCTION

General

This document describes the installation and operation of Sitespan as part of an AS4000 Release 2, Fixed Assignment, and Demand Assignment installations.

The user should be familiar with the AS4000 product. It is recommended that they have attended the Airspan AS4000 training course prior to performing the procedures in this practice.

Related Documentation

Table 1 Related Documentation

General	
605-0000-435	Material Return and Repair
605-0000-477	Access Concentrator and Central Terminal - Equipment Rack Installation & Commissioning
605-0000-433	Central Terminal - Antenna/Feeder Installation & Commissioning
605-0000-454	Subscriber Terminal Installation & Commissioning
Fixed Assignment Specific	
605-0000-430	System Overview
605-0000-431	System Operations and Maintenance Manual
605-0000-437	D128 Terminal Converter
Demand Assignment Specific	
605-0000-450	System Overview
605-0000-453	- Equipment Rack Installation & Commissioning

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AS8100 SITESPAN SYSTEM OVERVIEW

AS8100 Sitespan is a distributed control system for managing the AS4000 Fixed Assignment and Demand Assignment products.

AS8100 Sitespan allows equipment at several sites to be configured and monitored from a single remote station and allows several stations to connect to a single site simultaneously.

AS8100 Sitespan has the following features:

- An intuitive graphical user interface (GUI) to access all products and services.
- Real time display, propagation and logging of equipment alarms throughout the managed site network.
- Easy site to site network navigation.
- logging of all operations performed on managed equipment as well as equipment states.
- support for multiple users to simultaneously monitor sites.
- support for multiple sites to be monitored simultaneously.
- access to sites from either dialup modem links or network connections.
- multi-level Undo of all operations in each user session.

AS8100 Sitespan has two distinct components:

a) A Server that is directly connected and associated with the equipment racks.
b) An Equipment View that supplies the user interface.

These two components can run either on the same machine or on separate machines

The AS8100 Sitespan Server is the AS8100 Sitespan component responsible for monitoring and controlling the telecommunications equipment connected to it.

The Server communicates with the equipment shelves in their respective native control languages to issue commands or collect status. The Server is instructed to carry out these management duties by commands from connected Equipment Views.

The Server's job is to translate Sitespan commands received from users at Equipment View terminals into command sequences in the native languages of the connected equipment. These sequences are issued to the equipment shelves and responses from the shelves are translated into Sitespan status messages before being sent to all connected Equipment Views.

Once a Server has been instructed to configure its connected equipment, it will manage the equipment regardless of whether any Equipment Views continue to be connected. All operations and alarms are written to a transaction log file located on the Server machine maintaining a complete record of status.

The Equipment View application is the user interface through which equipment at all sites on an AS8100 Sitespan network can be controlled or monitored. Several Equipment Views can be connected to a single Server, allowing geographically disparate groups of users to manage equipment at a particular site. Also, each Equipment View can connect to several Servers, allowing individual users to manage equipment at a number of different sites.

If two or more Equipment Views are connected to the same site Server then the consequences of changes made by one user can be seen by all others. For example, if a user creates a set of subscribers for a shelf, the new subscriber records will appear in the

Subscriber Views on all Equipment Views. Sitespan is able to do this because all persistent site equipment information is held only at the Server, with the Equipment View simply viewing it. Thus when the Server database is altered by a change in site equipment status, this change is propagated across all of the Equipment Views.

The Equipment View can be run on the same machine as the Server, or on a remote machine connected to the Server by a modem or network link. Although several Equipment Views can be connected to a Server, no more than one instance of a Server or an Equipment View can execute on a single machine.

HARDWARE OVERVIEW

System Overview

AS8100 Sitespan is a PC-based management and control system via which the administrator can test, configure and control the AS4000 system. AS8100 Sitespan uses a PC hardware platform running the Windows NT Operating System.
Typical management functions include:

- Configuration, capacity provisioning and assignment of equipment or circuits
- Monitoring alarm events and radio performance.

AS8100 Sitespan for Fixed Assignment Systems

The Server is a PC is connected to each AS4000 modem shelf via multiple serial ports. The server software passes information between it and the AS4000 Shelf Controller Cards and continuously monitors the system.
A fully configured server system requires 4 serial ports for equipment connection and at least one other for Remote access connection if Remote Access is to be used.
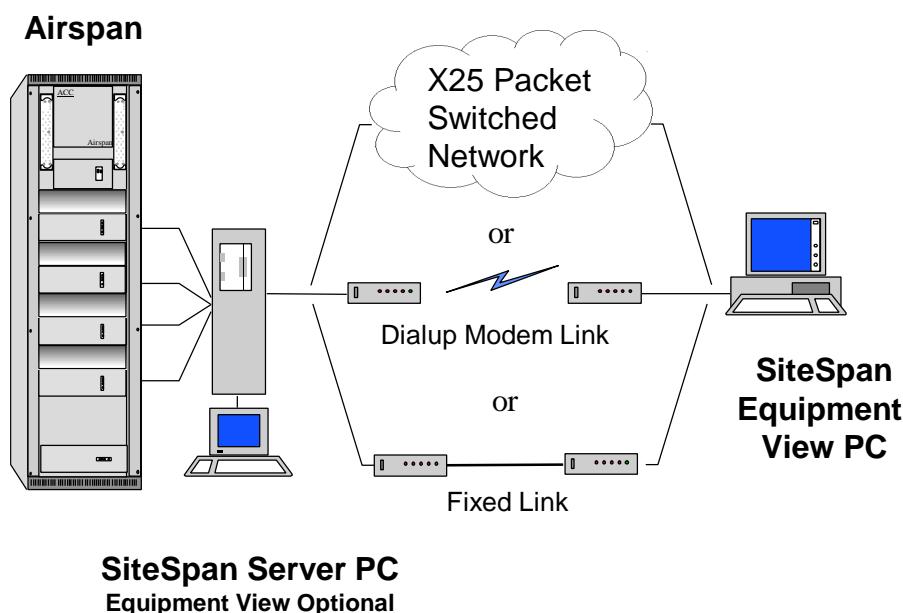
Figure 1. AS8100 Sitespan connections to Fixed Assignment

AS8100 Sitespan for Demand Assignment Systems

The Server is a PC is connected to the Access Concentrator via multiple serial ports. The DA modem shelves are managed over the link between Access Concentrator and the Demand Assignment CT modem shelf The server software passes information between it and the AS4000 Shelf Controller Cards and continuously monitors the system.

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The server can also be connected direct to the modem shelf if required.

The system requires 1 serial ports AC shelf equipment connection (shelves are daisy chained together) and at least one other for remote access connection if remote access is to be used.
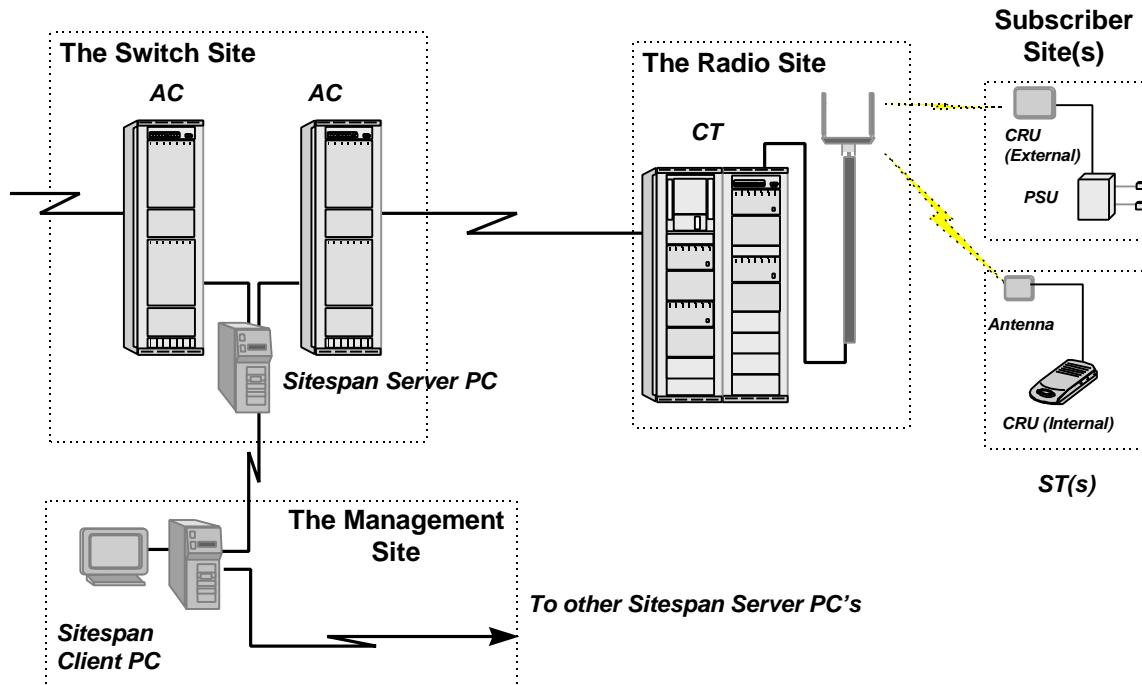
Figure 2. AS8100 Sitespan Connections Demand Assignment.

AS8100 Sitespan Computer Requirements

AS8100 Sitespan Equipment View can run in the same PC as the Sitespan Server. Alternatively and simultaneously it can be operating in a remote PC and accessing the server PC over a network or modem link.

Sitespan Equipment View can be used to access a number of Sitespan Servers simultaneously.

Refer to the Procurement Specification for the personal computer recommendations.

If the Sitespan Equipment View and Server are being run on separate machines then the machines should be equipped as follows.

1. Server Machine needs the addition of a modem for use with RAS to contact to client machine. If the server is to be connected to more than one client simultaneously then an extra modem/serial port will be needed for each simultaneous connection.

2. Equipment View Machine needs the addition of a modem for use with RAS to contact to server machine. If the Equipment View Machine is to be connected to more than one server simultaneously then an extra modem/serial port will be needed for each simultaneous connection.

SERVICE STATES AND STATUS

Service States

This section provides a descriptive listing of the service states and statuses that may appear in a display. There are a number of possible service states in Sitespan (Table 1):

In Service (IS)

> The equipment was assigned a service state of in service. in the case of common equipment and channel units, this service state indicates the equipment will carry traffic when installed.

Faulty (FLTY)

> The equipment is in a fault state displaying an alarm or receive attention state.

In Service Faulty (IS FLTY)

> The equipment is faulty but is still placed in service.

Equipment Not Present (ENP)

> The equipment is physically not present. This indicates a card has been remove or not yet provided.

In Service Equipment Not Present (IS ENP)

> The equipment is placed in service and will function when the card is replaced or provided.

Locked (LK)

> The service state is locked in the out of service state.

Under Test (UT)

> The FRU is being tested.

Secure (SEC)

> This applies to the Subscriber Terminal only. In the secure state a serial number validation is done every 5 seconds.

Table 1. Service States

Name	Abbreviation	AS4000
In Service	IS	✓
Faulty	FLTY	✓
In Service Faulty	IS FLTY	✓
Equipment Not Present	ENP	✓
In Service Equipment Not Present	IS ENP	✓
Locked	LK	✓
Under Test	UT	✓
Secure	SEC	✓ ST only

Common equipment, modem cards, channel units, can all have service states. A service state of either IS or ENP is assigned when a software record for the equipment is created or edited using a Sitespan command. In the case of common equipment, modem and channel units that have not been physically installed, the service state indicates whether the equipment will carry service when the unit is installed. IS and IS ENP service states exist

only on the software record created for the equipment and do not indicate whether the equipment is actually carrying service or is actually installed. To obtain further information, it is necessary to look at the status that accompanies the service state. Statuses are discussed in Section 3 of this GSI.

Statuses

The status field that appears in some displays provides further details about the state of the specified piece of equipment. Use the Retrieve pull-down menu.

Many statuses involve the concept of underlying entity. Because the AS4000 systems consists of a hierarchy of equipment or facilities, an event that affects one piece of equipment or one facility may affect other equipment or facilities higher in the hierarchy. The equipment and facility hierarchy, from highest to lowest level, is:

Alarm
Subscriber
Numbered Element
FRU
Shelf
Rack
Site
Server

If a piece of common equipment fails, the modems being supported by that common equipment will not be able to carry service.

GETTING STARTED

Hardware Installation

a)   The Sitespan Equipment View and the Server need to be installed and commissioned in order to configure the Central Terminal, set up the system, and to connect subscribers.

b)   Check that the necessary items are to hand to install the Sitespan See GSI-006 Hardware Preparation.

c)   Install the Sitespan Server PC. The Sitespan Server is responsible for managing all equipment racks at a given Site. In particular, it records any alarms flagged by the equipment and maintains a database and log file of the changes in the equipment state over time. On its own the Sitespan Server application simply manages its connected equipment and has no way of accepting user commands and of displaying equipment status in a graphical form. Instead, these functions are provided by the Sitespan Equipment View. See GSI-007 Install Sitespan Server.

d)   Install the Central Terminal Interfaces. These interfaces allow the server to communicate to the AS4000 equipment racks using the native languages of the connected equipment. Commands are Draft Issued and the responses received are translated by the server into Sitespan status messages. See GSI-008/9 Installing AS4000 Central Terminal Interfaces

e)   Install a Modem on the Server PC if it is to be interrogated from a remote Equipment View Machine. Additional modems will need to be installed for each anticipated simultaneous connection to the server. The modem allows data from the server to pass over the network and should be installed as per the manufacturers instructions.

f)   Install the Equipment View PC if different from the Server PC. The Equipment View and the Server need not necessarily be located in the same machine and a separate machine may be designated to run the Equipment View either over a fixed network connection or via a dial-up link.
        If the Equipment View is to be located at a remote site, and the sites are not connected by a fixed network, dial-up links need to be provided.. A Modem is installed on the Equipment View PC for each simultaneous connection to a Server. The Modem should be installed using the manufactures installation instructions.

g)   For some installations both the Server and the Equipment View PC's will require a Hardware Key to be attached to a parallel port to authorise the use of the software.

Software Installation

a)   Ensure that the Remote Access (RAS) Software is installed. on the Server and the Equipment View machines. The Sitespan Software is dependent upon the RAS to allow Windows NT to make connections between machines. See GSI-010.

b)   Install Sitespan Software at Server and Equipment View Machines. Both are installed on a machine performing both functions. See GSI-011 Software Installation.

c)   To ensure system security and each remote Equipment View Machine will need to be registered with the Server. This is done at the server PC, set up User Accounts

and Remote Access dial up access rights. For details on setting up access rights see the Widows NT installation manual, Windows NT help screens and DLP-002 Setting Up User Accounts and Access Rights.

d)   At Equipment View set up Dial-Up networking (if remote from server). This is done within the Remote Access programme in Widows NT and allows the PC to dial and connect to the remote Server. For details on setting up Dial-Up networking see the Widows NT installation manual or Windows NT help screens and DLP-003 Creating Dial-Up networking for the Equipment View.

e)   Before connecting to the system new users should refer to refer to GSI-013 Basic Operations and GSI-014 Sitespan Equipment View Menu System. GSI-015 Server Menu System and GSI-016 Selecting Views.

IMPORTANT

Please note that in order to run Sitespan (Client & Server), the Remote Access Server (RAS) must be running. In order to check if the RAS is running, click on the Start menu and select Settings->Control Panel, to bring up the control panel window. Then double click on the "Network" icon.

From the resulting dialogue, select the "Services" tab and select "Remote Access Service". Then select the "Properties..." option to see if a COM port has been allocated for the RAS. If the RAS is not running, it will need to be started by selecting the "Add..." option. (Place the Windows NT4 installation disk in the relevant drive).

Select "Remote Access Service" from the dialogue resulting from the "Add..." option. Then select OK and follow the presented instructions. Allocate the COM port to be used for the client/server communication.

Note that a COM port needs to be allocated for RAS, even if the client and the server are running on the same machine.

Connect to System

a)   Run the Server Software. See DLP005. The Server Software runs continuously at the CT site to record any alarms flagged by the equipment and maintains a database and log file of the changes in the equipment state over time.

b)   Run the Equipment View Software. See DLP005. The Equipment View Software must be continuously connected to a site if it is to monitor alarms.

c)   Create the Server record in the Equipment View database. See DLP009. The Equipment View Software needs details of any Server that it is to connect to. Creating a Server from within the Equipment View allows connection details to be input. Each Server on a network must have a unique name.

d)   Connect the Equipment View to a remote Server. See DLP012. This procedure will locate the server name in the phone book and make a connection.

e)   Create a Site. See DLP-010. A site is a managed collection of AS4000 racks managed by a single Sitespan Server.

f)   Add Racks. See DLP-014 (AS4000) The Racks at the Site are recreated in the Equipment View and can only be added after the site has been created.

g)   Add Shelves. See DLP-051 (AS4000 FA), DLP-101 (AS4000 DA). When a shelf is being connected to and managed by the Sitespan system an element must be created in the Sitespan Server Database for the shelf by using the Equipment View.

h)   The Shelf Element must be configured with the Equipment View to tell the Sitespan Server the necessary operating information to allow it to communicate

with the shelf. This information usually includes the COM port on the Server Machine that the cable from the shelf has been connected to for fuller details. See DLP-053(FA) &102(DA).

i)   Add subscribers to the AS4000 if subscribers are to connect to AS4000 FA. See DLP-058 to DLP-066.

j)   Add subscribers to the AS4000 if subscribers are to connect to AS4000 DA. See DLP-111.

Managing AS8100 Sitespan

The AS8100 Sitespan operator can input, amend and view the site management resource data using views with graphical icons as follows:

Server
Site
Rack   AS4000 FA
          AS4000 DA
Shelf   AS4000 FA
          AS4000 DA
Card   AS4000 FA
          AS4000 DA
Subscriber Terminal   FA
                     DA
Subscriber   AS4000 FA
          AS4000 DA

Managing Larger Networks

The AS8100 Sitespan Equipment View also allows the operator to use an Object List View to view any object in the Sitespan Server database, This information is viewed in text format only and allows more information to be displayed on the screen. See GSI-017 Managing a Network of Server Sites.

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HARDWARE INSTALLATION: PREPARATION

Preparatory Tasks

When the following conditions have been met AS8100 Sitespan can be installed and commissioned.

- The CT (Central Terminal) equipment racks have been installed and commissioned (see 605-0000-432). And in Demand Assignment installations the Access Concentrator racks have been installed (605-0000-433)
- The CT antenna/feeder has been installed and commissioned (see 605-0000-433). Required Tools:
- Before the ST (Subscriber Terminal) can communicate with the Central Terminal/Shelf controller it is configured by the installer using a programming code generated by Sitespan. This code is loaded by the ST installer using STMON. The following four parameters are used to generate the CRU (Customer Radio Unit) program code:
  - a)   RF (Radio Frequency) channel pair
  - b)   Timeslot pair assignment
  - c)   PN sequence
  - d)   CRU ID

The following is a list of tools and equipment you may require depending on the installation:

- Medium Flat Blade Screwdriver
- Small Flat Blade Screwdriver
- Medium Pozi-drive Screwdriver
- Medium Side Cutters

Required Equipment:

- Digital Multimeter Fluke 77

List of parts. The following items are required:

A Central Terminal Server PC with Equipment View in the same machine

- Personal Computer.
- Software disks for Sitespan software.
- RS-232 Interface cables (1 per Modem Shelf) (ACC Part No 454-0000-058)
- Sitespan Manual.
- 1 Parallel Port Hardware Key for each Sitespan Machine.

A PC for Server Only

- Personal Computer.
- 1 Serial Port and Modem for access from client.
- RS-232 Interface cables (1 per Modem Shelf) (ACC Part No 454-0000-058)
- AS8100 Sitespan Software.
- 1 Parallel Port Hardware Key.

A PC for Equipment View only

- Personal Computer.
- 1 Serial Port and Modem for access to Server.
- AS8100 Sitespan Software.
- Some systems require 1 Parallel Port Hardware Key.

Site Readiness. Task 1 involves verifying that your site is ready for the installation of the Sitespan. This preparation is covered by an ACC Site Survey or survey form completed by the customer. The survey includes a site plan of the facility with floor plan, all power outlets, power boxes, and cabling locations marked.

- Inspect the site, particularly the equipment room, before unloading or unpacking the equipment to ensure:
- Adequate earthing is provided.
- Access to the equipment will be adequate for installation normal handling and movement.
- The heating, ventilation and air conditioning systems are operating correctly.
- Sufficient lighting is available for proper installation and operation installation and operation.

Flooring. In raised floor installations, cut-outs may be made in the floor for cable access to the Sitespan server PC and the AS4000 Racks. Use the site survey floor plan to verify the location and size of the cut-out.

Cable Trays. Cable trays are normally provided by the customer. Use the site survey to verify that they are in place, provide routing to the proper destinations, and that they have adequate strength to support the cables.

Power Availability. Mains power supplies for the Server PC and any associated communications equipment should be highly available. If the power is subject to disruption then an Uninteruptable Power Supply (UPS) should be considered.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

INSTALLING THE AS8100 SITESPAN SERVER PC

The Sitespan Server is responsible for managing all equipment racks at a given site. In particular, it records any alarms flagged by the equipment and maintains a database and log file of the changes in the equipment state over time. On its own the Sitespan Server application simply manages its connected equipment and has no way of accepting user commands and of displaying equipment status in a graphical form. Instead, these functions are provided by the Sitespan Equipment View.

STEP   **PROCEDURE**

Installing the AS8100 Sitespan Server PC

Unpacking Procedure:
- Take delivery of the equipment and verify against the packing list. Inspect the items and report any damage or shortage to the carrier immediately.
- If not to be used immediately, repack the items and store in a safe area.
- Dispose of all packaging.
- Note: It is recommended that you keep one packing carton for each type of item should you need to return items for repair.

Locating the AS8100 Sitespan PC

The Sitespan Server PC should be placed in a reasonably secure room, which must conform to the environmental specification of the PC manufacturer. The PC does not have to be located with the AS4000 Racks but must be within an RS-232 cable run of 25m. The PC is powered from the AC mains.
Locate the power outlet and RS-232 cable run with the aid of the site survey.

Installing the Serial Cards

Remove the cover to the PC, locate the available card slots, and install the serial cards following the manufacturers instructions.

Installing the PC Operating System Software

If not pre-installed, follow the manufacturers instructions for the installation of 'Windows NT.

Install the Modem(s)

The Modem should be connected to a Serial/Com Port. and installed as per the manufacturers instructions and connected to the telephone socket. Each modem provided will need a separate Serial Port and a separate telephone line.

Configuring the server for remote access
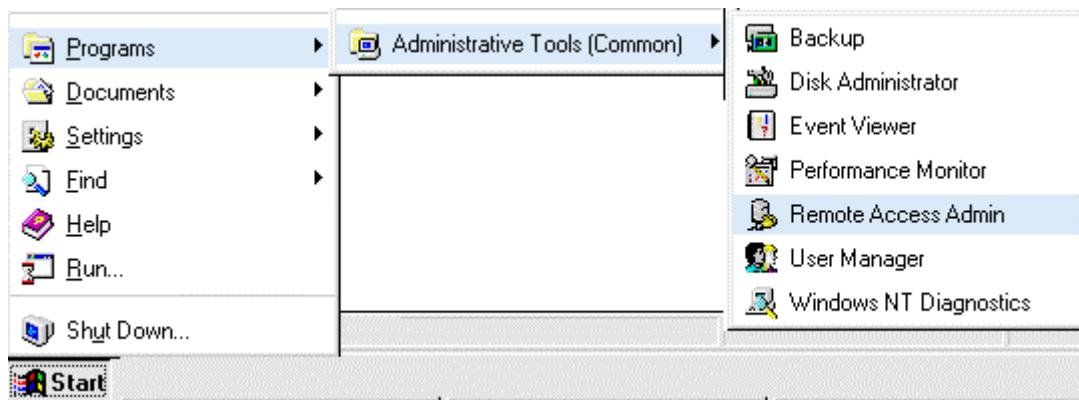
The Sitespan Software will not execute until the Remote Access Service (RAS) utilities are installed. Windows NT installation disks are needed for this procedure which can be found in the Windows NT Workstation Installation Guide and on the Remote Access Help menu's.

Use the Remote Access Admin program found in the Administrative Tools section menus to configure the RAS port for incoming calls. This procedure can be found in the Windows NT Workstation Installation Guide and on the Remote Access Help menu's.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

PHYSICAL CONNECTION TO RELEASE 2 AS4000

Use this procedure to provide interfaces to AS4000 release 2 racks.

WARNING: **When plugged into the modem shelf backplane, Sitespan becomes the master controller and the shelf controller the slave. The configuration file of Sitespan will automatically overwrite any existing shelf controller configuration.**

STEP	PROCEDURE

Interface Connections

1. Connect each ACT (AS4000 Central Terminal) modem shelf (see Figure 3) to the Sitespan PC via a single RS-232 cable. A single 9 way or 25 way D-Type connects to the PC and a 25 way D-Type connects to the modem shelf. The cable connections are shown in Table 2 below.
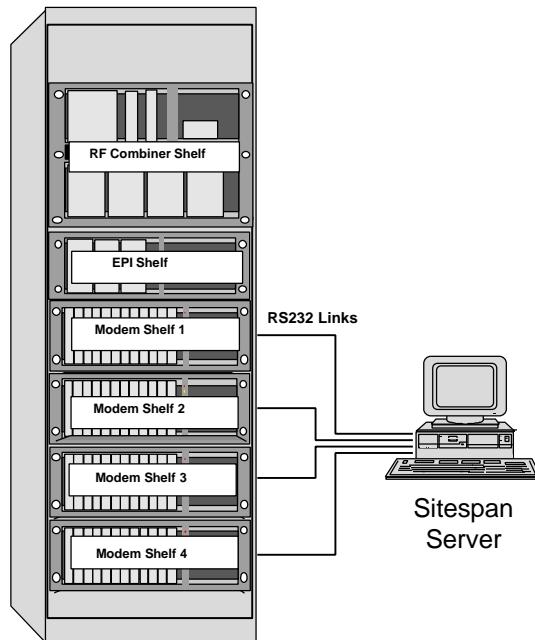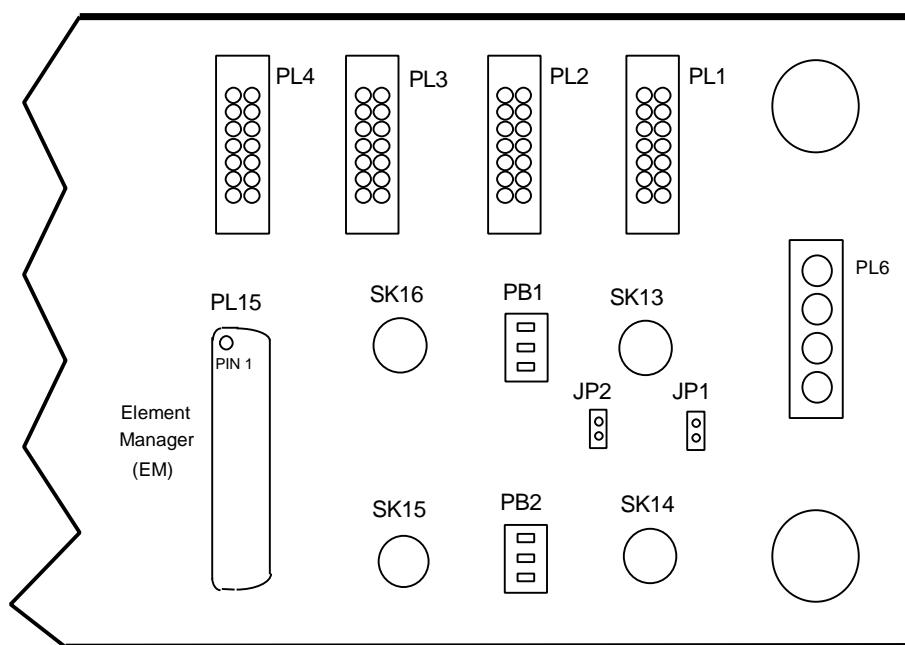
Figure 3. AS8100 Sitespan: Connections to AS4000 Release 2

25 Way Male Connector at Modem Shelf Signal	Pin to Pin	25 / 9way Female Connector at PC Signal
Earth (PE)	1 to 1	Earth
Transmit TxD	2 to 3	Receive
Receive	3 to 2	Transmit
Return (0v)	7 to 7	Return

Table 2 RS232 Connections

1. The RS232 connector can be found on the modem backplane, labelled 'PL15' and 'Element Manager'. The RS-232 cable(s) enter the ACT from the top and are tied-in down the right-hand side cable duct.

Figure 4. CT Modem Shelf Backplane Release 2.
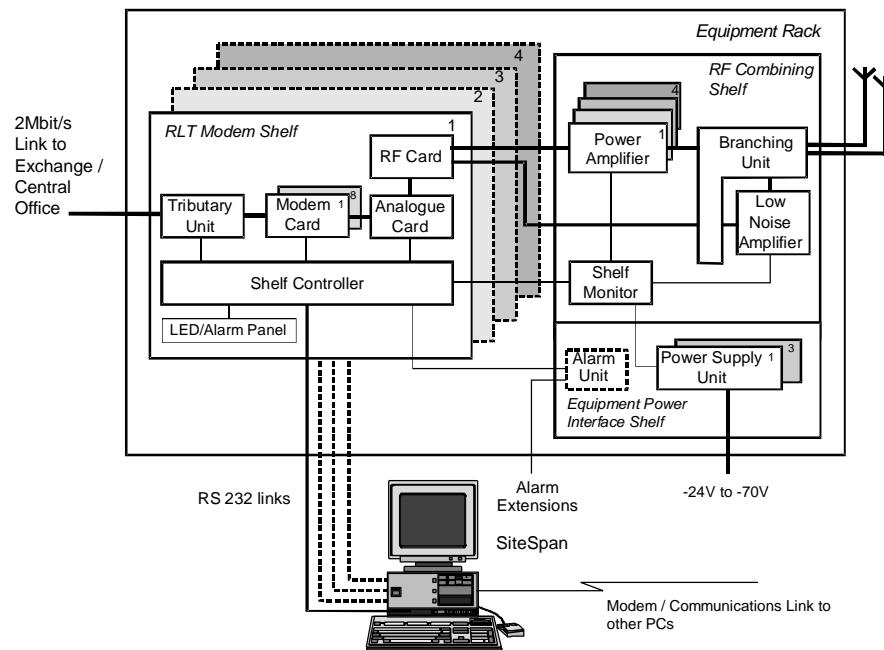
Figure 5. AS4000 System Architecture

3. Each card or FRU (Field Replaceable Unit) that electronically holds its serial number automatically reports it to the Sitespan Server on power up. This serial number is a unique identifier of the resource in question and cannot be changed after manufacture. Whenever an FRU is replaced, the controller of the FRU identifies the event and reports the serial number of the new FRU to the Sitespan Server.

Note: Safety Precautions

1. Personnel installing the ACC AS8100 Sitespan product should follow adequate safety procedures as laid out in the Installation Workmanship Requirements Manual.

WARNING: **On AC installations, hazardous voltages exist. Use caution when verifying or working with AC power. Remove metal jewellery that could come into contact with AC power. On DC sections, short circuiting the low voltage, low impedance circuits can cause severe arcing that may result in burns or eye damage. Remove rings, watches etc. to avoid shorting DC circuits.**

ELECTRO STATIC DISCHARGE:
      Many circuits contain devices which are susceptible to damage from high impedance voltage sources. To avoid such risks, always follow anti-static precautions.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

PHYSICAL CONNECTION TO FIXED ASSIGNMENT AS4000

Use this procedure to provide interfaces to AS4000 Fixed Assignment shelves.

WARNING: **When plugged into the modem shelf backplane, Sitespan becomes the master controller and the shelf controller the slave. The configuration file of Sitespan will automatically overwrite any existing shelf controller configuration.**

STEP	PROCEDURE

Interface Connections

1. Connect each CT (Central Terminal) modem shelf to the Sitespan PC via a single RS-232 cable (See Figure 6). A single 9 way or 25 Way D-Type connects to the PC and a 25 way D-Type connects to the modem shelf. The pinouts for an RS232 cross-over cable are shown in Table 2.
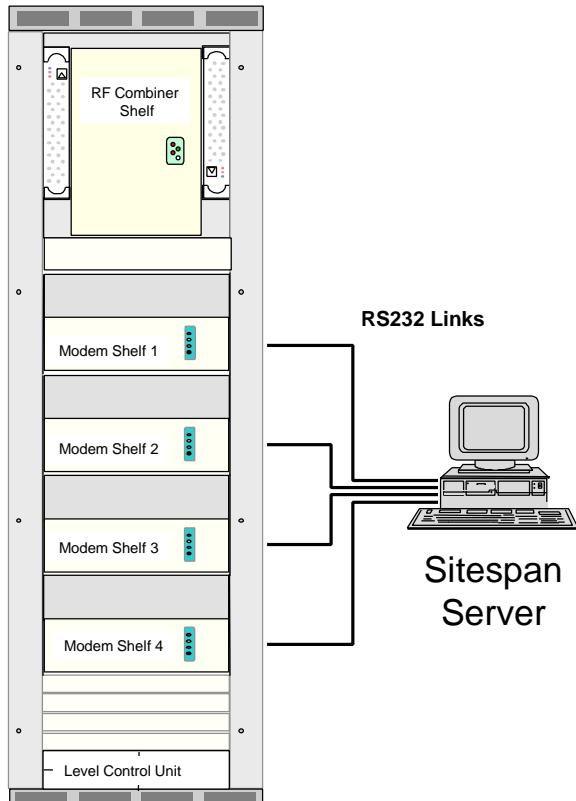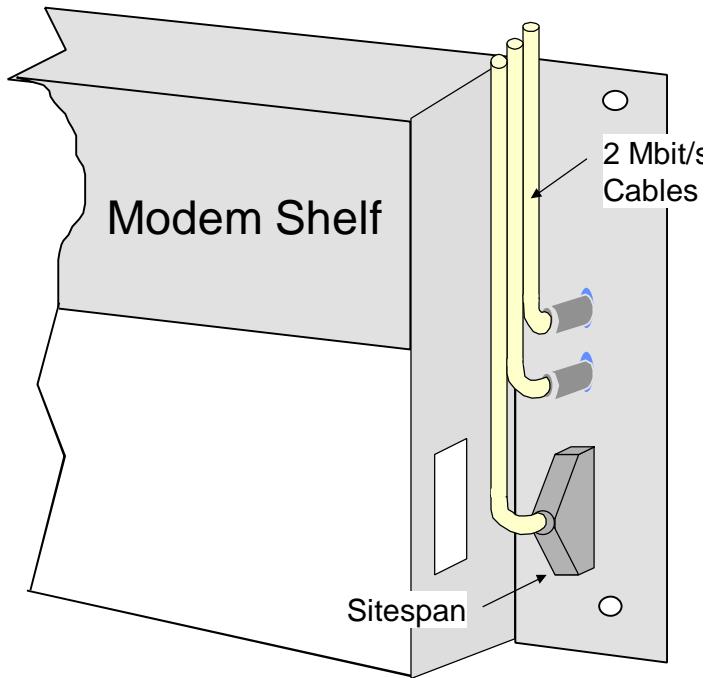
Figure 6. AS8100 Sitespan: Connections to AS4000

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25 Way Male Connector at Modem Shelf Signal	Pin to Pin	25 / 9way Female Connector at PC Signal
Earth (PE)	1 to 1	Earth
Transmit TxD	2 to 3	Receive
Receive	3 to 2	Transmit
Return (0v)	7 to 7 (25way) 7 to 5 (9way)	Return

Table 3 RS232 pin Connections

2. The RS232 connector can be found on the modem backplane, labelled 'PL5'. The RS-232 cable(s) enter the ACT from the top and are tied-in down the right-hand side cable duct. On Release 4 installations the Sitespan RS232 connector is located on the right hand side of the shelf (see Figure 7). On release 3 shelves the Sitespan connects directly to the modem shelf backplane (see Figure 8)

Figure 7. Sitespan Connection to a Release 4 Modem Shelf.
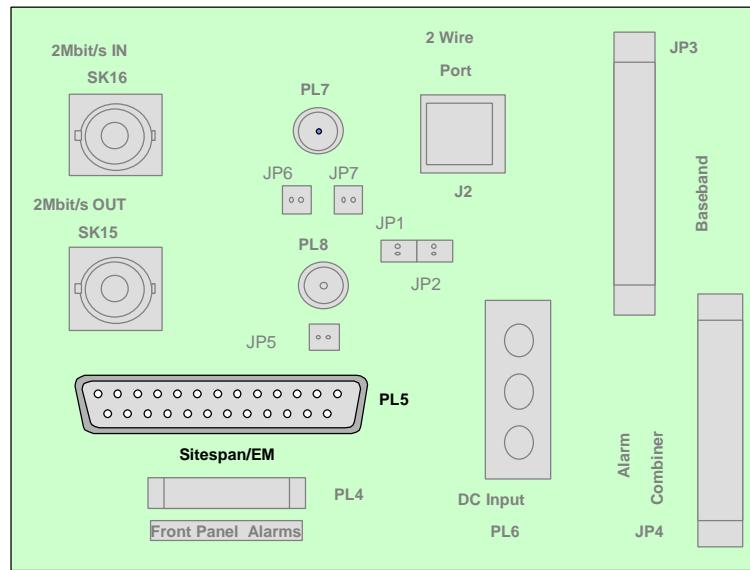
Figure 8. CT Modem Shelf Backplane Fixed Assignment.
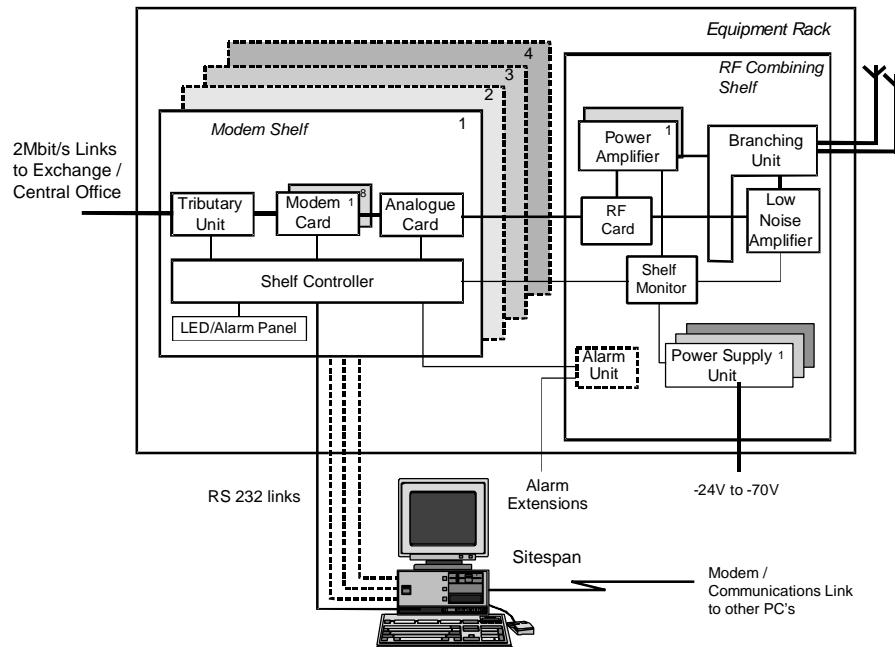
Figure 9. AS4000 System Architecture (Fixed Assignment)

3. Each card or FRU (Field Replaceable Unit) that electronically holds its serial number automatically reports it to the Sitespan Server on power up. This serial number is a unique identifier of the resource in question and cannot be changed after manufacture. Whenever an FRU is replaced, the controller of the FRU identifies the event and reports the serial number of the new FRU to the Sitespan Server.

Note: Safety Precautions

1. Personnel installing the ACC AS8100 Sitespan product should follow adequate safety procedures as laid out in the Installation Workmanship Requirements Manual.

WARNING: **On AC installations, hazardous voltages exist. Use caution when verifying or working with AC power. Remove metal jewelry that could come into contact with AC power. On DC sections, short circuiting the low voltage, low impedance circuits can cause severe arcing that may result in burns or eye damage. Remove rings, watches etc. to avoid shorting DC circuits.**

ELECTRO STATIC DISCHARGE:

Many circuits contain devices which are susceptible to damage from high impedance voltage sources. To avoid such risks, always follow anti-static precautions.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

PHYSICAL CONNECTION TO DEMAND ASSIGNMENT AS4000

Use this procedure to provide interfaces to AS4000 (Demand Assignment CT racks or Access Concentrator racks.)

WARNING: **When plugged into the modem shelf backplane, Sitespan becomes the master controller and the shelf controller the slave. The configuration file of Sitespan will automatically overwrite any existing shelf controller configuration.**

STEP	PROCEDURE

Interface Connections

a) Access Concentrator Shelf

The Sitespan is connected to the Sitespan 1 D-type connector on the connector panel of the Access Concentrator Shelf.
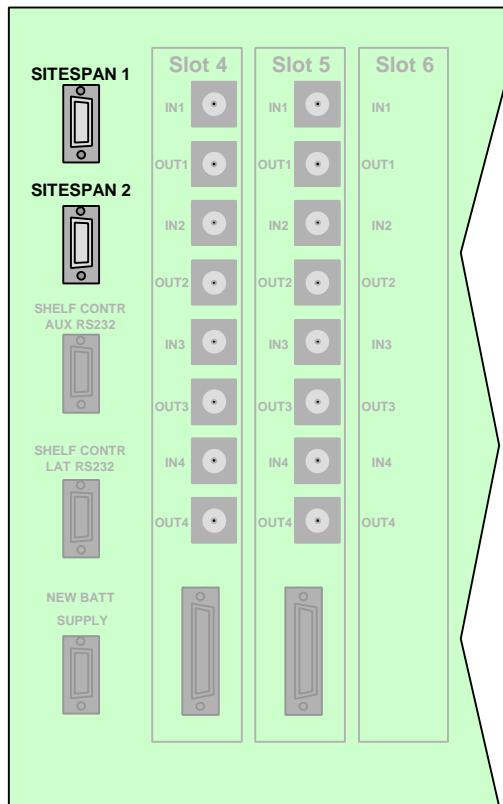
Figure 10. Demand Assignment Access Concentrator Shelf Backplane

b) Demand Assignment CT Modem Shelf

Sitespan is connected to the Sitespan 1 D-type connector on the connector panel of the first Modem Shelf.
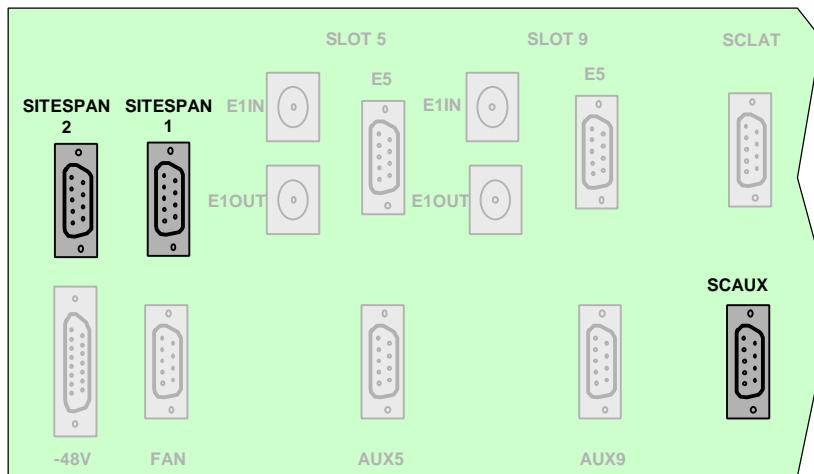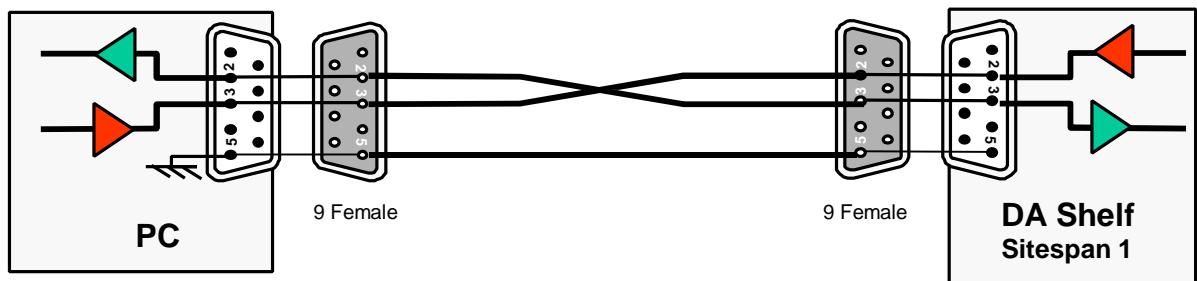
Figure 11. Demand Assignment Modem Shelf Backplane

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OPERATING SITESPAN FOR FIXED ASSIGNMENT OVER DEMAND ASSIGNMENT BACKHAUL

Use this procedure to provide a Sitespan connection to an Access Concentrator Site for a Fixed Assignment Modem Shelf installed on the same site as a Demand Assignment CT Rack

WARNING: **When plugged into the modem shelf backplane, Sitespan becomes the master controller and the shelf controller the slave. The configuration file of Sitespan will automatically overwrite any existing shelf controller configuration.**

STEP	PROCEDURE

DA Modem Shelf to FA Modem Shelf Interface Connections

The Sitespan 2 and SC AUX connectors are used to backhaul FA Modem Shelves. To connect a FA Modem Shelf for backhaul to the AC Site provide a link cable between the Sitespan 2 (9 way D-type) connector and the Sitespan 25 way D-type connector on the FA Modem Shelf.

To connect a second FA Modem Shelf for backhaul to the AC Site provide a link cable between the Sitespan Aux (9 way D-type) connector on the DA Modem Shelf and the Sitespan 25 way D-type connector on the FA Modem Shelf.
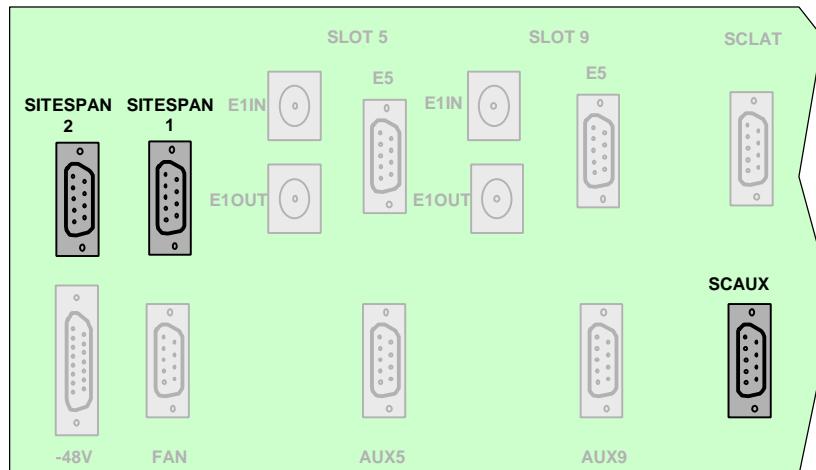
Figure 12. Demand Assignment Modem Shelf Backplane

Connection to a Fixed Assignment Modem shelf is shown below
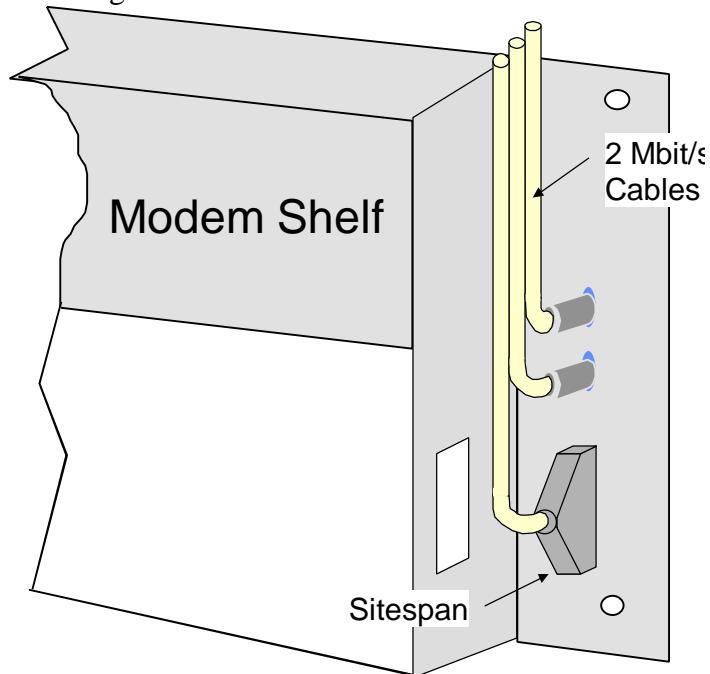
Figure 13. Fixed Assignment Release 4 Sitespan Connection

Connecting cables should be routed through the rack side channels and tie wrapped if necessary. Details of the connecting cables are shown below. The connecting cable requires a 25 way male D-type at the Fixed Assignment Modem Shelf and a 9 way female D-type at the Demand Assignment Modem shelf.
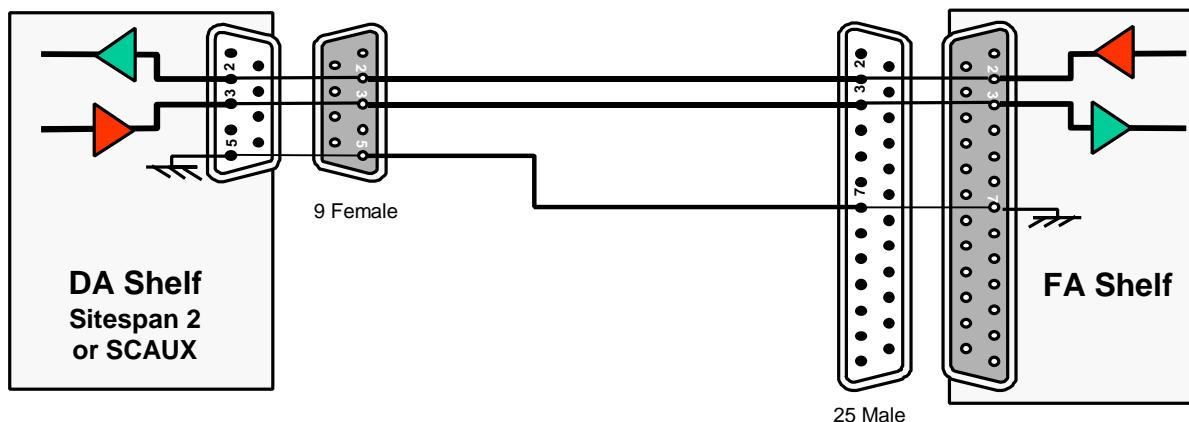
Set the Sitespan FA Modem Shelf Properties to enable the link to the shelf. See DLP-053 Editing Modem Shelf Properties.

INSTALLING THE SITESPAN EQUIPMENT VIEW PC

The Sitespan Equipment View allows the user to access the Sitespan Servers from a remote location. The system is not dependent upon the Sitespan Equipment View being connected to the Server continuously but the Sitespan Equipment View needs to access the Server when it wants to get status updates receive alarms and pass new information to the Server.

STEP	PROCEDURE

Installing the AS8100 Sitespan Server PC

Unpacking Procedure
- Take delivery of the equipment and verify against the packing list. Inspect the items and report any damage or shortage to the carrier immediately.
- If not to be used immediately, repack the items and store in a safe area.
- Dispose of all packaging.

Note: It is recommended that you keep one packing carton for each type of item should you need to return items for repair.

Locating the AS8100 Sitespan PC

The Sitespan Server PC should be placed in a reasonably secure room, which must conform to the environmental specification of the PC manufacturer.
The PC is powered from the AC mains.
Locate the power outlet and the telephone socket for the modem with the aid of the site survey.

Installing the PC Software
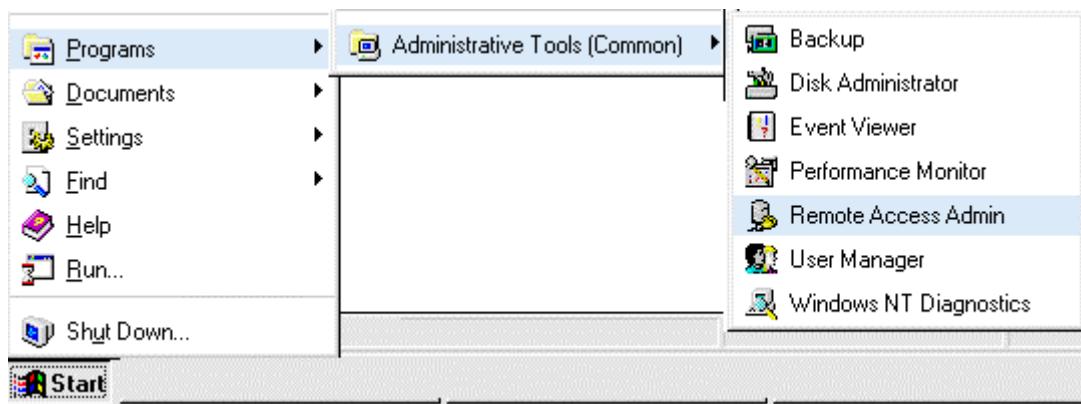
If not pre-installed, follow the manufacturers instructions for the installation of 'Windows NT.

Install the Modem(s)

The Modem should be connected to a Serial/Com Port. and installed as per the manufacturers instructions and connected to the telephone socket. Each modem provided will need a separate Serial Port and a separate telephone line.

Configuring the server for remote access

The Sitespan Software will not execute and be fully functional until the Remote Access Service (RAS) utilities are installed and the Equipment View is set up a for remote access. Windows NT installation disks are needed for this procedure which can be found in the Windows NT Workstation Installation Guide and on the Remote Access Help menu's.

The RAS need to be configured with connection details to allow the Sitespan Equipment View to connect to the Server. See DLP-003 Creating a Dial-Up networking entry for the Equipment View.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

AS8100 SITESPAN SOFTWARE INSTALLATION

Use this procedure to install Sitespan Software. If both the Server and Equipment View are co-existing in the same machine install both the Server and Equipment View software. This procedure should be preceded by the installation of Windows NT.

STEP	PROCEDURE

1. Place CDROM containing Sitespan Software into CDROM Drive.

2. From the *Start* menu on the Windows NT Program Manager screen select Run.
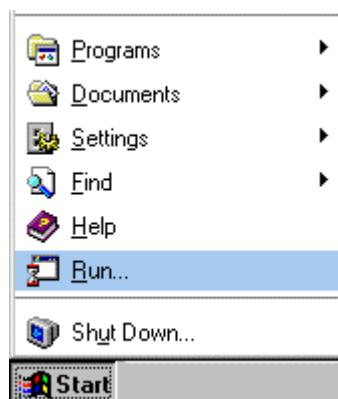
3. Type **d:\Setup.exe** (where d represents the drive in which the CDROM is located) in the *Command Line* box that appears in the *Run* window and then click the OK button or press the return(↵) key.
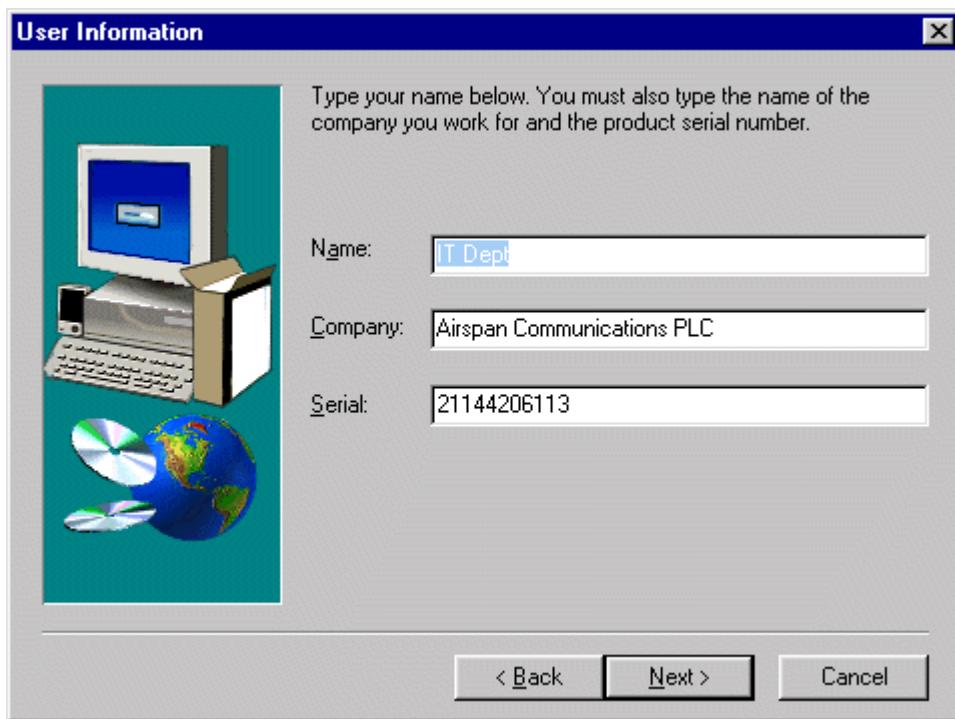
4. After the Install Wizard has loaded click the *Next* button on the Welcome screen.

5. After reading the license agreement click *Yes* to proceed.
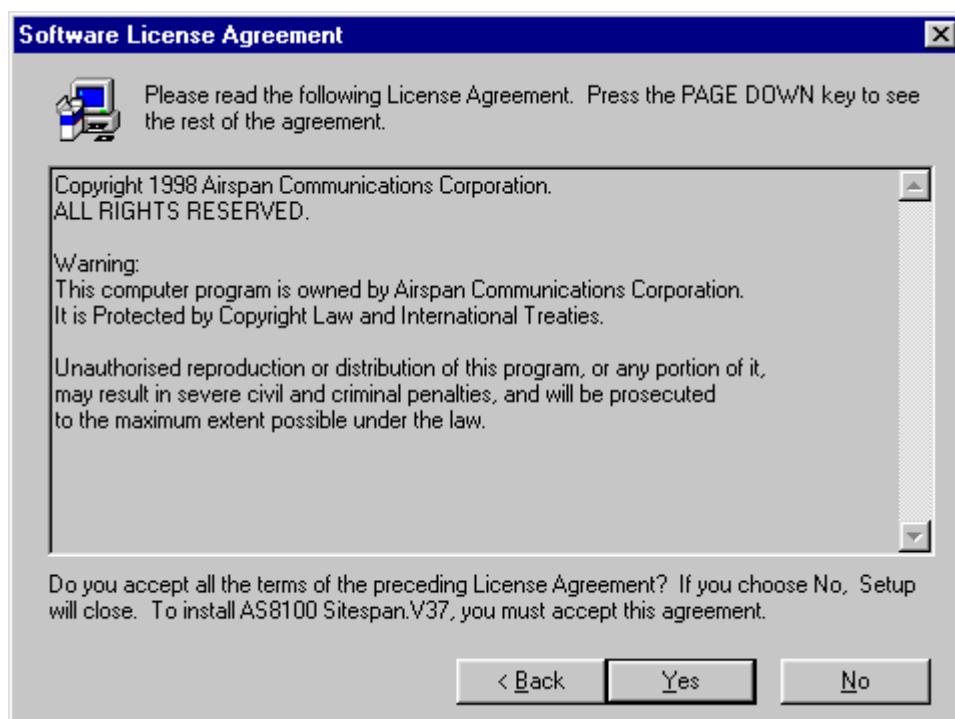
6. Insert registration information as required

User Information

Type your name below. You must also type the name of the company you work for and the product serial number.

Name: IT Dept

Company: Airspan Communications PLC

Serial: 21144206113

< Back   Next >   Cancel

7. From the Choose Destination Location window Setup will install Sitespan in the C:\Sitespan directory. To install Sitespan in another directory click the browse button and choose an alternative directory. Continue by clicking the mouse on OK.

Choose Destination Location

Setup will install AS8100 Sitespan.V37 in the following folder.

To install to this folder, click Next.

To install to a different folder, click Browse and select another folder.

You can choose not to install AS8100 Sitespan.V37 by clicking Cancel to exit Setup.

Destination Folder

C:\Program Files\AS8100 Sitespan.V37   Browse...

< Back   Next >   Cancel

8. Review install details in summary screen. Click *Next* to continue with the installation..
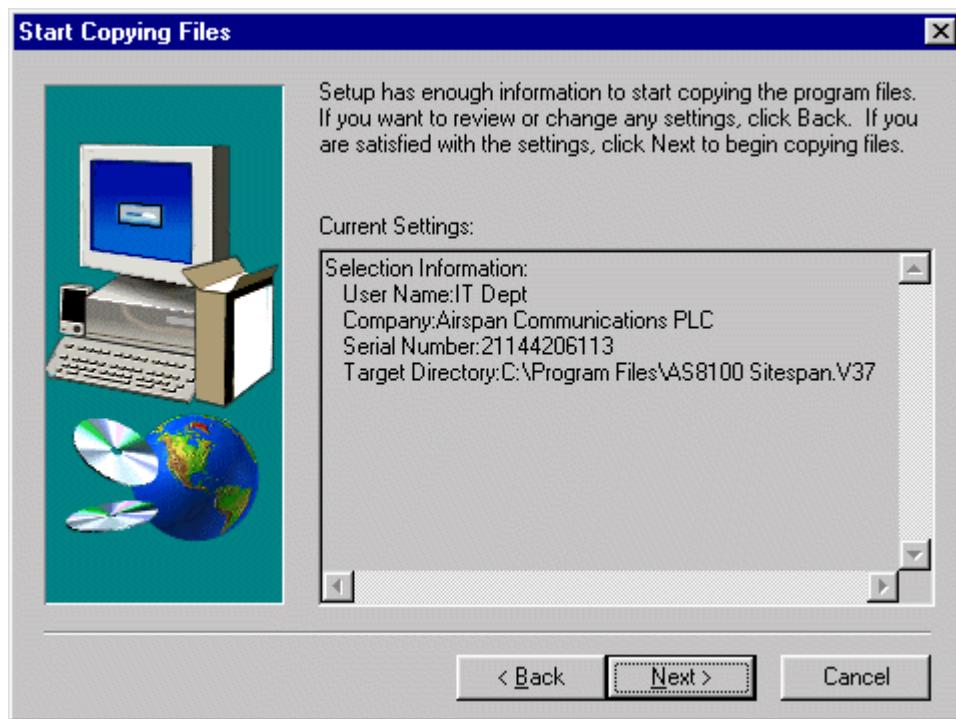
9. Click Finish on the Set-up screen to complete installation.
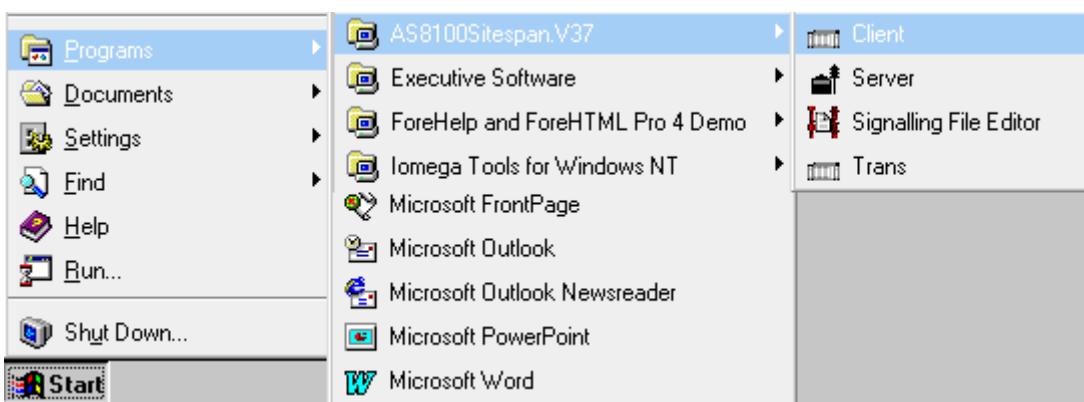
10. The information screen gives details on the setting up of RAS in windows NT4.0
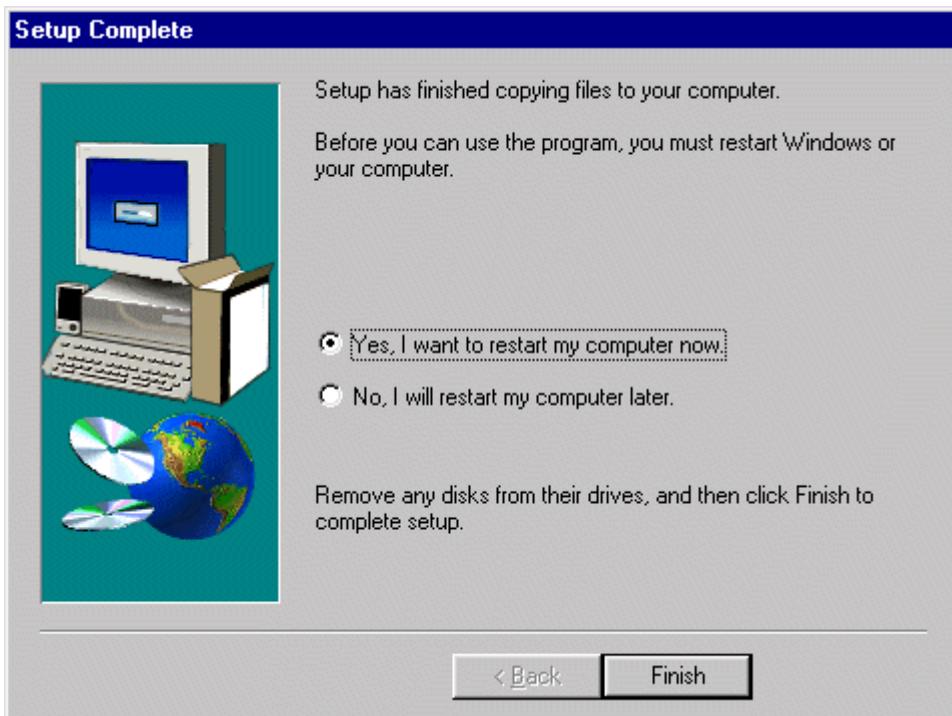
11. At the end of the setup the installed items will appear as icons in the Sitespan V37 folder along with a signaling file editor.

12. The programs will also appear in the windows start menus

STOP. THIS PROCEDURE HAS BEEN COMPLETED

BASIC OPERATIONS

This section gives a brief outline of the operation of the windows environment used by the Sitespan software. The user should refer to the Microsoft Windows User's Guide for more detailed information.

Basic Operations

Figure 14 shows Sitespan in a typical windows environment.
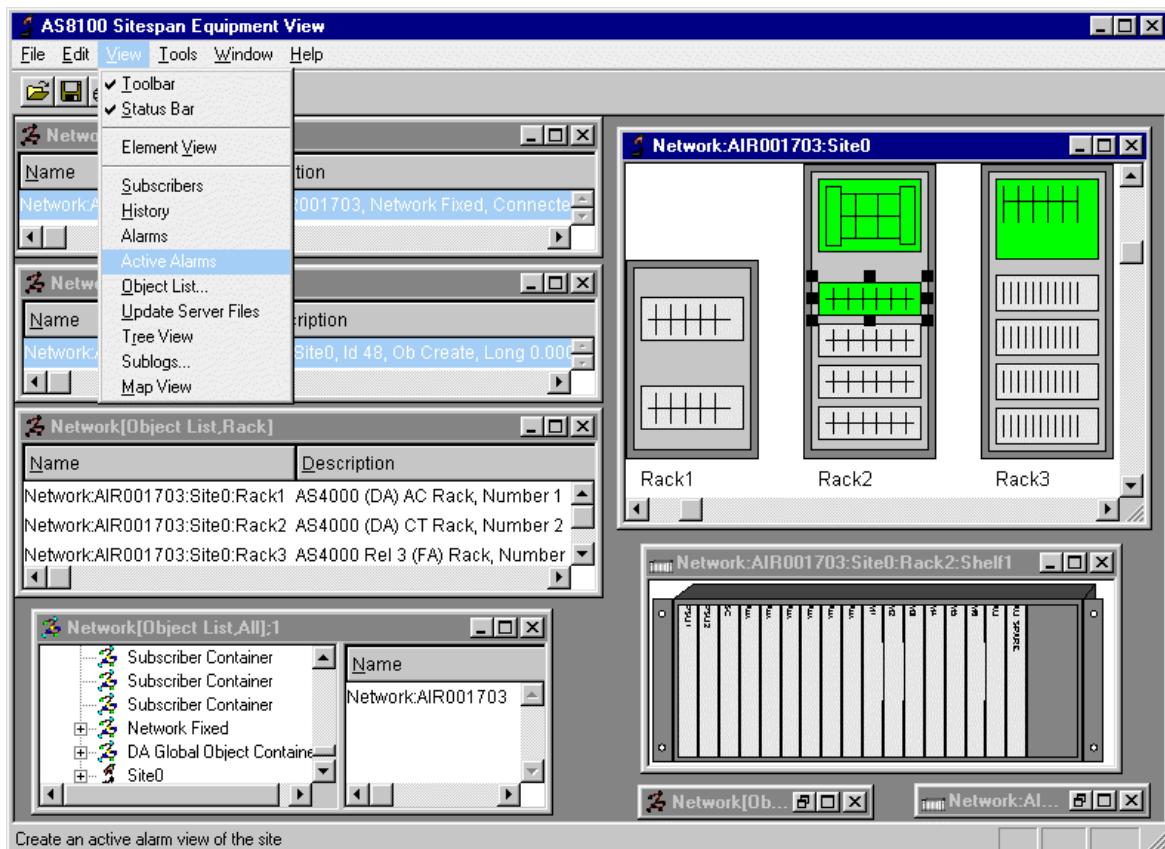
Figure 14. AS8100 Sitespan in Windows environment.

In the windows environment, most actions are triggered by using a mouse pointing device. Moving the mouse on a flat surface produces an equivalent two dimensional movement of the mouse pointer on the screen. The following terms are associated with the use of a mouse:
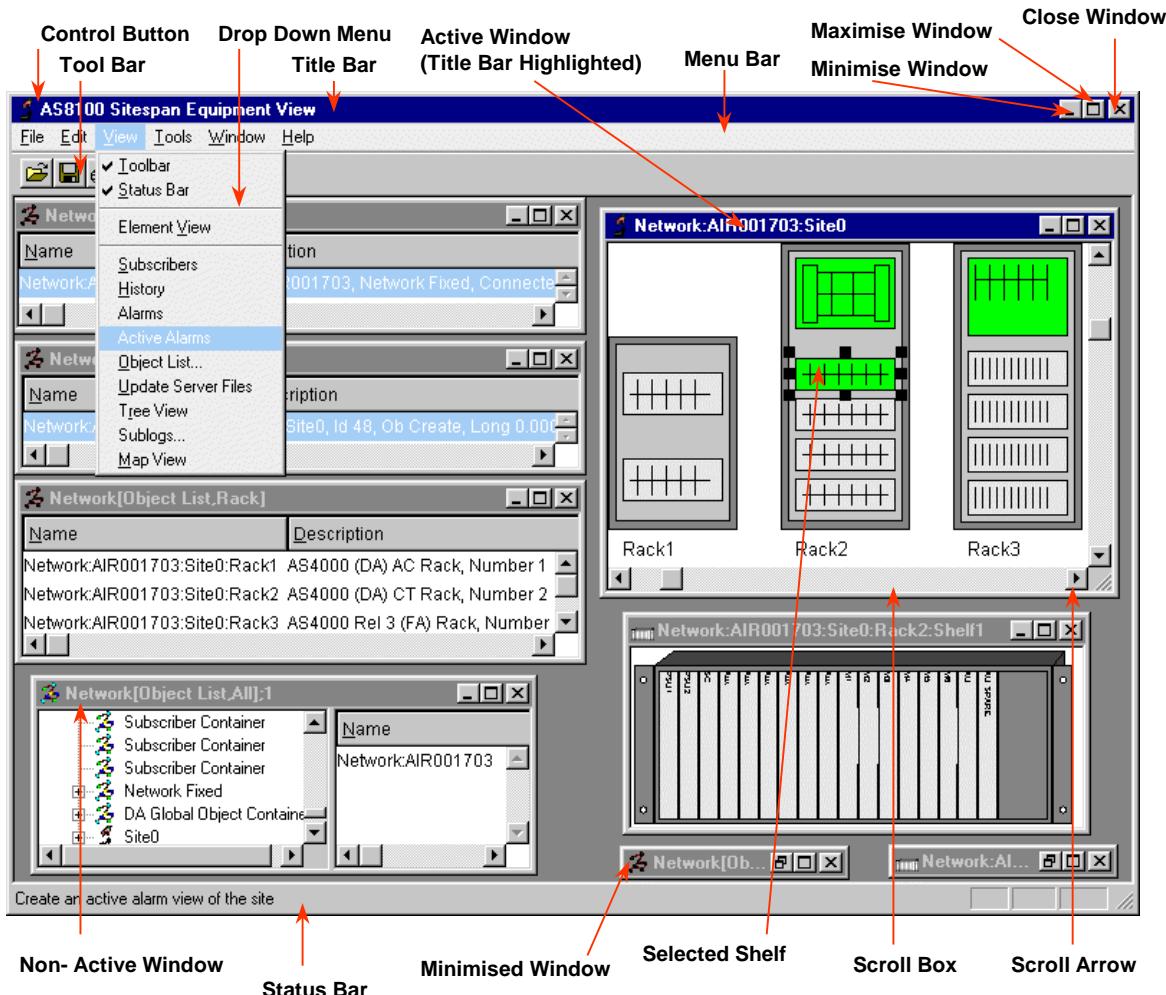
Term	**Meaning**
Click	Press and release quickly a mouse button
Double-click	Click the mouse button twice in rapid succession
Drag	Hold down the mouse button while moving the mouse
Point	Move the mouse until the mouse pointer on the screen rests on the required item
Select	Point to the required item on the screen and click the mouse button.

Table 4 Mouse Commands

Both the left and right buttons of a mouse are used in this point and select mode. The left mouse button is used to select menus radio buttons and insertion points. The right mouse button invokes a menu related to the object being pointed

Use of Windows

Figure 15 is an example of a typical view seen when Sitespan running under Windows.

Figure 15. Typical Windows Sitespan View

In the illustration, the main application, complete with *title bar*, *menu bar* and *tool bar*, has been maximised to full screen, and child windows have been opened within the main application.

- Title Bar The title bar shows the name of the application. If more than one window is open, the title bar for the active window is highlighted. In Figure 15, the main application, the Sitespan Equipment View is active and the title bar is highlighted. In addition, within the main application, a number of child windows have been opened, and of these, one is highlighted as active.
- Menu Bar The menu bar lists the available menus which are provided as drop-down menus.
- Scroll Bars Refer to windows user guide.
- Window Adjustment Refer to windows user guide.
- Control Button Refer to windows user guide.
- Status Bar The status bar, along the bottom of the screen, displays context-related help messages.
- Tool Bar The tool bar is used to provide a quick access to commonly used commands, see Figure 16. The command is invoked by clicking on the associated button. A context sensitive help message is presented on the status bar for each tool bar button. This message can be viewed by placing the mouse pointer on the tool bar button and holding down the mouse button.

Note: The command will be invoked if the mouse button is released while still pointing to the *tool bar* button: drag the pointer away from the *tool bar* button before releasing the mouse button if the command is not required. A description of the Sitespan Tool Bar Buttons is given at the end of GSI-014.

Tool Tips and Special Cursors

The windows Tool Tips are short help messages that appear on a yellow background. They are automatically activated the mouse on an object or toolbar button for a few seconds.
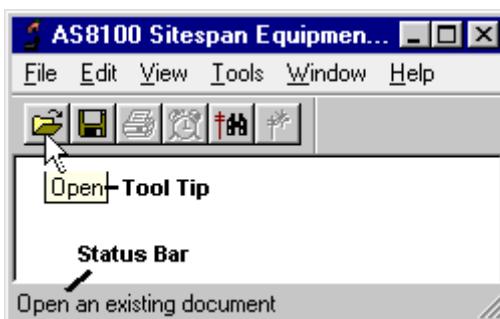
Figure 16. Toolbar Buttons

In Sitespan there are a number of special cursors and tool tips.
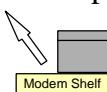
The normal white arrow cursor changes to the subview cursor left to indicate that there is a subview of the object at this point. Leaving the cursor on the object for a few seconds invokes a description of the sub view available.

This cursor appears when pressing the right mouse button to a title field on a list view and indicates that the field pointed to can be re-ordered by holding down the left mouse button and dragging the field to a new position.

Drop Boxes
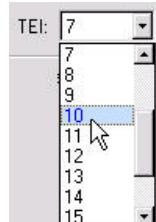
Information is entered into Sitespan either by directly typing into boxes for labelling or by the use of drop windows that show all the available options. Click the mouse on the arrow to the right of the box to see the list of options available for selection.

Check Boxes

Activate check boxes by pointing the mouse into the box and clicking the left mouse button

Radio Buttons

Radio Buttons toggle between options. The chosen option appears with a dot. To change options point and click the left mouse button in the alternative field

Views

In this document, child windows opened within Sitespan are referred to as 'views'. Thus, in Figure 15 the active child window relating to the Shelf is referred to as a Shelf View. Views may be minimised and appear as small icons at the bottom of the parent window. The views provide the mechanism for displaying information to the user. Any combination of views may be displayed, although the user can only manipulate one of them at any one time (referred to as the active window). Windows that are open but not active will still display changes generated by the program software; for example, a change of status or alarm condition.

SITESPAN EQUIPMENT VIEW MENU SYSTEM

Overview

The administration, maintenance and provisioning of AS4000 equipment can be undertaken at a single Sitespan station through a Graphical User Interface (GUI). and a series of menus to guide the user.
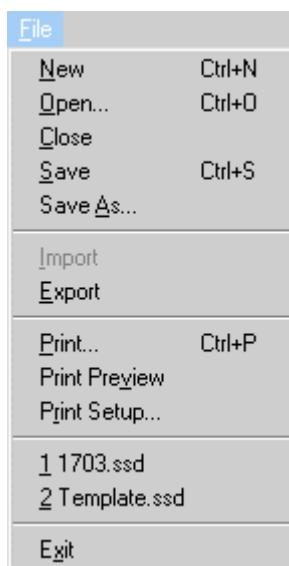
Menu Bar

The Menu bar, with its options and sub-menus, houses the complete range of functions that can be performed through Sitespan. However because stepsons menus are context sensitive only those options appropriate to the current task are displayed. Choosing one of these options will produce a menu containing the commands and options specific to the menu choice.

File Menu

The File Menu contains all the functions necessary for printing files. It also allows the operator to exit the system.

- **New.** Create a new, empty, site file.
- **Open.** Open an existing site file. The File Open dialogue box appears requesting details of the file name, directory and type. Options are to open config files and system files.
- **Close.** Closes the current file. If the file has not been saved, an invitation to do so is offered.
- **Save.** Save the current site file under its current name.

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- **Save <u>A</u>s.** Save the current site file under a different name. The **File Save As** dialogue box opens (showing the last used or default details) and requests details of the different file name, directory and type.
- **Import.** Used to import information from Subscriber Terminal databases.
- **Export.** Saves Lists as Rich Text Files for use in other programs
- **<u>P</u>rint.** This will print the current view and Opens the Print dialogue box showing current settings and requesting printer details and print ranges. The printer details can be amended via the Set-up button which, when selected, opens the Print Set-up dialogue box.(See below).
- **Print Pre<u>v</u>iew.** Gives screen based preview of the information to be printed. A toolbar in Print Preview gives options to Print, show Next, Previous or Two pages, Zoom in or out, and Close.
- **P<u>r</u>int Setup.** Opens the Print Set-up dialogue box This allows changes to be made to the printer, and paper size, orientation and source.
- **E<u>x</u>it.** This option disconnects the Equipment View from any connected servers, closes all files and returns the user to Windows NT. Closing the equipment view does not effect any AS4000 equipment state.

Edit Menu

The Edit Menu allows users to connect to the one or more Sitespan servers and then create and delete subsequent items of equipment. Site, rack, shelf and card properties can be set from this menu, however since the menu is context sensitive, not all the options are available at one time.

- **<u>U</u>ndo.** This command undoes the last command executed. Subsequent clicks on this will undo previously entered commands in sequence from latest to earliest (up to 100 levels). Note that undoing a command will restore the equipment state to that before the command was executed.
- **<u>R</u>edo.** This option reapplies an 'Undone' command This is only available when the Undo command has been applied at least once.
- **Parent <u>P</u>roperties.** The Sitespan equipment model is hierarchical. This context sensitive option allows the properties of the parent of the current equipment element to be viewed and edited. e.g. If shelf view is currently displayed this

option will be displayed as 'Rack Properties'. This option will change depending on which equipment view in the hierarchy is selected to be current with the mouse. The Sitespan equipment hierarchy is as follows:
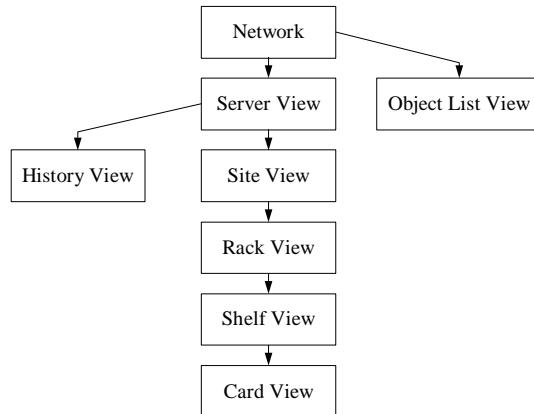
- **Child** This context sensitive option allows the properties of the child of the current equipment element to be viewed and edited. This option will vary depending on which equipment selected in the hierarchy is selected to be current.
- **Create Child Element** This allows the creation of a child element, i.e. a shelf when in the rack view.
- **Delete Element** Deletes the selected element from the server database.
- **Receiving Attention** This command allows an active alarm in a object list view or a card view to be acknowledged and effects a state change to clear the alarm.
- **Create Server.** Allows the user to create an unconnected Server end point record in the server window.
- **Connect Server** Allows the user to connect to a server that has been created with the Create Server command.
- **Disconnect Server** This option allows the user to disconnect the equipment view from a selected server.

View Menu

The View Menu allows the user to access any of the display window types available in Sitespan and create new types.
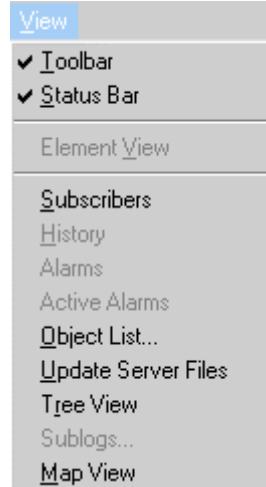
Toolbar This menu item selects and deselects the toolbar. The toolbar provides "shortcuts" to some of the more frequently used Windows and Sitespan functions. If a *tool bar* button is dimmed, then that button is not available to the current active window.

File Open   Print   Subscriber View

Save   Alarm View   Create Subscriber
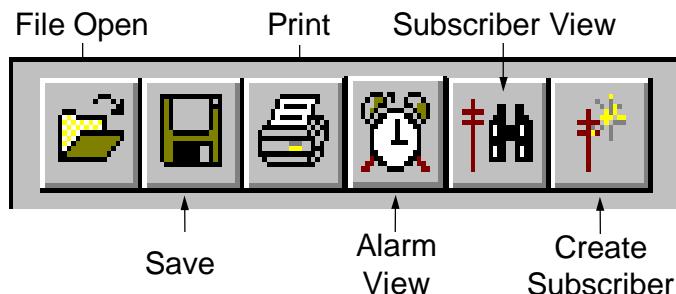
Selecting this icon produces the **File Open** dialogue box in the *File* drop-down sub menu.

Clicking on this icon will *Save* the active file under its current filename and directory. Also available in the *File* drop-down sub menu. See 3.61.

The **Print** dialogue box appears on selecting this icon. Also available in the *File* drop-down sub menu.

Selecting this icon produces the Alarm View.

The Network Subscribers window appears on selecting this icon. This will show subscriber attached to the Central Terminal.

The Edit Subscriber window appears on selecting this icon. This allows attachment of subscribers to Fixed Assigned systems only.

- **Status Bar** This menu item selects and deselects the Status Bar. The Status Bar is displayed along the bottom of the screen and displays context sensitive help messages. A ✓ shows that the Status Bar is selected and is visible on the screen.
- **Element View** The Element View allows the user to view detail of the selected item. Element View will change depending on the screen that is being viewed, i.e. in the menu above the element available to view is the Site View, in this case selecting this view will bring a view of all the racks in the selected site.
- **Subscribers** This menu item selects the Subscriber View. This view shows details of subscribers connected to the AS4000 racks at the current site. Details of customer Name, Address, Phone number, Tariff, CT , Channel / Modem, Slot number and activation state are all displayed in this view.
- **History** The history command displays a list of all operations performed on the selected server.
- **Errors** The errors command displays a window displaying any error messages posted from the Sitespan Server.
- **Object List** The Object Lists display the system messages for the chosen objects.

Tools Menu
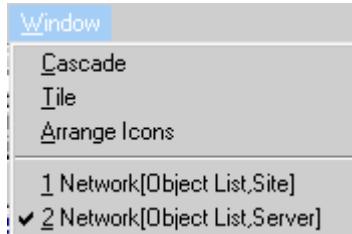
The Tools Menu provides tools for changing the colours of the display, selecting frequency and tariff options and creating default subscribers for a complete shelf.

- **Colours** This menu option is used to select the default colours for alarm conditions and card states.
- **Options** Selecting this item gives the user the ability to modify the selections offered when Sitespan prompts for frequencies and call tariff.
- **Subscriber Creator Wizard** This tool creates a full shelf of subscribers.

Windows Menu
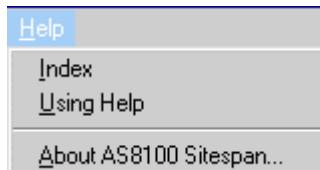
The Windows Menu allows the user to change the presentation of windows and lists the open files.

- **Cascade** This places the open windows in a cascade on the screen with the active window at the front.
- **Tile** This palaces the windows in a tile formation on the screen.
- **Arrange Icons** This places the icons in a neat line or array depending on the shape of the window.
- **1 2 3** Open Files. This lists the objects that are open and a ✓ will appear next to the active object.

Help Menu

The Help Menu provides information on using Sitespan and the version number information.

- **Index** This index displays help items.
- **About Sitespan** Selecting this menu item shows the version of Sitespan in use.

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SERVER MENU SYSTEM

The Server menu opening screen allows the user to see which Equipment Views are connected to the server.
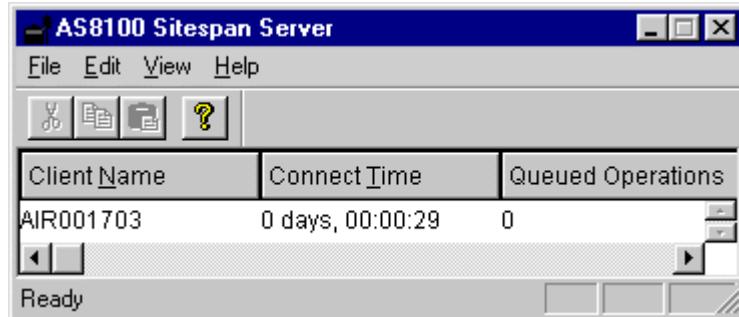
The Equipment Views currently accessing the site are listed under *Client Name*, showing the time that they connected to the system. and any queued operations waiting to be executed. The operative at the Server may wish to contact these sites and give advanced warning if the server is to be taken down and to ensure that all queued operations are complete.

The File Menu contains Exit.

The Edit Menu does not have any function in this version of Sitespan

The View Menu gives options to turn the toolbar/status bar on/off

- **Toolbar** This menu item selects and deselects the toolbar. The toolbar provides "shortcuts" to some of the more frequently used Windows and Sitespan functions. If a *tool bar* button is dimmed, then that button is not available to the current active window.
- **Status Bar** This menu item selects and deselects the Status Bar. The Status Bar is displayed along the bottom of the screen and displays context sensitive help messages. A✓ shows that the Status Bar is selected and is visible on the screen.

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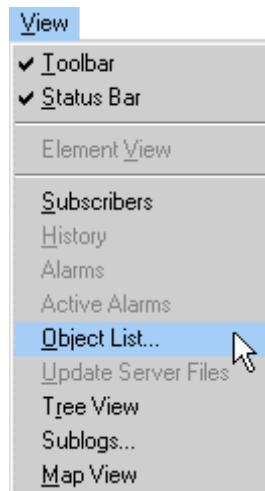
The Help Menu provides information Sitespan Server version number information.

- **About Server** Selecting this menu item shows the version of Sitespan in use.

SELECTING VIEWS

1. To display a view of a Server, Site, Shelf, Card or ST, select *Object List* from the *View* menu

2. Select the required object from the list. Click OK
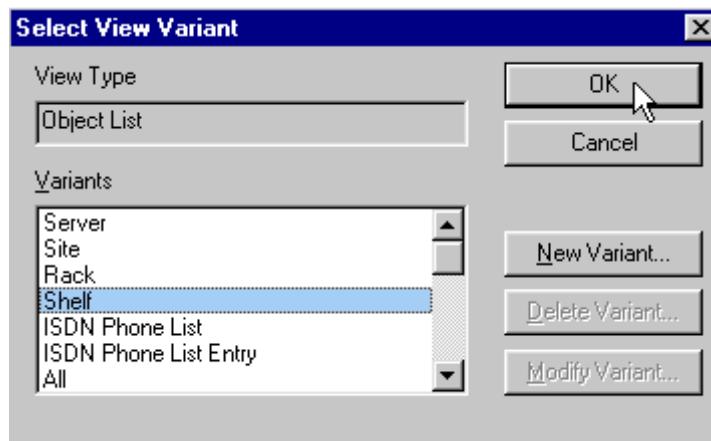
3. The object list is displayed. Place the cursor over the item on the list and double click the mouse. If more then one view is available of the object a View Child Window is displayed with the alternatives, select alternative and click OK. The window related to that chosen object is displayed. The exception to this rule is the rack views, these are displayed by placing the mouse cursor over the *Site* in the *Site Object List* and double clicking the mouse to display the racks on the selected site.

4. Other Views are available by selection from the view menu.

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The **Alarm View** can be displayed by clicking the Alarm View button at any time.

The Subscriber View may be chosen from the toolbar by clicking the Subscriber View button at any time. This displays the Fixed Assignment Network Subscribers.

Create Subscriber By clicking this toolbar button when in Subscriber View a subscriber may be created on a Fixed Assignment System.

MANAGING A NETWORK OF SERVER SITES

When managing large networks it is sometimes impractical to view the whole system as graphical elements. In order to be able to effectively manage multiple sites the Equipment View should as much as is practical be set up as object lists

Object lists allow more information to be displayed on the screen than would be available in GUI views.

Figure 1-1 shows an Equipment View set up as object lists.
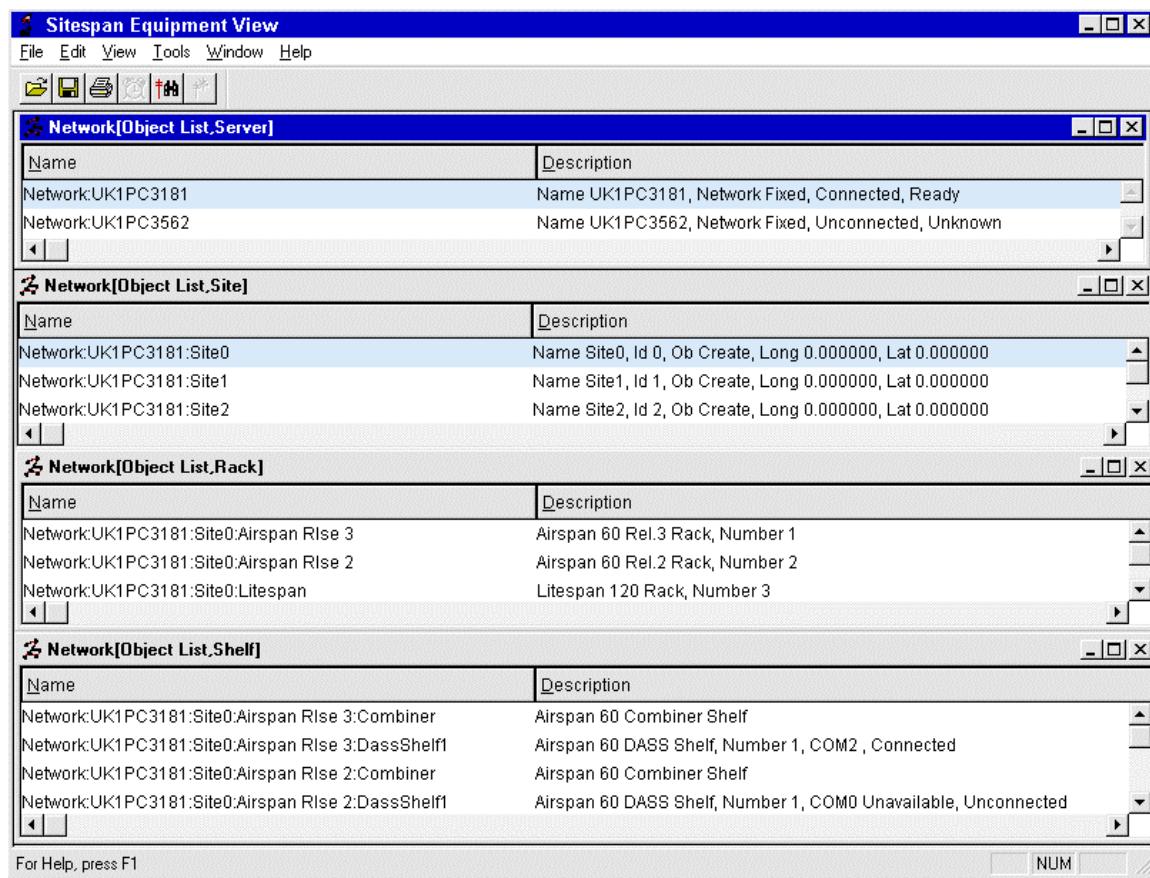
Selecting a particular object will allow the use of the menu to edit the properties of the object, delete the object or create a child element.

Double Click the mouse on an object listed in the Network[Object List, Server] window will display the queued operations at the Server. This will give an indication of how current the Equipment View display is.

Double Click the mouse on an object listed in the Network[Object List, Site] window and the GUI Site View will be displayed.

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Double Click the mouse on an object listed in the Network[Object List, Shelf] window and the GUI Shelf View will be displayed.

Any alarms that arise cause the text of all the parent objects that are associated with that event to also show an alarm state by turning red.

Any alarms on the system are always shown on the Network[Object List, Server] View. It is therefore possible to effectively monitor many server sites at the same time by displaying the Network[Object List, Server] View.

Other Network Object Lists may also be displayed, as space permits, to make it quicker to locate objects and alarm events. Site, rack and shelf lists can be displayed, child views beyond this are probably impractical to display as lists and can be displayed as GUIs when it is necessary to view a specific shelf.

To trace an alarm select the shelf displaying the alarm state and double click to produce GUI view. Then select the shelf item displaying the alarm state and double click the mouse to display the Card View.

USING WINDOWS NT RAS TO CONNECT SITESPAN CLIENT AND SERVER

Overview

Sitespan is a client/server application capable of utilising the Remote Access Service (RAS) and Dial-Up Networking features supported in Windows NT. For the purposes of this document only and the potential complexity of Windows NT the following limitations apply:

- Connection between the Client and Server applications is assumed to be via a standard dial up modem.
- Installation of the modem itself has already been completed.
- The Sitespan applications are installed.
- Both the "Client" and "Server" computers have Windows NT Workstation V4.0 installed. Other versions may be used but these are not detailed within this document.

NOTE: During the operations outlined in this document it will be necessary to re-start the system more than once. Ensure that all data is backed up before commencing any work on the system. Whilst every effort has been taken to ensure that this document is accurate, no responsibility is accepted or implied for any loss or damage to equipment and/or data affected either directly or indirectly by procedures outlined herein.

About Windows NT RAS

Windows NT Remote Access Service (RAS) is a standard component from Microsoft but it is not installed by default. RAS is designed to connect remote or mobile systems to corporate networks and is a dial-up networking product. It is not designed to provide "remote control" functions but to allow the sharing of files and data between systems. RAS includes two main components, Client and Server.

Client
The RAS Client allows a system to dial-in to a remote system or server.

Server
The RAS Server can permit up to 256 remote clients to dial in and can be configured to provide access to an entire network or restrict access to the RAS server only.

For the Sitespan application the RAS Server is usually installed on a stand-alone system (the "Server" computer").

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When a connection is established between the Server and Client machines, Sitespan downloads the entire object model (status and value of all attributes) of the connected equipment to the Client. Whenever any changes occur in the equipment (alarm or configuration) Sitespan updates the Client with the changes.

The initial download should take approximately 1 minute for a system connected to 16 modem shelves and at a rate of 9.6 kbits/s. Once downloaded, changes are updated almost immediately providing a smooth graphical user interface.

Requirements

The following items are the required minimum in order to setup NT RAS:

Windows NT Setup files. These can be on the local hard drive or the CDROM (version dependant upon the installation)
2 off 3.5" blank diskette.
Login Name and Password with Administrative rights.

Access Rights

In order to complete the operations outlined below, it will be necessary to log into Windows NT with a name and password with Administrative rights.

Emergency Repair Disk

Before carrying out *any* changes to the existing setup of a Windows NT system, it is strongly recommended that a repair disk be created. This can be achieved by inserting a blank formatted floppy disk into drive A: and selecting, *Start/Run* type "*RDISK*" and then click *OK*

The dialogue shown below will be presented. Click on *Create Repair Disk*
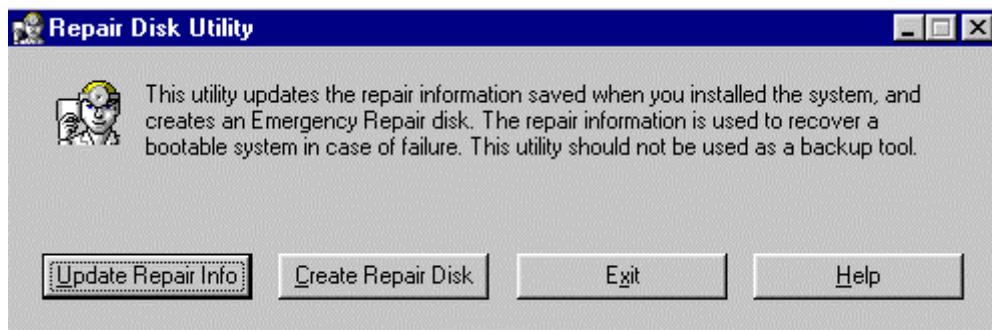
Figure 17: Using RDISK to Create an Emergency Repair Disk

Label the disk "Emergency Repair Disk - Original Config", write protect it by sliding the corner tab and store safely. You may need this disk in the event of a device conflict preventing the system from working correctly.

Server Components

This section covers all components required on the "server" machine (this is the computer connected to the equipment).

Installing RAS on the "Server"

1. Select *Start, Settings, Control Panel*. "Double Click" the *Network* icon on Control Panel.
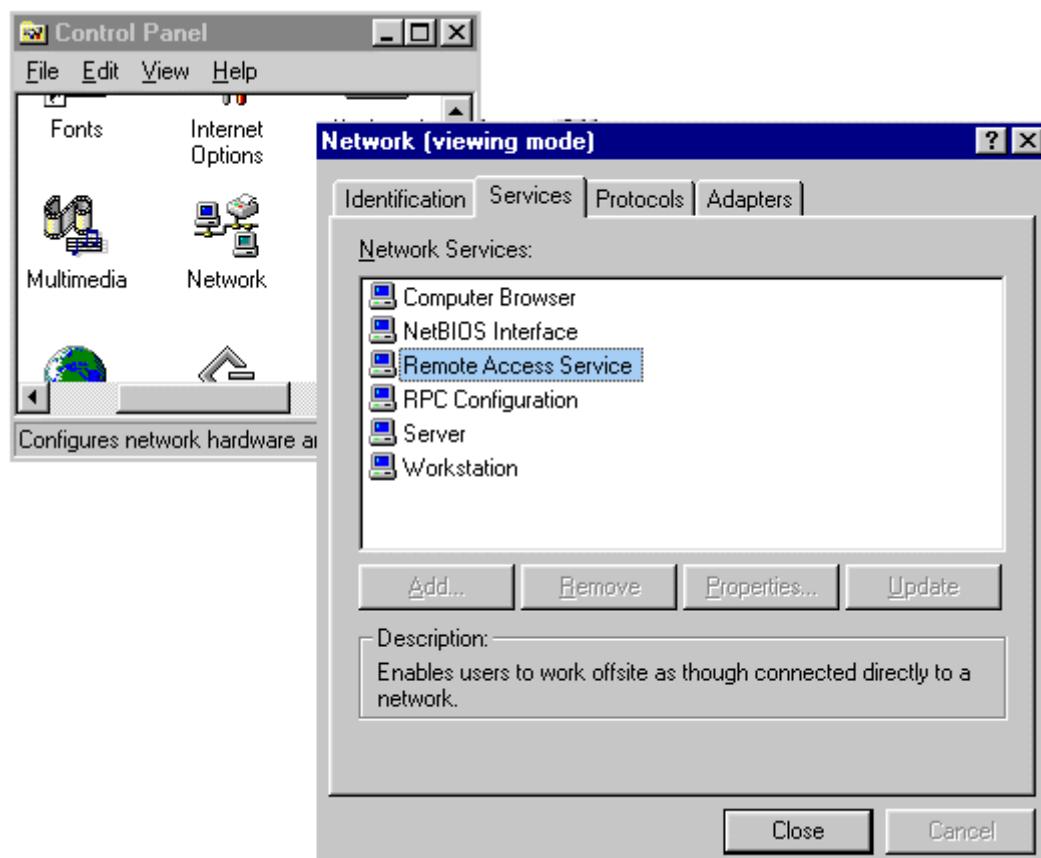
Figure 18: The Network Control Dialogue

2. Select the Services tab.

3. Click *Add* and select Remote Access Service from the list.

4. You will be prompted for the location of the Windows NT setup files. Enter this information and the setup routine will load the necessary files.

5. Once the files are loaded the system will take you through the logical steps of RAS setup. Firstly you will be asked to specify which modem (if you have more than one) you wish to use for RAS then select *Configure* and select "Receive calls only".

6. Select OK

7. Select *Network*

8. Typically, you should only need to select *NetBEUI*

9. Select *OK*

10. Select *Continue*

RAS should now be installed.

Network Identification

The Identification tab (located in Settings, Control Panel, Network) provides information on the Computer Name and Workgroup associated with the network. The Computer Name here on the "server" system is used by Sitespan for identification. It is important that this is unique. The Sitespan Client requires this name in order to connect to the correct Sitespan Server.

The Workgroup name should be the same for the "Client" and "Server" machines. The default Workgroup is "WORKGROUP".

Installing MS Loopback Adapter

The MS loopback adapter should only be installed on the computer that is going to be the Sitespan Server PC. It allows a remote machine, connecting via RAS, to see the Server identified in the Network Neighbourhood window. It is not essential to the function of Sitespan Client/Server set-up.

1. From the Network window select the Adapters tab. If "MS Loopback Adapter" is not listed then follow the instructions below.

2. Select *Add*

3. Scroll down the list and highlight the MS Loopback Adapter as shown below and select *OK*

4. You will be again prompted for the location of the installation files, enter the required information and select *OK*

5. Accept the default Frame Type by selecting *OK*

6. The final step is to select *Close*

7. The system will now re-organise bindings for network operation. If TCP/IP protocol is installed additional information may be requested.

8. When complete a system message requests a restart. Select Y*es*

9. The system should now shut down and re-start automatically. If it does not re-start after 5 minutes, try switching off manually for 10 seconds and then turn it on again.

User Names

It is important that the user names that are going to be used on the Sitespan Server computer are also registered on the Sitespan Client machine. It is also important to note that the passwords must also match for each user on both machines. For this reason ensure that the option to force a new user to change their password on initial login is **not** checked. See DLP-001

Each user that is likely to dial in from the Client to the Server must also be granted Dial-In access rights on the Server machine.

RAS Server

On the Sitespan server machine only, ensure that the Remote Access Server is running. To do this select Remote Access Admin (Start/Programs/Administrative Tools/Remote Access Admin)

If a RAS server is not running then go to the Services applet in the Control Panel and attempt to start it here. Ensure that Startup parameter is set to Automatic. If it fails to start look in the Event Viewer for reasons for this.

"Remote Client" Setup

This section details the procedure for the Client setup. RAS should already be installed. If it is not then follow the procedure described above. You should note however that the modem should be setup for "Dial Out". To set the modem. Start,/Settings/Control Panel/Network/Services/Remote Access/Properties/ Configure/Dial Out Only/OK

Dial-up Networking

The remote Server machine needs to entered as a dial up system. To do this start Dial-Up Networking from the "My Computer" icon on the desktop and enter the name of the machine running Sitespan Server. The name can be found under Network in the Control Panel. *It is important that this name is entered accurately.* Entering the rest of the data is assisted by Windows NT itself, prompting you for the telephone number etc. See DLP-003

Using Sitespan Client for the First Time

Remember to ensure that the user name and password you are using *must* be registered on the Sitespan Server" machine and the current login name and password currently logged in here *must* be registered on the Client machine. See DLP-005

Troubleshooting

Listed below are the most common problems experienced and their possible causes.

	Symptom	*Probable Cause*
1	The server status shows Connected and Downloading but nothing happens	Check that the User Name currently logged onto the remote server are registered on the local workstation/server Verify that the protocols are installed correctly Check that the Server service is running on the Client machine.
2	The system responds with "Cannot connect to Server…"	Ensure that the remote Sitespan Server application is running. Install Sitespan Server in the Startup group on the server machine.
3	If the remote Server fails to Answer the call	Ensure that the RAS system has started properly on the server machine.
4	The Remote system answers but disconnects almost straight away	Ensure that the user name and password used to login is registered on the server machine. Try to manually dial the server using "Dial up Networking". This sometime provides additional dialogues which may assist with diagnosing the problem.

NOTES ON USING DETAIL LEVEL PROCEDURES

1. This section explains the use of the Detail Level Procedures (DLP)

2. The DLPs are organised into sections relating to the equipment being worked on. Inevitably there are procedures that bridge between equipment and references may often be made to procedures in other sections. As far as possible the procedures are designed so that the procedures follow in a logical order through the processes of configuring and managing a network.

3. The DLPs are sectioned as follows.

DLP	Use
1-50	General AS8100 Sitespan procedures and procedures common to all variants
51-100	AS4000 Fixed Assignment specific procedures
101-200	AS4000 Demand Assignment specific procedures

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
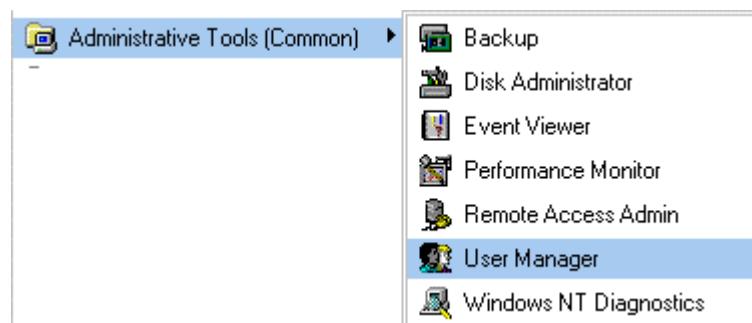
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SET-UP USER ACCOUNTS AND DIAL-IN ACCESS RIGHTS

This procedure is for the both the Server and Equipment View PCs. The Remote Access Server (RAS) utilities need to be installed on the Server PC. This procedure gives users on other Sitespan Equipment View stations permission to access the Server and vice versa. Every user must have an account on the Server Machine registering the same name and password as that on the Equipment View machine. Every user must have an account on the Equipment View registering the same name and password as that on the Server.

STEP	PROCEDURE

At Server

1. Each client wishing to access the server needs to have an account created regardless of whether they are on a fixed or dial-up network. When the Equipment View accesses the Server, Sitespan automatically forwards the User ID and the Password of the Equipment View Machine to gain access.

2. Select the *User Manager*, *from Start. Programs, Administrative Tools* to set up an account for an Equipment View Machine.

3. From the *User menu* select *New User.*
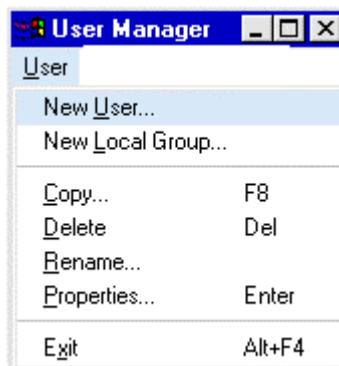
4. Enter details of the Equipment View Account in the *New User* window. The *User Name* and the *Password* must be the Equipment View Machine. Click <u>Help</u> Button on the *New User* window for more details.
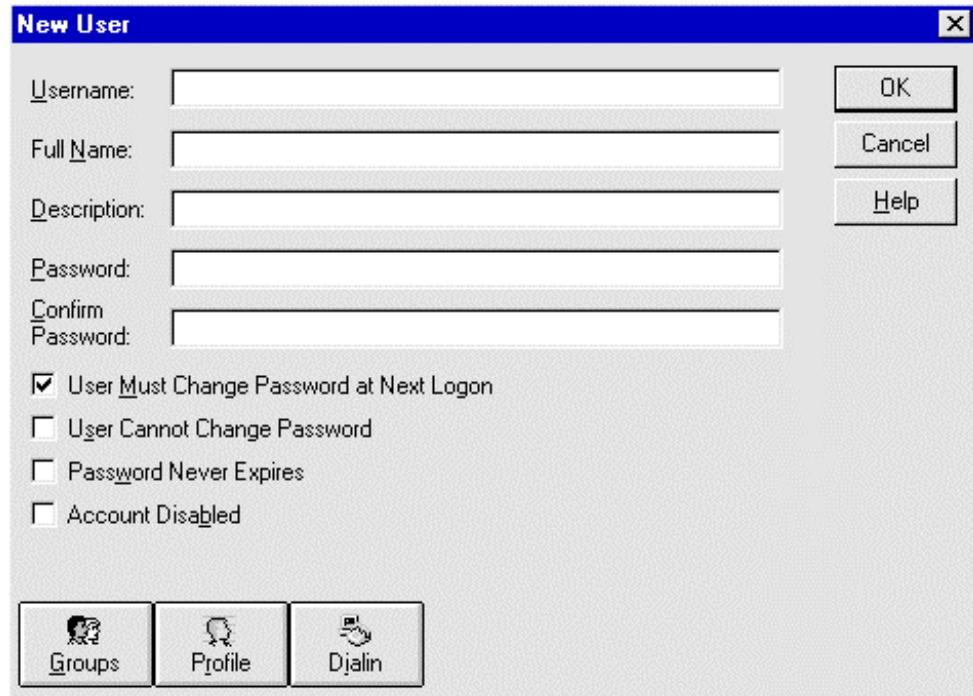
5. Create a set of accounts to support all of the likely Sitespan users of the server by repeating steps 3&4. Further details of this procedure can be found in the Windows NT Workstation Installation Guide and on the NT help menus.

At Equipment View PC

6. Each Server wishing to access the Equipment View Client needs to have an account created regardless of whether they are on a fixed or dial up network. When the Equipment View accesses the Server, Sitespan automatically forwards the User ID and the Password of the Equipment View Machine to gain access. In order that the Server can access the Equipment View it also needs to have an account on the Equipment View

7. Select the *User Manager*, *from Start, Programs, Administrative Tools*, to set up an account for Server Machine.

8. From the *User menu* select *New User.*

User menu:

```
User
  New User...
  New Local Group...

  Copy...          F8
  Delete           Del
  Rename...
  Properties...    Enter

  Exit             Alt+F4
```
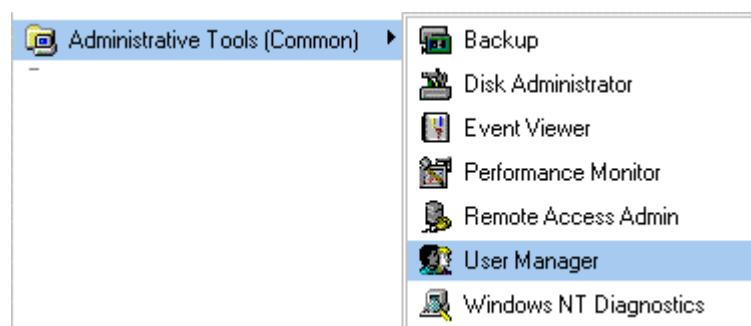
9. Enter details of the Equipment View Account in the *New User* window. The *User Name* and the *Password* must be the Server Machine. Click *Help* Button on the *New User* window for more details.

New User dialog:

```
New User                                              [X]
Username:    Server1                         OK
Full Name:   Bedfont Lakes                   Cancel
Description: Test Site                        Help
Password:    ******
Confirm
Password:    ******
[✓] User Must Change Password at Next Logon
[ ] User Cannot Change Password
[ ] Password Never Expires
[ ] Account Disabled

   Groups     Profile     Dialin
```
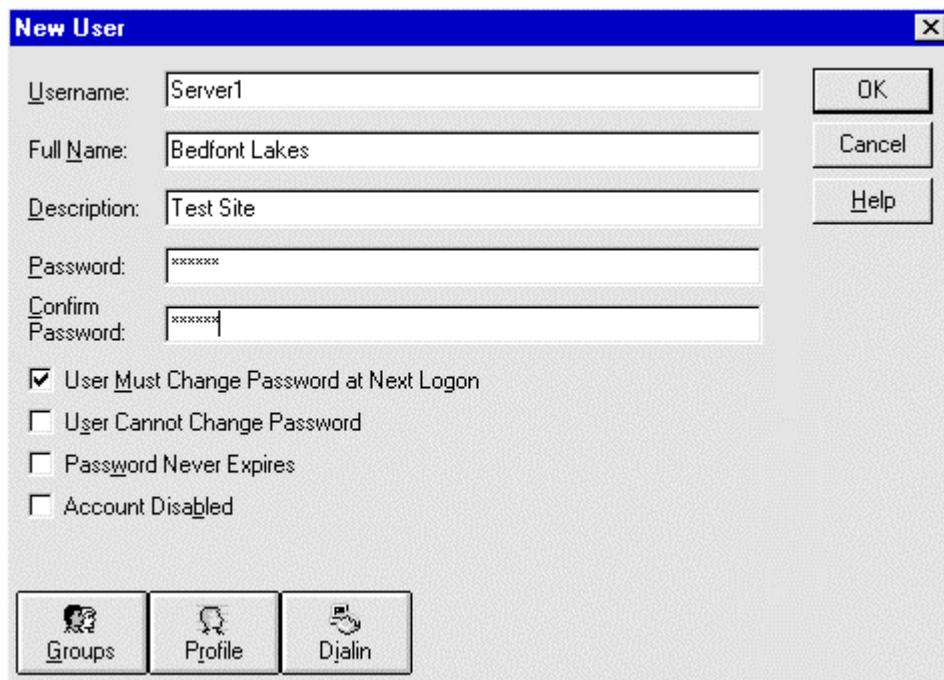
10. Create a set of accounts to support all of the likely Servers to be accessed by the Equipment View by repeating steps 8 & 9. Further details of this procedure can be found in the Windows NT Workstation Installation Guide and on the NT help menu's.

To create dial up access for remote Equipment Views at the server.

1. After installing Remote Access Service software on a server, Remote Access permissions must be granted to Sitespan Equipment View users before they try to connect through Remote Access client software. Without permission, users cannot successfully connect to the Remote Access computer even if the Remote Access client software has been installed on their computers.

2. Start the Administrators utility by clicking *Remote Access Admin from Start, Programs, Administrative Tools*.

3. Set the focus on the server or domain for which permissions are to be set. For detailed instructions on setting the focus, Click the Remote Access Admin on-line *Help*.

4. From the *Users* menu, choose *Permissions*.

5. The Remote Access Permissions dialog box appears. For further instructions, click the *Help* button on the dialog box.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

CREATING A PHONE BOOK FOR THE EQUIPMENT VIEW

Before the Equipment View can connect to and access remote Servers a Dial-Up Networking entry must be recorded for each connection required. Once the entry has been recorded Windows NT manages the connection to the Server.

STEP   **PROCEDURE**

1. Double-click the My Computer icon on the desktop and the double-click the Dial-Up Networking icon.
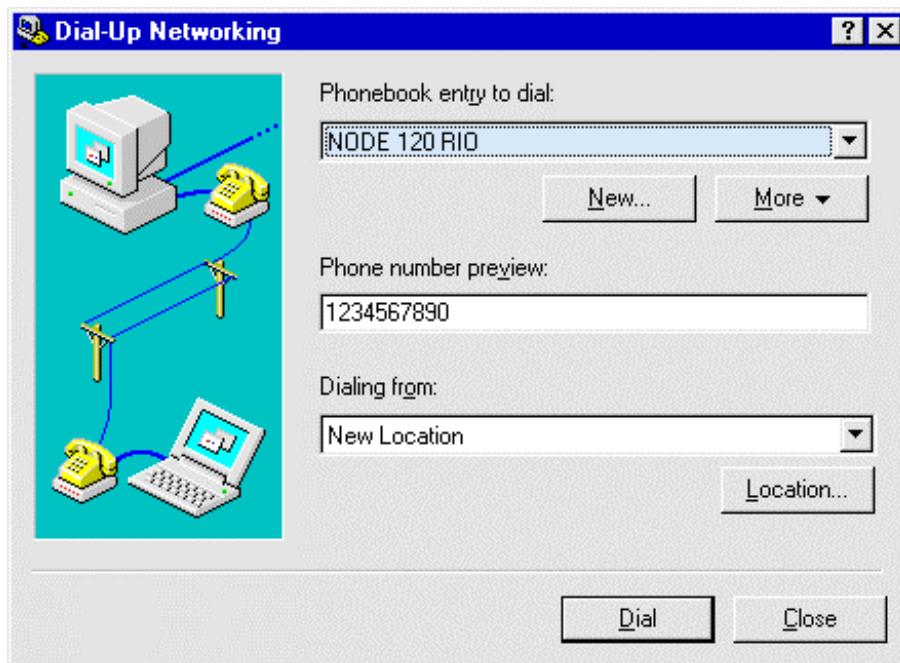
Select New from the Dial-up Networking Window

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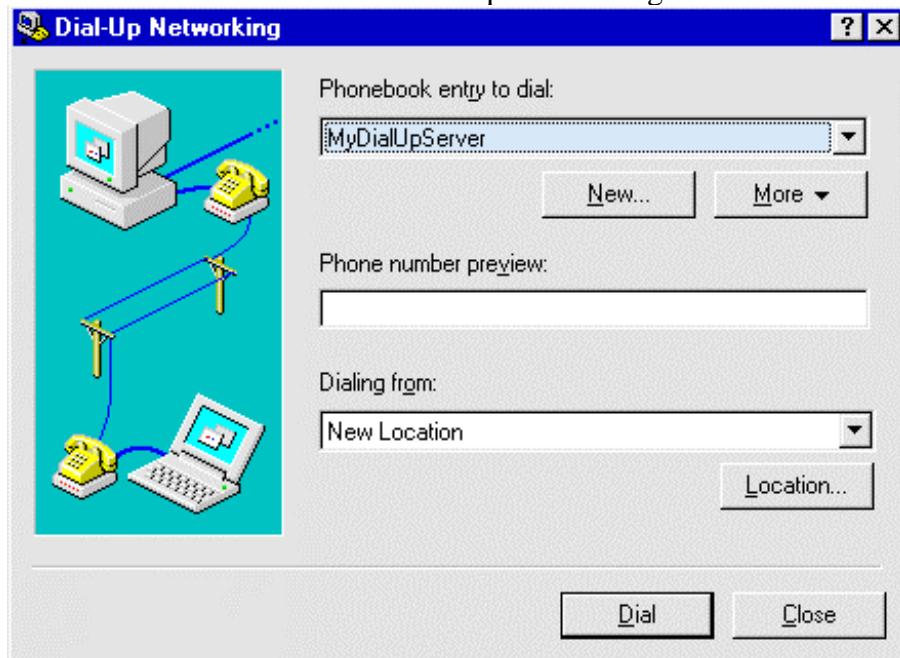
2. Enter relevant details of the remote site to be accessed using the New phonebook entry wizard fields. Select *Next* and enter the information as requested by the wizard.
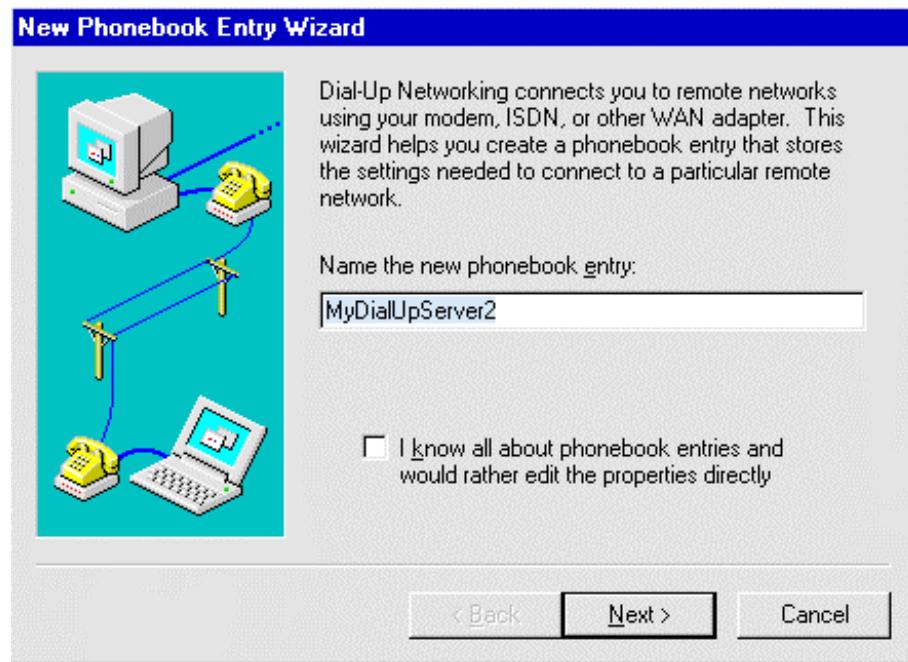
3. The Dial-Up Networking screen now displays the phonebook entry. To make more entries repeat from step 2.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

MONITORING A MODEM CONNECTION TO A SERVER

Use this procedure to set up an onscreen monitor to indicate the performance of a modem connection. This procedure is optional and a connection is made even if the monitor is not in operation.

STEP   **PROCEDURE**

1. Select the Control Panel from Start, Settings Folder in the Program Manager.

2. Select the Dial-Up Monitor icon to open the Remote Access window.
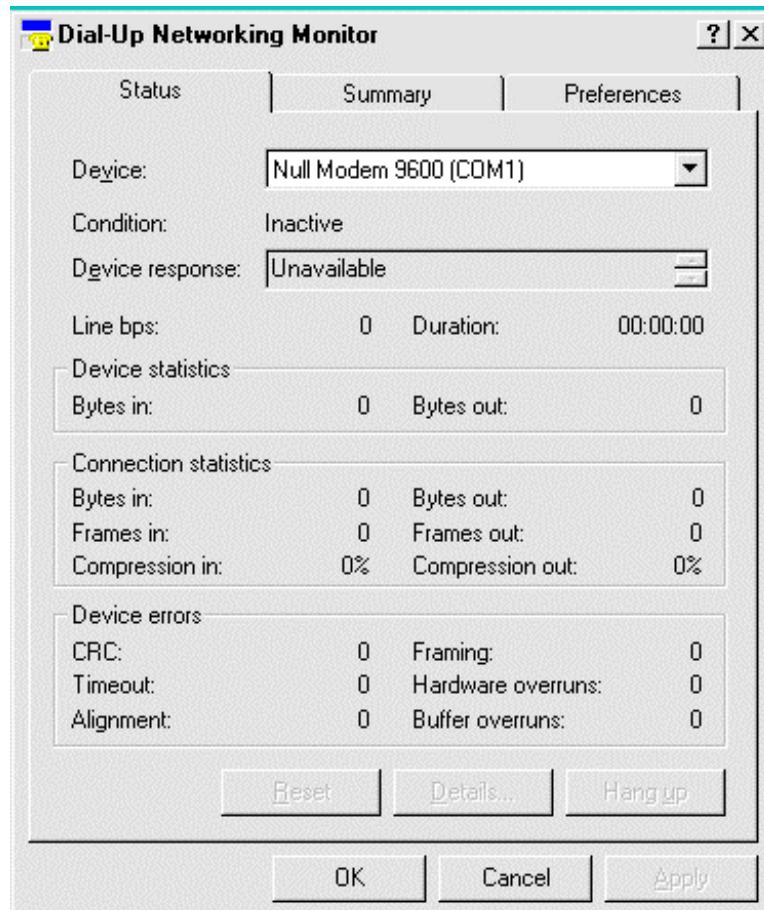
3. Set the modem to monitor by selecting from the device list

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

STARTING AS8100 SITESPAN
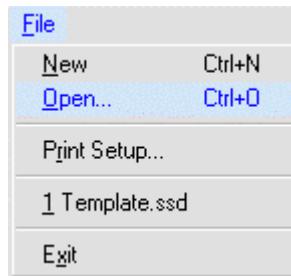
Use this procedure to log on to the system and to gain user access to the Sitespan system. This procedure is dependent on the completion of the procedures GSI-009, 010, 011; and 012.

STEP   **PROCEDURE**
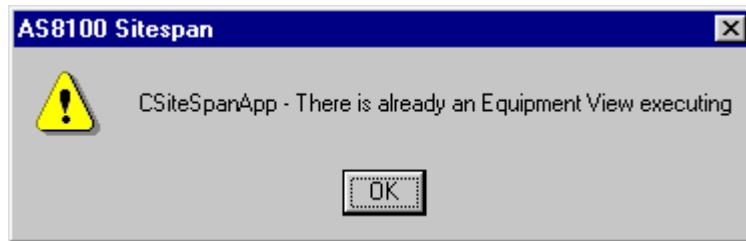
1. The Sitespan programs may be accessed from Start, Programs, Sitespan.

2. If the PC is the Sitespan Server, run the server software by selecting the Sitespan Server. A icon should appear at the system tray in the bottom of the screen. If the server is to be accessed from dial-up links ensure users have been given accounts and access rights (procedure DLP-002) before continuing.

3. To run the Equipment View software select the Sitespan Client. The Sitespan Equipment View startup screen should appear.

4. When running the Equipment View for the first time it is recommended that the file *Template.SSD* is used to set the screen. This file is provided by the set-up program and is placed in the directory where Sitespan is installed. It is selected from the *File* menu.

5. **Note**: Only one copy of the Equipment View software may run and any attempt to run another Equipment View invokes the following message:

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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AS8100 SITESPAN VERSION.

Use this procedure to view version and copyright information about Sitespan Software.

STEP	PROCEDURE

1. From the <u>H</u>elp menu choose <u>A</u>bout Sitespan.
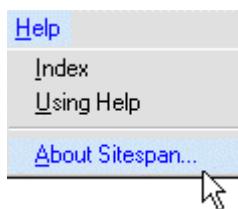
2. A window details version and copyright information about software.

3. Click the "OK" button to close the display.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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SETTING UP THE AS8100 SITESPAN DISPLAY OPTIONS

Use this procedure to customise some the screen display parameters of the Sitespan software.

STEP	PROCEDURE

1. From the *Tools* drop-down menu select Colour*s*. This produces the Edit Colour dialogue box.

2. Select the property to be changed from the *Property* list by selecting with the mouse.
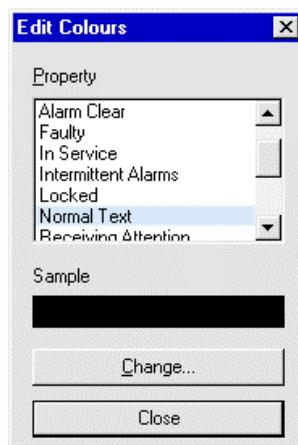
3. The Properties which can be colour coded are:

Absent - Indicates absence of resource in Shelf, Card and ST Views.
Alarm Active - Appears in Site and Shelf Views.
Faulty - Fault Condition detected.
In Service - Indicates which resource items are in service in all views.
Locked - Indicates that the resource in locked against use.
Receiving Attention - Appears when alarm condition has been acknowledged.
Shelf Not Connected- This colour appears in the border of any shelf not currently in contact with Sitespan.
Shelf View Highlight- The selected text in Shelf View.
Shelf View Text- The normal text in Shelf View.
Spare - Resource not in use.
Under Test - Item not available -under test.
Alarm Clear Previous alarm is cleared

Intermittent Alarms

LED Activity On
Normal Text

4. Click on *Change* and the colour chart appears.
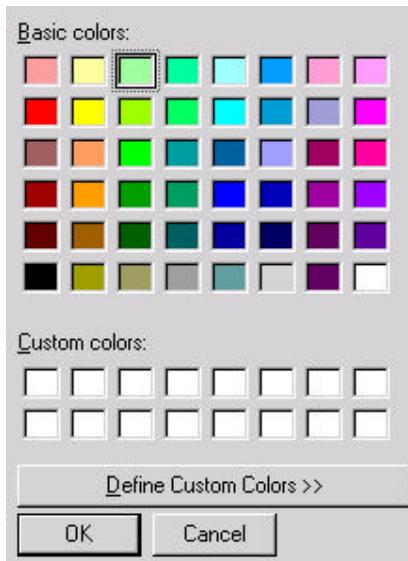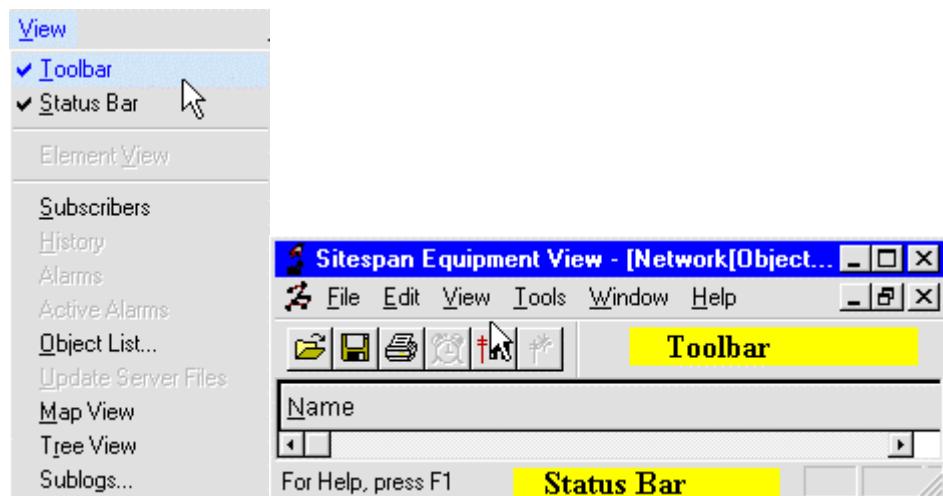
5. The current color is indicated by a dotted rectangle round the color sample and is changed by clicking on a new color sample. Sixteen further colors can be customized by selecting *Define Custom Colours* in the **Colour** dialogue box and adding them to the *Custom Colours* sample boxes in the **Colour** dialogue box.

6. Click the OK button. The **Edit Colours** dialogue box shows the amended color in the "sample" box. Click on the *Close* button to initiate change and return to the menu bar.

Switching the Toolbar and Status bar on or off.

1. Select the *View* drop-down menu and click *Toolbar* on the menu to toggle toolbar on or off. The Toolbar provides shortcuts to certain menu functions. Similarly click *Status Bar* on the menu to toggle status bar on or off. The Status Bar provides messages as to the functions of an object when the mouse pointer is over it. A ✓ indicates bar is on.
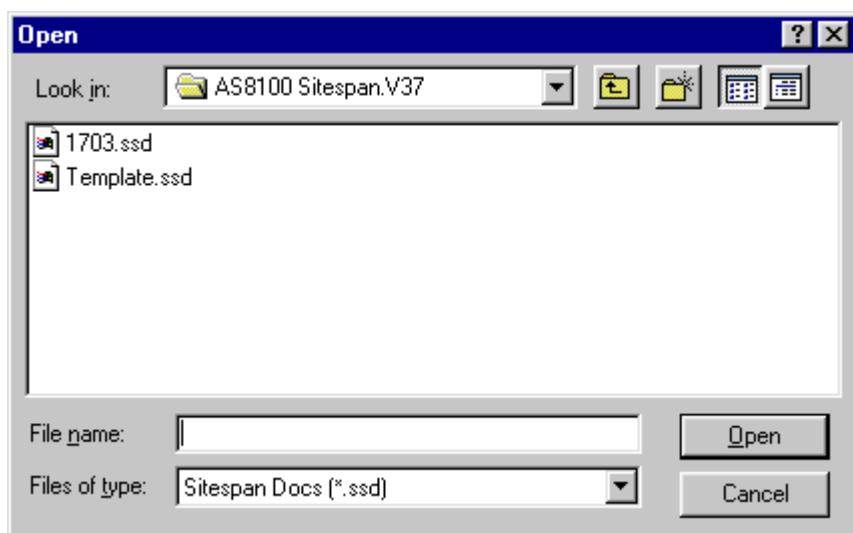
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

FILE OPEN

Use this procedure to access an existing network.

STEP	PROCEDURE

1. From the *File* menu, choose *Open* or click the [icon] on the toolbar.

2. Select the appropriate *Drive* and *Directory* and type in *File name* or select file by clicking on the relevant file name. Click the OK button to initiate retrieval. Sitespan database files have the extension .ssd.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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CREATE A SERVER CONNECTION RECORD WITH THE EQUIPMENT VIEW

Before Equipment View can connect to the Server a record giving the connection details of the server must be created at the Equipment View. Use this procedure to set up an Equipment View PC in preparation to connect to a Server.

STEP	PROCEDURE

1. Connect to Sitespan Equipment View. See DLP-005.

2. With the Sitespan Equipment View opening screen displayed choose *Create Server* from the *Edit* Menu.

3. Select the server in the *Object List Server*. In the Edit Server Properties window enter the server name into the *Remote Machine Name* box. Click the mouse in the box to produce a flashing cursor and enter machine name. The remote machine name must be exactly the same as that of the Server machine or the Equipment View will be unable to connect.
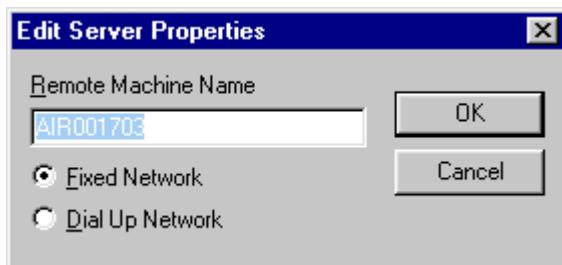
4. Select the *Fixed Network* radio button if the connection is on the same machine or to a persistent network (e.g. Ethernet). Select *Dial-up Network* if there is a remote access (RAS) network connected. (note: ensure that RAS is executing on the server machine and that there is an entry in the RAS Phonebook with the correct phone number of the Server Machine and

an entry name identical to the one entered in the Remote Machine Name edit box of the server properties dialogue. (See DLP-003).

5. Click OK.

6. The Network[Object List, Server] window displays a valid record for the nominated server.
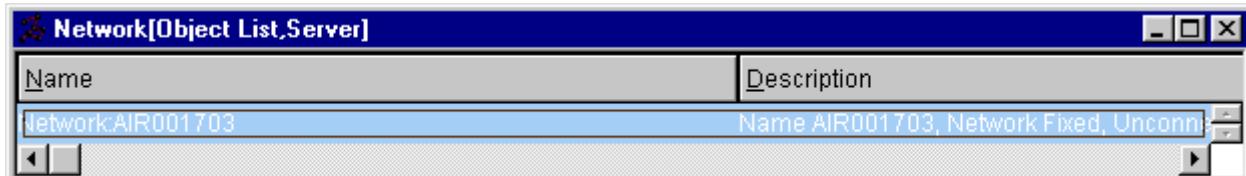
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

CREATE SITE

A Site is a managed collection of Sitespan Network Elements. In practice a Site consists of several Racks of differing types, usually co-located, and managed by one Sitespan Server machine. Each Site has a unique name within its Server peer group and can be displayed in a separate window with the Equipment View. To create a site a connection to a Server machine a must already be established.

STEP   **PROCEDURE**

1. With the Sitespan Equipment View opening screen displayed select server from the Server Object List and choose *Connect Server* from the *Edit* Menu to connect to the server.

2. From the *Edit* Menu select *Create Site.* A default site is loaded into the Network[Object List, Site] window.

3. Select the newly created site by clicking the field in the Network[Object List, Site] window.
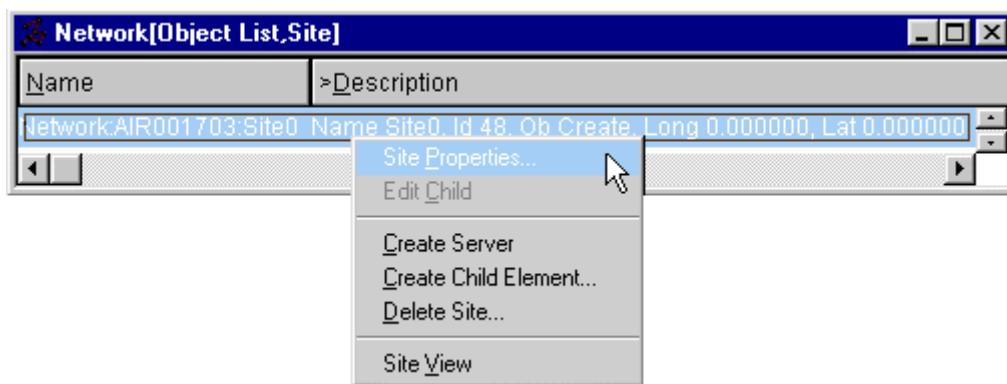
4. Click the right mouse button or use the *Edit* Menu and select *Site Properties.* to produce the Edit Site Properties Window.
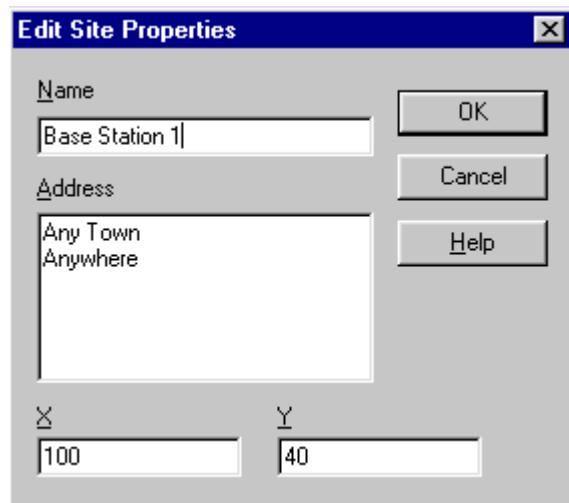
5. Click the mouse in the *Name* box to produce a flashing cursor. Enter the site name into the box. Entering the information in the *Address, X* and Y map view co-ordinates are optional. For further details on map view see DLP-029.

6. Press ↵ on the Keyboard or click OK to initiate changes. The following screen appears with site details displayed.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
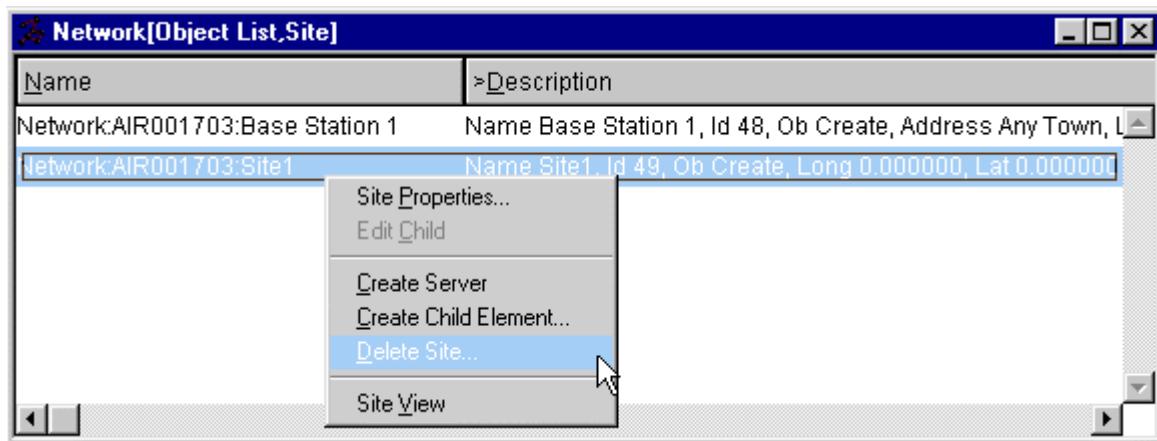
DELETING SITES

Use this procedure to delete Sites that have previously been created and are not needed. The Equipment View must be connected to the Server to perform a deletion.

STEP	PROCEDURE

1. Select the Network [Object List, Site] window. From the list of sites click the mouse on the site to be deleted. The Site selected is highlighted in blue. Click the right mouse button and select *Delete Site* from the drop menu.

2. A confirmation window is displayed. Click the '*OK*' button to initiate deletion.

3. The object list is displayed with the site removed.
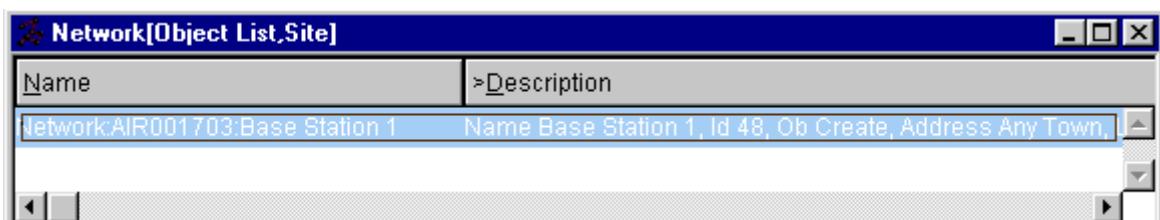
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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CONNECT TO A SERVER

The Server manages the equipment shelves connected to it. It must connect to an Equipment View to accept user commands and report system status. Once the Remote Access (RAS) is configured access to the Server is managed by Windows NT and initiated from within the Equipment View. In practice the Equipment View probably manages a number of Servers. A Server can also connect to a number of Equipment views simultaneously.

STEP	PROCEDURE

1. From the Network[Object, List, Server] highlight the server to be connected by clicking the mouse on the server record. If there is not a Server record present use the procedure outlined in DLP-009. to create a connection record.

2. From the *Edit* Menu select *Connect Server.* This Equipment View attempts to contact the specified Server machine. If the connection is with a modem it may take a few seconds as the user name and password must be authenticated on the remote machine before access can be granted.
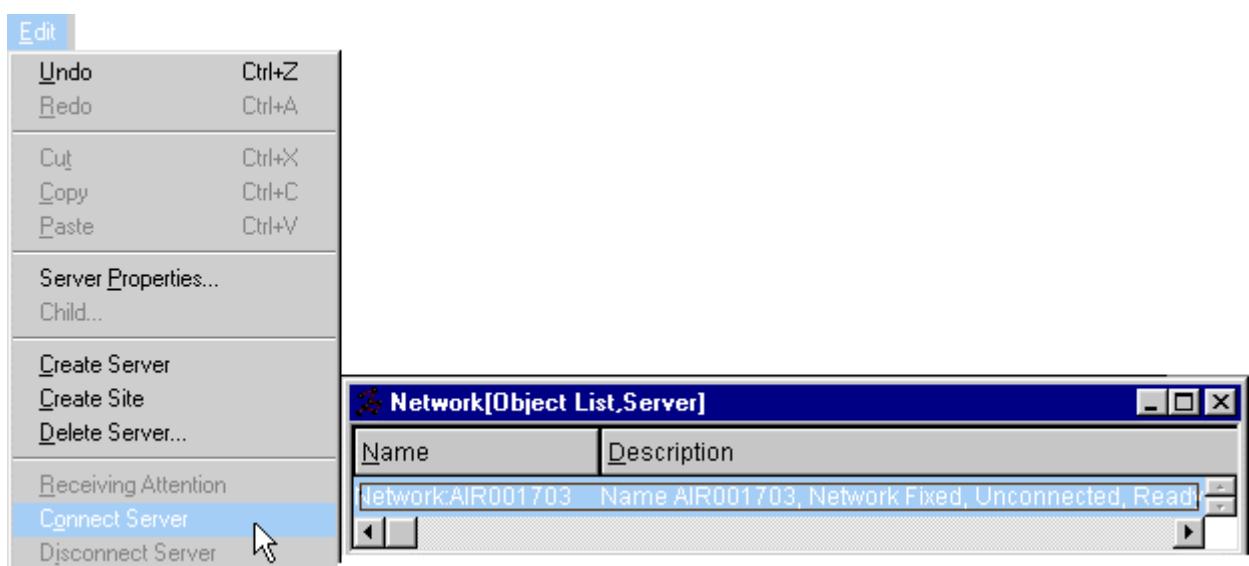
3. If the connection is successful the Network [Object List, Server] Window shows the server as connected.
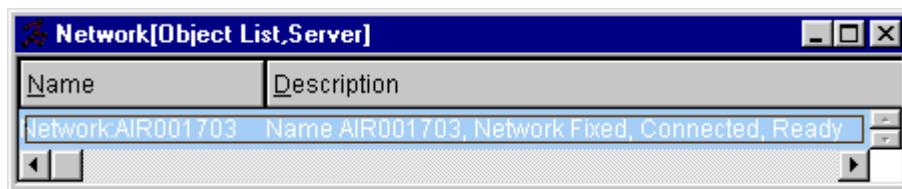
4. The server now downloads it's current state to the Equipment View and on completion of this task is ready to receive further instructions from the Equipment View. If attempts are made to use the Equipment View while the Server is downloading the warning message is given.

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5. If the connection is unsuccessful a message box is displayed indicating **'Failed to connect to nominated server'**. In this case check the details entered in the server properties dialogue box and that the RAS password and connection details agree for both the Equipment View and the Server.
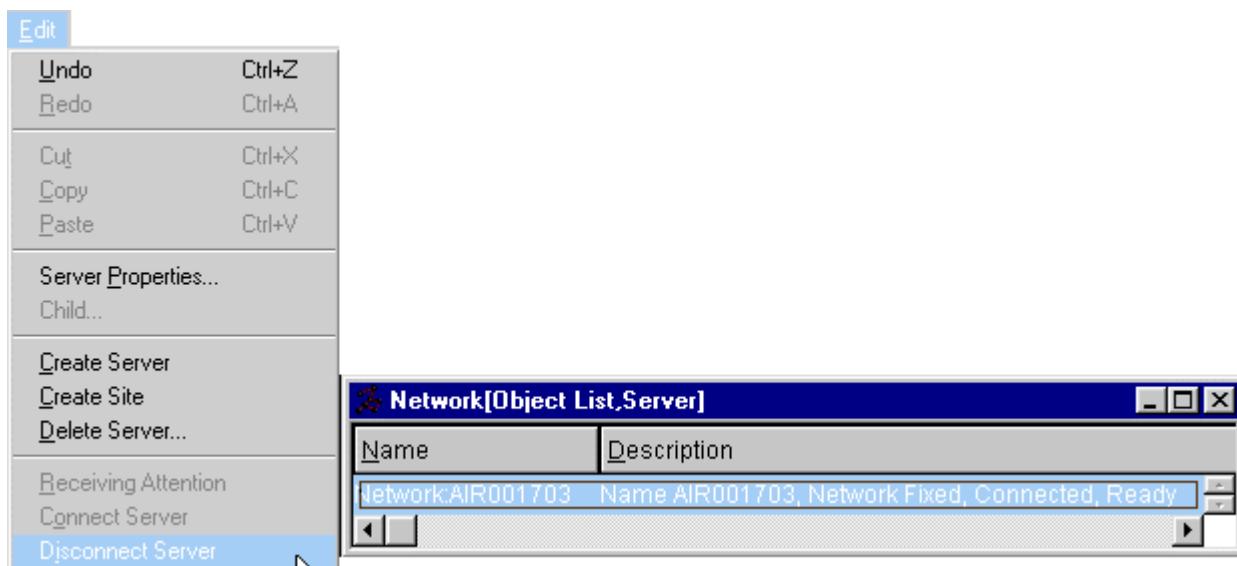
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

DISCONNECT FROM A SERVER
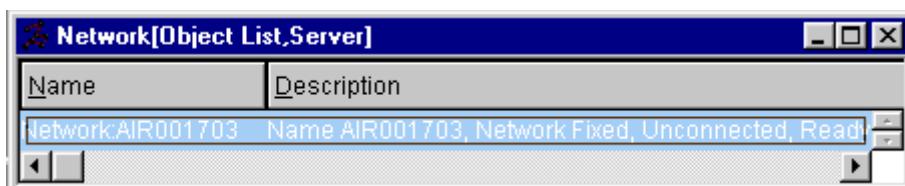
Use this procedure to disconnect from a server. The server continues to monitor the AS4000 and updates the Equipment View when it is re-connected.

STEP   **PROCEDURE**

---

1. From the Network[Object, List, Server] select the server to be disconnected.

2. From the *Edit* Menu select *Disconnect Server.*

3. The Network [Object List, Server] Window shows the server as unconnected.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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CREATE AN AS4000 RACK
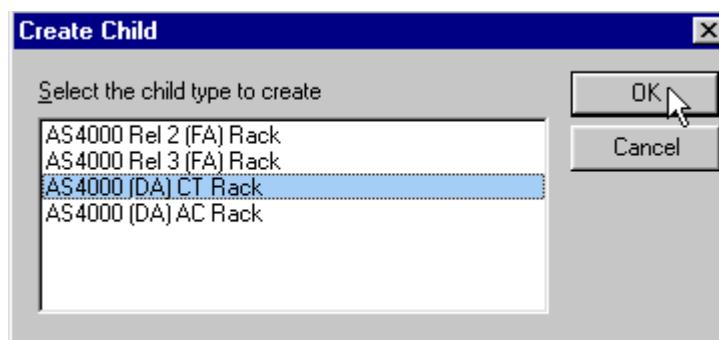
Use this procedure to create an AS4000 Rack from the Network Object List view. Racks can also be created from the Site View.

STEP	PROCEDURE

1. Ensure that the site has been created and this view appears on screen click the mouse in the *Site* window to highlight it as the active window.
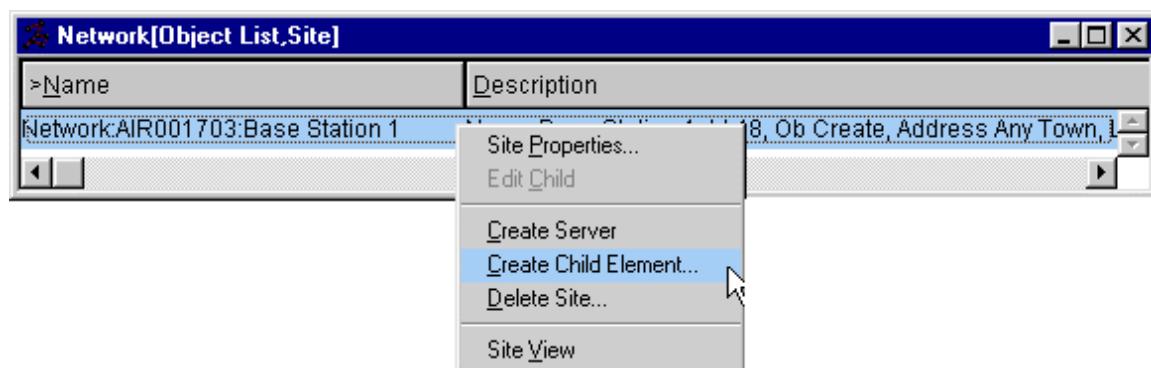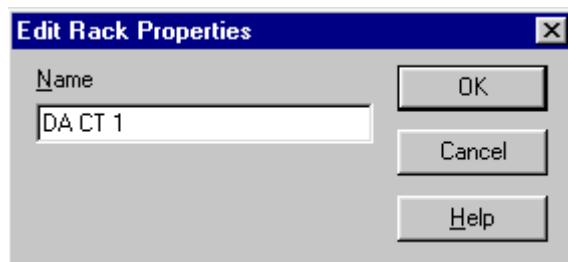
2. Select the site using the mouse. When selected the site is highlighted in blue.

3. Click right mouse button to drop menu or from the Menu Bar select *Edit*.

4. Select *Create Child Element*.

5. Select the required rack type from the options window then click the *OK* button.

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6. A rack is shown in Site View with the RF Combiner shelf highlighted as active.
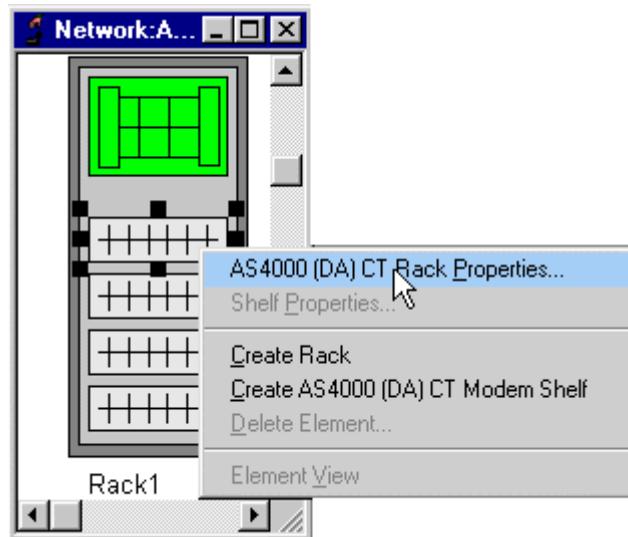
7. Select a shelf by pointing at the shelf with the mouse and clicking the left button. From the *Edit* menu select *AS4000 (rack type) Rack Properties*. The Edit Rack Properties window is displayed. Enter the rack name in the box and click on the OK button to edit the desired rack.

8. The rack appears with rack name inserted.
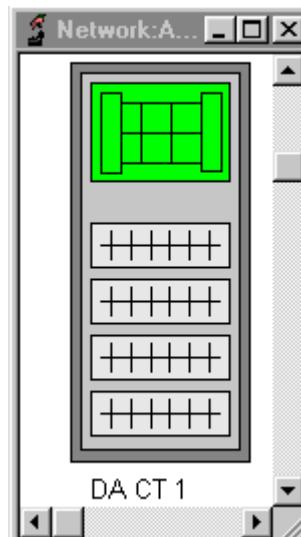
9. Additional racks may be added by selecting *Edit,* choosing *Create Rack* and repeat from step 5. The view below shows the different rack types that can be created.
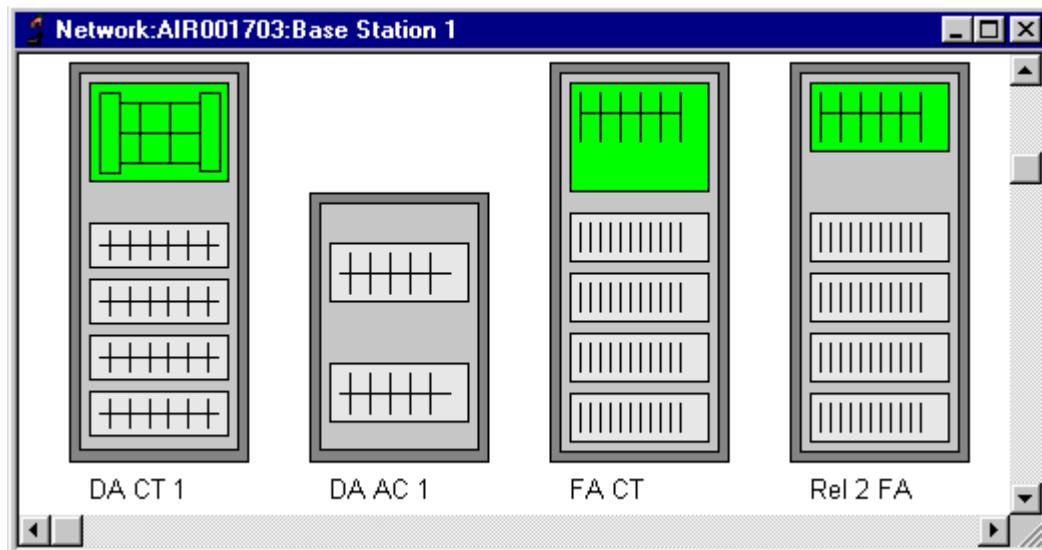
10. Racks may also be viewed in an object list. See DLP-027 View Object Lists and GSI-018 Managing Larger Networks.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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DELETING AS4000 RACKS

Use this procedure to delete AS4000 racks that have previously been created and are not needed. The Equipment View must be connected to the Server to perform a deletion.

STEP   **PROCEDURE**

1. From the *View* menu, select *Object List.*
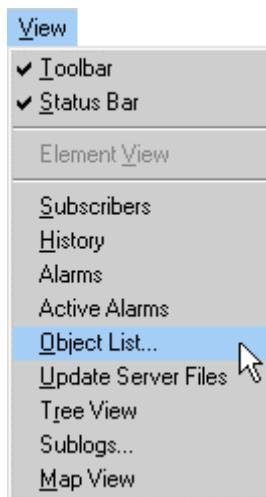
2. The *Select View Variant* window is displayed. Select *Rack*
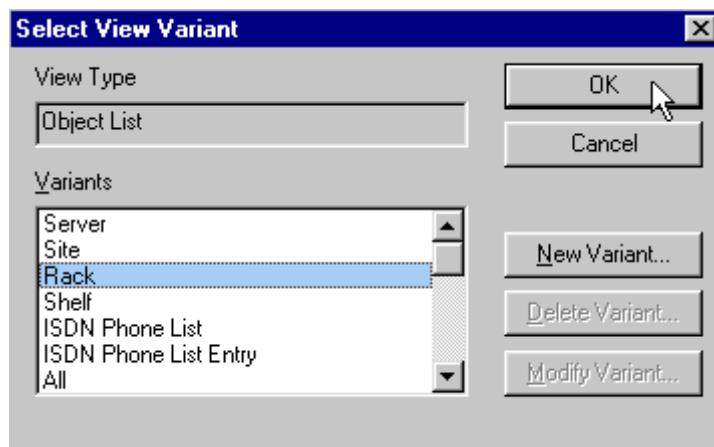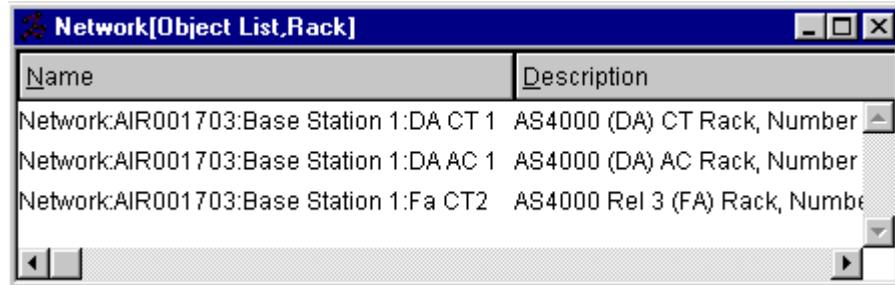
3. The Network [Object List, Rack] window is displayed. Use the mouse to select the Rack to be deleted. Click right mouse button and from the drop menu, select *Delete Airspan (rack type) Rack*.

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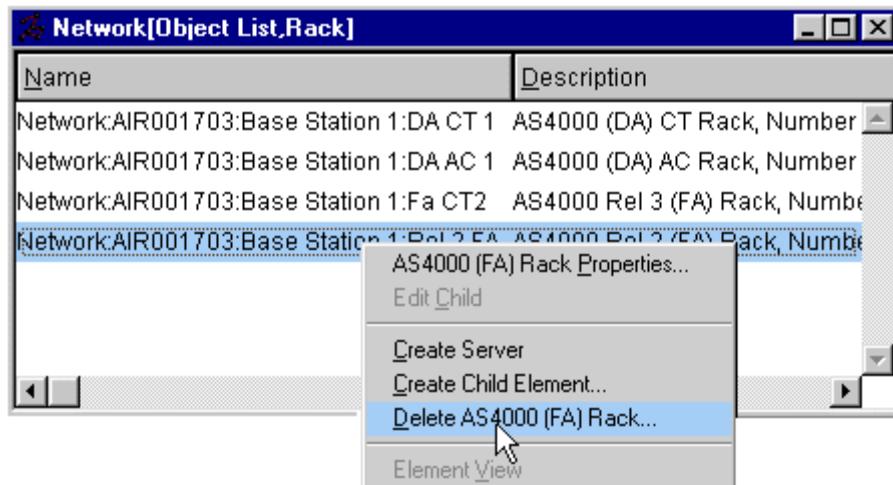
4. A confirmation window is displayed. Click the *'OK'* button to initiate deletion.

5. The object list is displayed with the rack removed.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

GENERAL STATUS POLL AND SELF TESTS
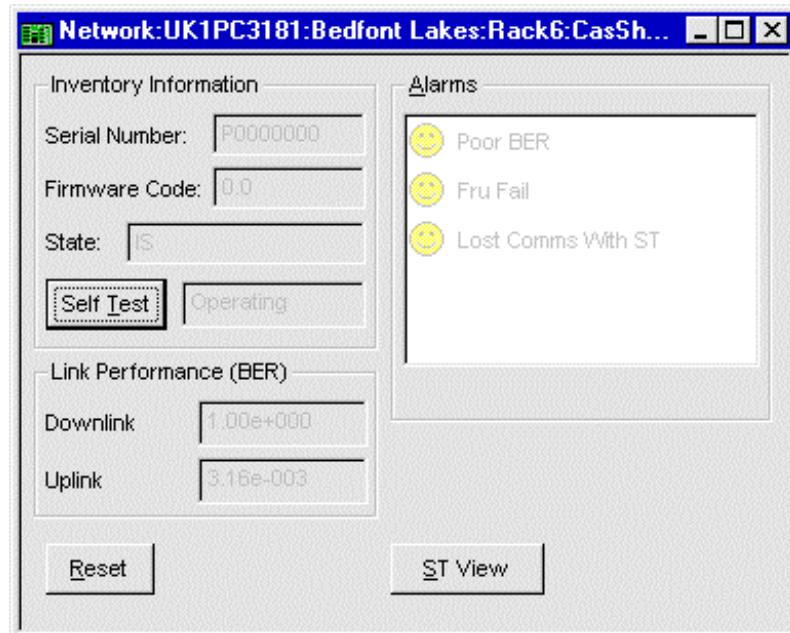
The Shelf Controller can initiate general status polls to ensure that all the information contained in the database is current. The general status poll is for Fixed Assigned systems only. It is good practice to initiate a general status poll before making any Sitespan measurements of the system. At power on the Subscriber Terminal (ST) and AS4000 Central terminal (ACT) perform self tests. The FRU's with self test facilities perform a self test and inform the relevant [shelf] controller, which in turn passes the overall result of the self test to the management system. The self tests can also be requested by the management system from the Card View dialog boxes at any time the line is not in use.

STEP	PROCEDURE

Status Polls

1. Select *Card View* for the Shelf Controller (FA only) on the shelf to be polled (see Selecting Views, GSI-017).

2. Initiate a general status poll by clicking the mouse on the *General Status Poll* button.

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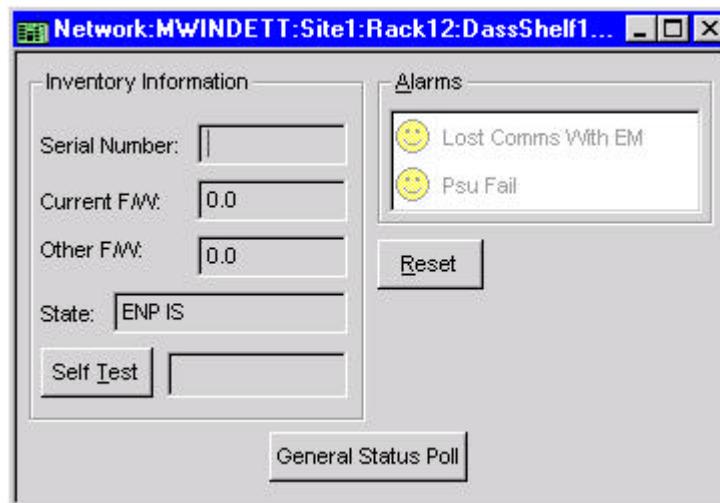
Self Tests

1. Select *Card View* for the desired card to be tested (see Selecting Views, GSI-017).
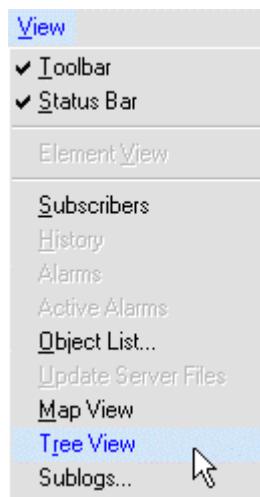
2. The following Card Views provide a self test option

    -   FA Analogue Card View.
    -   FA Modem card View.
    -   FA Terminating Unit View.
    -   FA Shelf controller View.
    -   FA ST View.
    -   DA Terminating Unit View(DTU,CTU,XTU)

3. Click on the *Self Test* button to initiate testing.

4. The test field indicates that the test is taking place by displaying 'operating' in the test result box. The result of the test is displayed as:

    -   Pass   (Everything is OK).
    -   No Result   (A test result has not been passed back to the Sitespan).
    -   Fail   (The unit has failed and needs replacing).

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
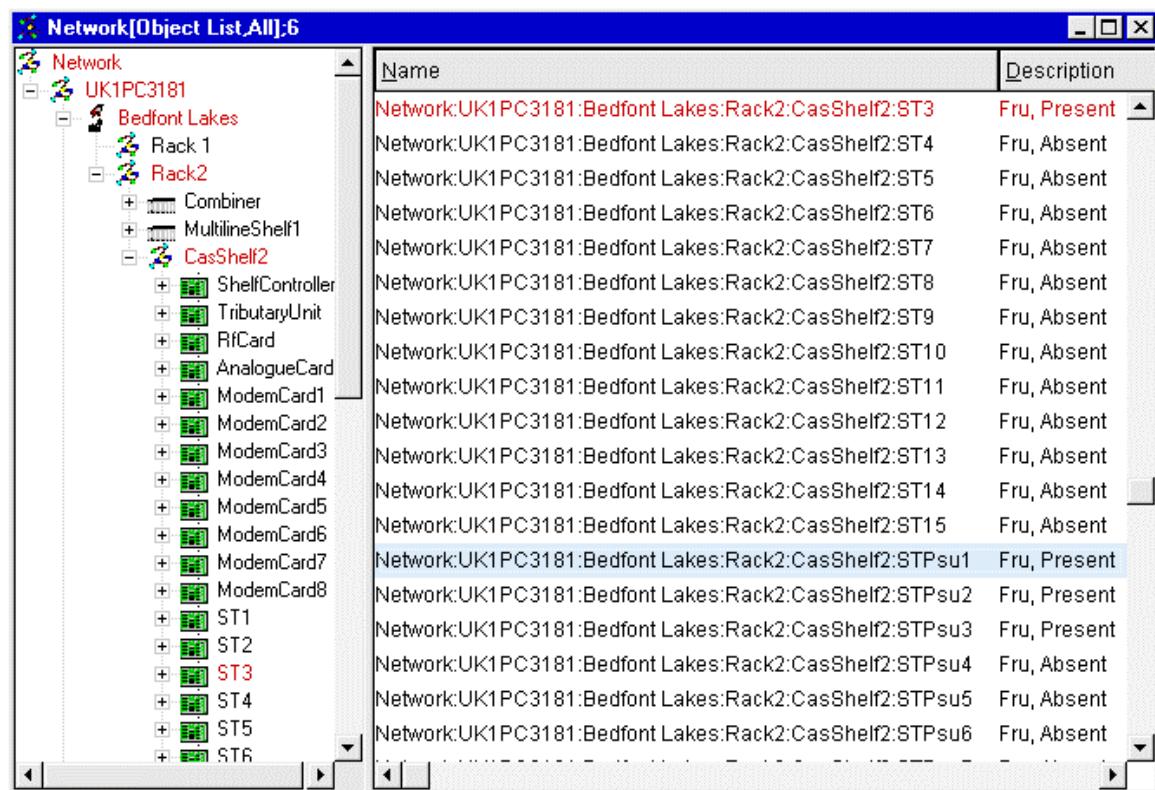
VIEW SYSTEM STATUS IN TREE VIEW

STEP	PROCEDURE

1. From the *View* menu select *Tree View*

2. The tree view displays the system in a hierarchical order. Clicking the icon reveals the child elements of that icon. A + in the box adjacent to the icon indicates that there are child elements. When the icon is clicked the child elements are revealed and the + changes to a -. Clicking the - closes the child elements and display the parent element with a +. The name field shows the objects associated with the selected parent and the description shows their status. When in **Tree View** the presence of Alarm conditions are indicated by the colours of the various icons. For example, an alarm emanating from an ST changes the colour of that icon on the tree view to the colour selected for that condition (in this case Red), and the elements above the ST - Shelf, Rack and Site also show the same colour. In the figure below the element showing the alarm condition Poor BER is the ST3**,** on CAS Shelf 2, in Rack2, in the Bedfont Lakes Site - but all the elements listed are showing the same alarm condition colour.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
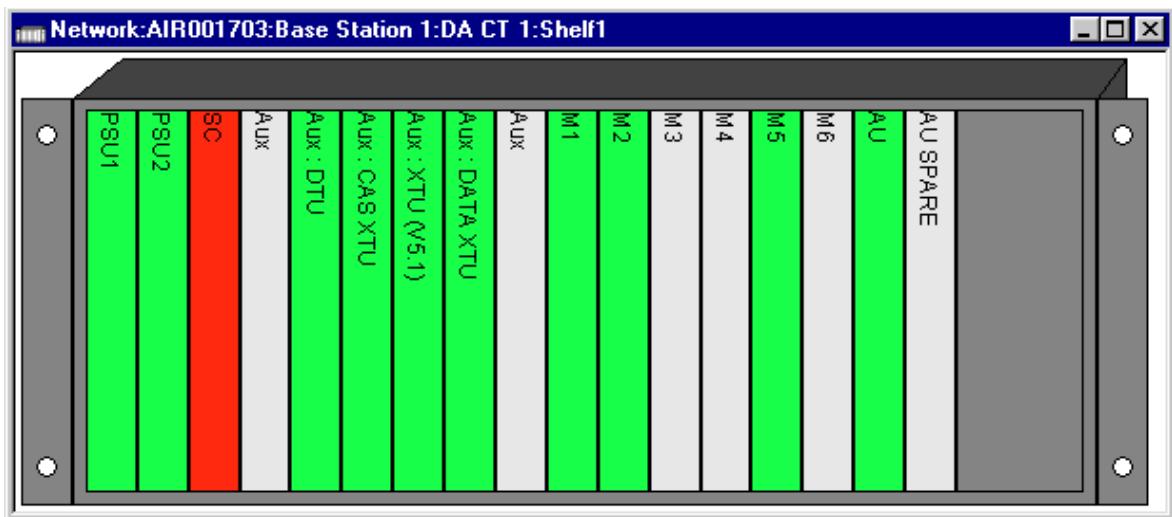
MONITORING ALARMS USING SITESPAN GUI VIEWS.

Use this procedure to locate the source of an alarm on the network.

STEP	PROCEDURE

1. From the NETWORK [Object, Site, List] select site to monitor.

2. From the *View* menu, select the *Site View*. In Site View all cards that are installed and operating normally are displayed in green. Any alarm condition causes the shelf that is in receipt of that alarm condition be to displayed as red.
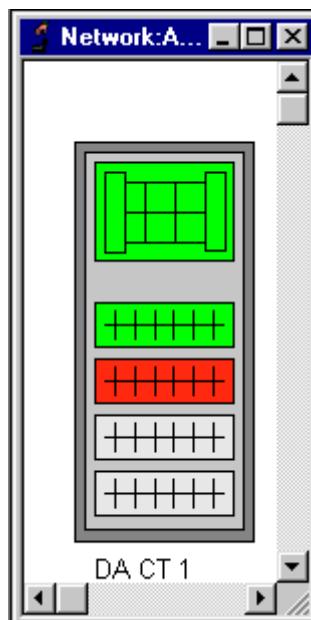
3. Double click the mouse on the shelf showing the alarmed state to get Shelf View or from the *View* menu, select *Airspan 60 [shelf type] Modem Shelf View* to display the shelf view.

4. In this view, the individual modules display the appropriate status colour. In the illustration below (M2) on Modem Card 1 shows a different colour for an active alarm.

5. An intermittent alarm is shown as an amber clock icon and a permanent alarm as a red clock icon.

6. Double clicking on the module showing the alarm state opens the Card View for that module. Alternatively select the card then *View, Modem View* from the menu Card View.

7. Looking at the Card View for the Shelf Controller gives further detail of the alarm state. The alarm is shown as a ⏰ icon. A red icon indicates a permanent alarm and a yellow icon an intermittent alarm. The Card View below shows that theShelf controller has lost communication with Sitespan
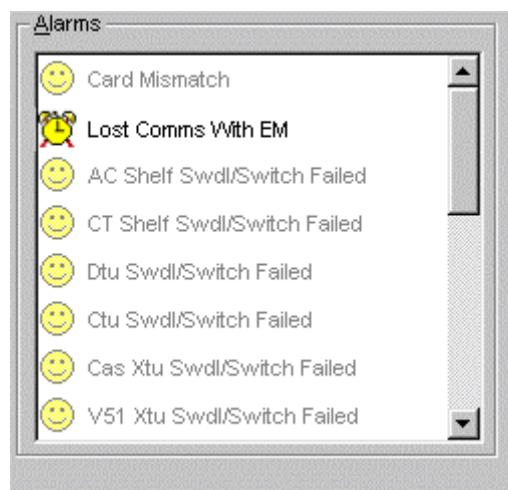
8. Details of alarm states and the interpretation for each card are given in the Operations and Maintenance Guide 605-0000-451.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

SELECTING CARD VIEWS

Individual cards may be viewed. Each Card View gives inventory information and allow the operator to view and set parameters relevant to the particular card being viewed. This procedure provides guidance on viewing a card from the GUI shelf view. Alternatively the card could be displayed by double clicking the card on an object list.

STEP	PROCEDURE

1. Display the shelf containing the card to be viewed. (See GSI-017 Selecting Views). Alternatively the card view can be displayed by clicking the object in *Tree View*.

2. Double click the mouse while pointing to the required card.

3. The Card View should now be displayed.

4. Each Card View displays inventory information as follows:

    - Serial Number: Electronically retrieved from the card.
    - Firmware Code:
    - State: IS   = In Service.
             FLTY   = Faulty.
             ENP   = Equipment not provided.
             SP   = Spare.
             UT   = Under test.
             LK   = Locked.
             SEC   = Secure (ST only)

5. Alarms Icons are displayed as:

    OK

    Intermittent Alarm (Amber).

    Permanent Alarm (Red).

    Receiving Attention (Tick).

6. Other information may appear in a specific Card View. For details see DLP-020 and DLP-021.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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COMBINER SHELF CARD VIEWS

This procedure describes the Combiner Shelf Card Views.

STEP	PROCEDURE
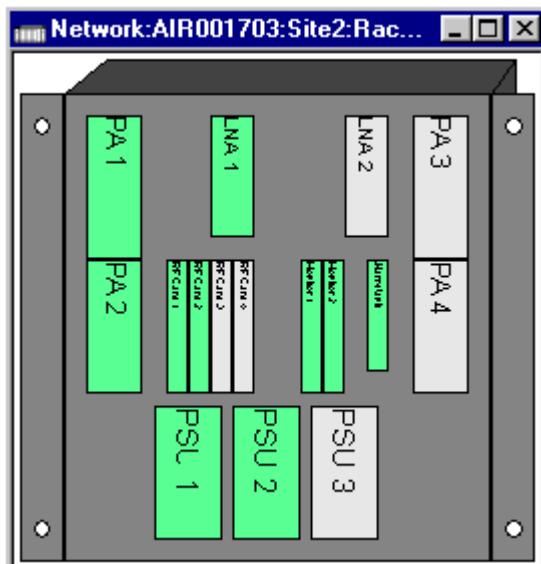
1. Display the Combiner Shelf. To display a view see GSI-017.
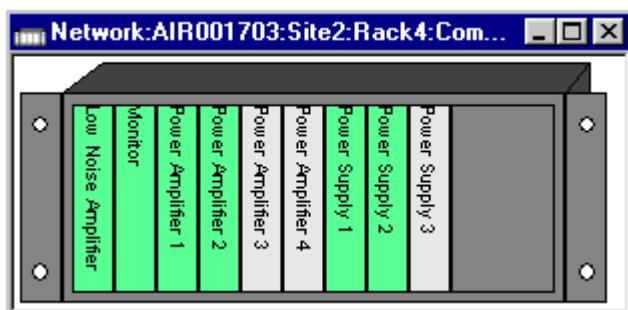
Release 2
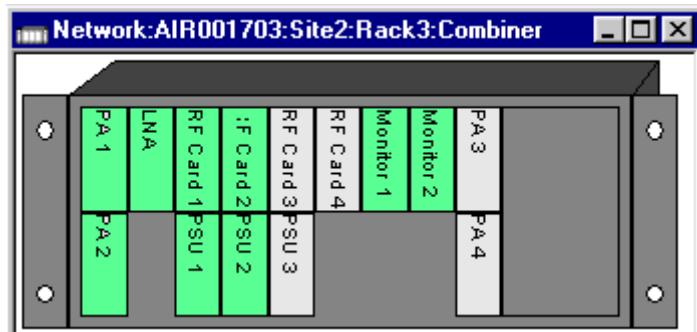
Fixed Assignment

Demand Assignment

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2. To display the Low Noise Amplifier LNA double click the mouse while pointing to the card. The following information is displayed:

    - Inventory Information. See DLP-019 for details.
    - Alarms: FRU Fail.
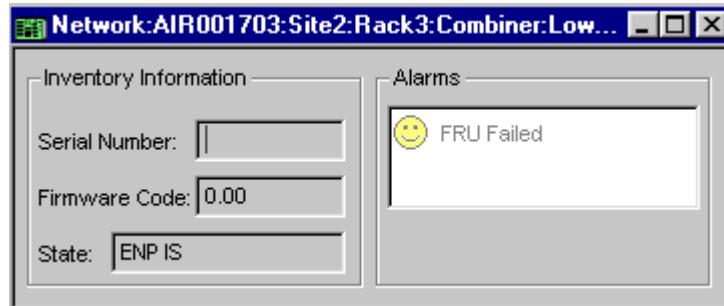
3. To display the Monitor card double click the mouse while pointing to the card. The following information is displayed:

    - Inventory Information. See DLP-019 for details.
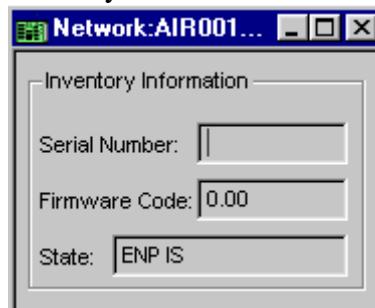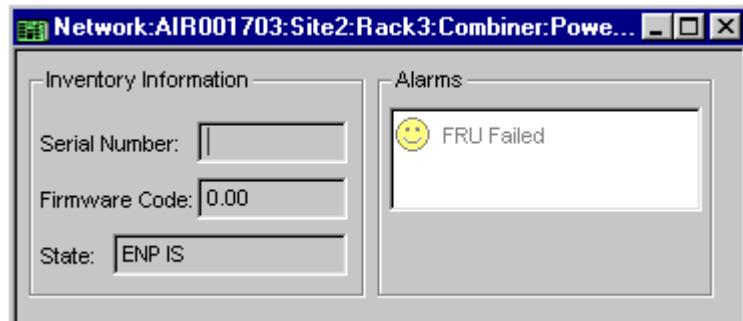
4. To display a Power Amplifier double click the mouse while pointing to the card. The following information is displayed:

    - Inventory Information. See DLP-019 for details.
    - Alarms: FRU Fail.
    - Output Level   The range should be between 1 and 4 volts.
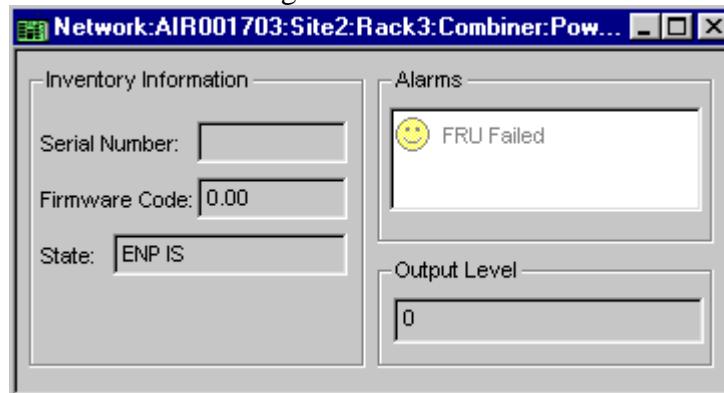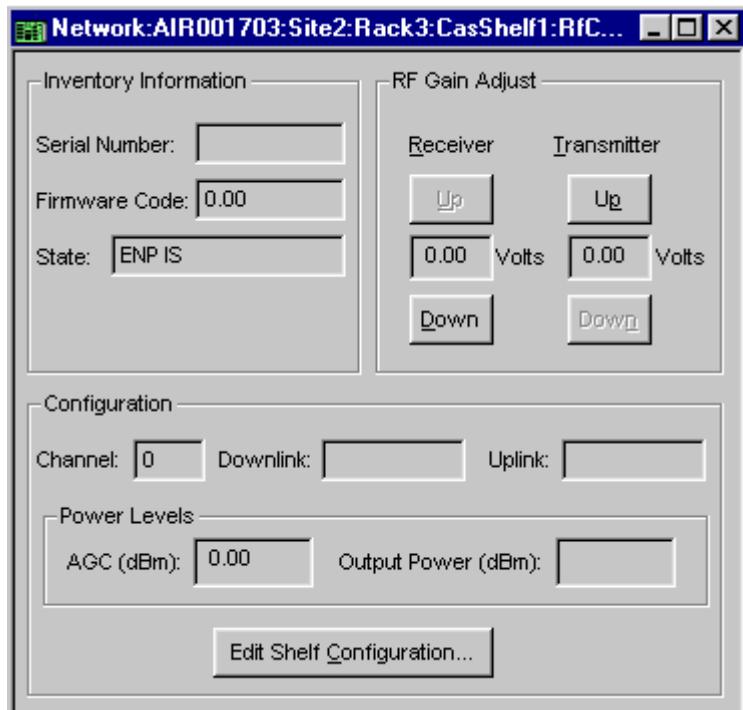
5. To display a Power Supply Unit double click the mouse while pointing to the card. The following information is displayed:

    - Inventory Information. See DLP-019 for details.
    - Alarms: FRU Fail.

6. To display the RF card (Not release 2) double click the mouse while pointing to the card. The following information is displayed.

7. Inventory Information. See DLP-019 for details.

   - RF Gain Adjust. For information on using these fields see DLP-024
   - Configuration showing which RF channel and which frequencies are being used.
   - The Edit Shelf Configuration button allows the user to edit modem shelf properties. For details on using this button see DLP-053 (FA) or DLP102 (DA).

FA display
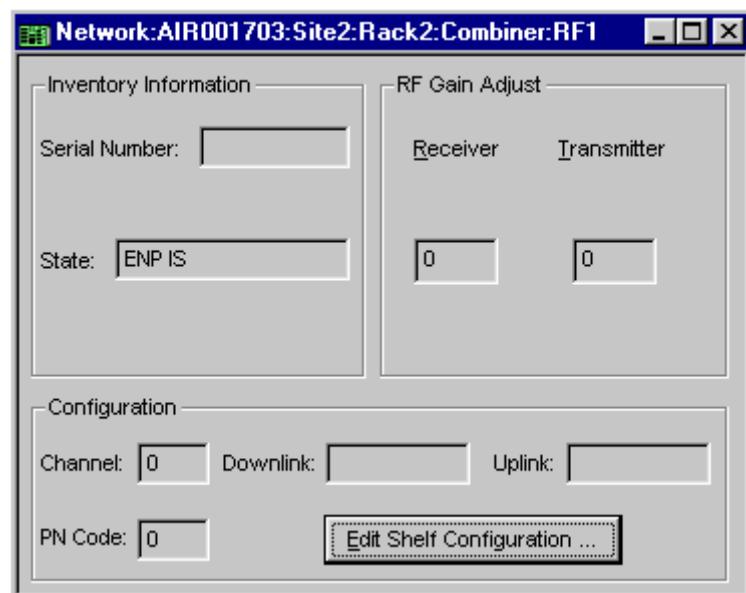
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

SETTING ALARM THRESHOLDS

Note: **Not functional on AS4000 equipment.**
Use the procedure below to set alarm thresholds to allow for efficient alarm management of the system. Each alarm can be set so that alarms are only indicated when those limits are exceeded.

STEP	PROCEDURE

1. Start this procedure from Rack View.

2. Select a modem shelf by clicking on the desired shelf.

3. From the Edit menu or click right mousebutton, select *AS4000(FA) Type Modem Shelf Properties*.
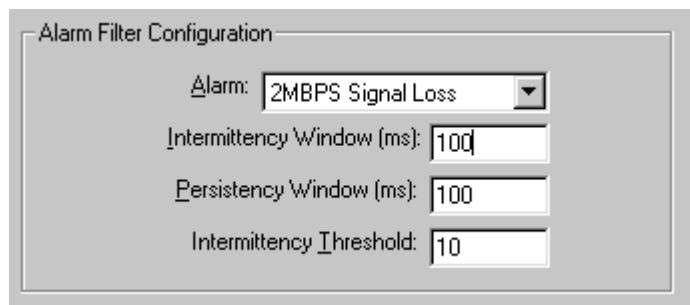
4. To set parameters for the desired alarm condition by click on ⬇ on *Alarm Field*. This drops a menu of alarm fields. Click the appropriate condition. The following alarms may be set:

   - 2 Mbit/s Signal Loss (on E1).
   - AIS (Incoming AIS on TU from Central Office).
   - Comms Lost with ST (loss of frame alignment on Radio Link to ST).
   - CT Power Fail (power supply out of spec on AU, SC or Modem).
   - Frame Alignment (loss of frame alignment on Radio Link from ST).
   - FRU Fail (Self test failed or SC unable to contact card).
   - Poor BER (Radio link bit error rate worse than 1 in $10^{-3)}$.
   - Total RX Radio Fail.
   - Total TX Radio Fail.
   - Trans system clock fail.
   - Unavailability (no message are being received from the operations and maintenance channel).

   Note: All other fields are not applicable to AS4000.

5. Set the value for *Intermittency Window* by placing cursor at the start of the box and typing value. The intermittency value is the time interval over which the alarm conditions are measured in milliseconds.

6. Set the value for the _Persistency Window_ as above. The persistency window is the time that a condition is persistently clear before the alarm is considered clear.

7. Set the value for the _Intermittency Threshold_ as above. The intermittency threshold is the number of alarm hits measured within the intermittency window for an alarm to be initiated.

8. Repeat the process for each alarm to be set.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

RECEIVING ATTENTION

Use this procedure to receiving attention and restore the alarm
Once an alarm has been receiving attention it is latched until the alarm is cleared.

STEP	PROCEDURE

1. To set receive attention on the alarms, either in Card View or Card View ST, highlight the alarm by clicking the mouse over the alarm displayed. Receive attention the alarm by double clicking the icon or select *Receiving Attention* from the *Edit* menu.

2. The alarm is in a receive attention mode when the icon contains a tick.

3. The alarm indications in the site, rack, and shelf views change to the receive attention colour.

STOP. THIS PROCEDURE HAS BEEN COMPLETED
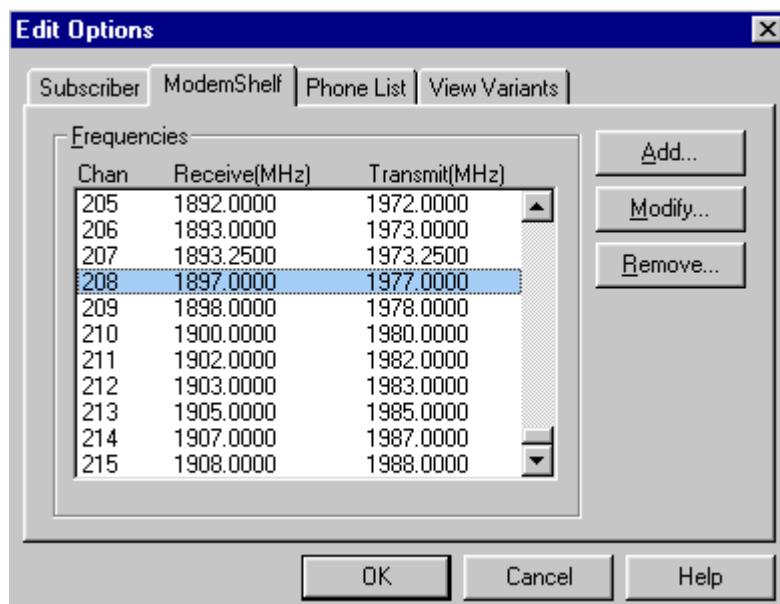
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SETTING FREQUENCY OPTIONS
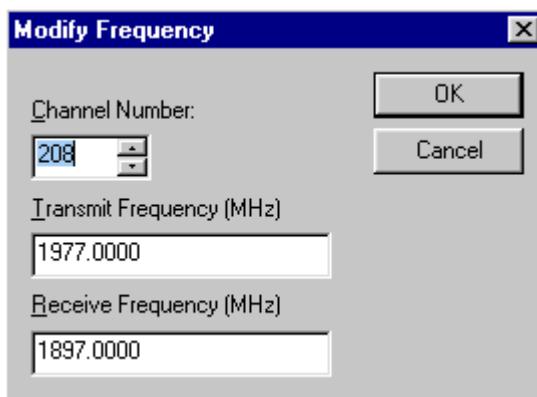
Use the procedure below to change frequency pairs that are offered for selection in the *Edit Modem Shelf Properties* box.

STEP	PROCEDURE

1. From the <u>T</u>ools menu, select *Options.* Click the tab titled *Modem Shelf*

2. To add a frequency, click the <u>A</u>dd button. To modify an existing frequency pair select frequency from the list and click <u>M</u>odify button.

Note: Frequencies must be specified as ####.#### where each # is exactly one decimal digit and each channel number must be unique.

3. To delete a frequency from the frequencies listed click the *Remove* button. Click OK to confirmation message.
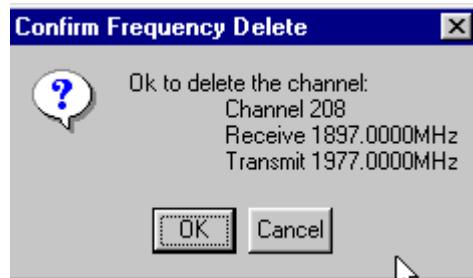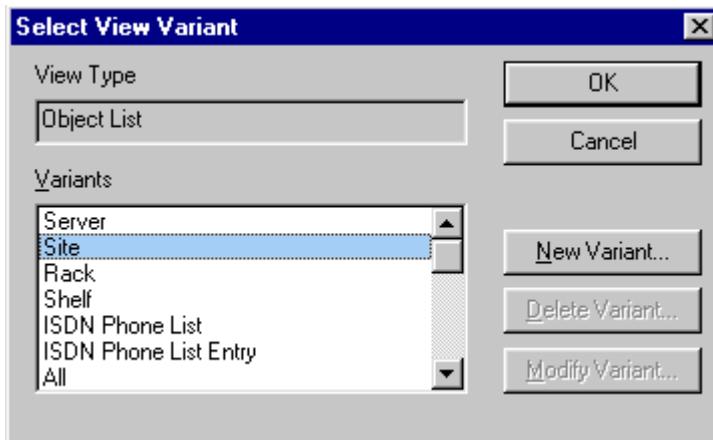
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

CREATE AN OBJECT LIST

An Object List is a group of related objects. [Object List All] containing all objects. Other Object Lists can be created to show objects in more convenient and useful groupings. These are especially useful when managing a number of Servers, Sites and Racks. See Managing Multiple Server Sites GSI-018.

STEP	PROCEDURE

1. In order to selectively view any group of objects, select the *Object List* from the *View* menu. This brings up the Select View Variant Box below.

2. Select the object to be viewed by clicking the mouse on the chosen item.

3. If an object view is wanted other than those listed in *Variant* views, a new variant can be created by clicking the *New Variant* button.

4. Type name for the new variant in the field. In this case the variant is called 'Subscriber '. Click the OK button.

5. Drop the *Model Type to Display* fields by clicking ↓ move to the desired object and click to select. In this case Subscriber Objects.
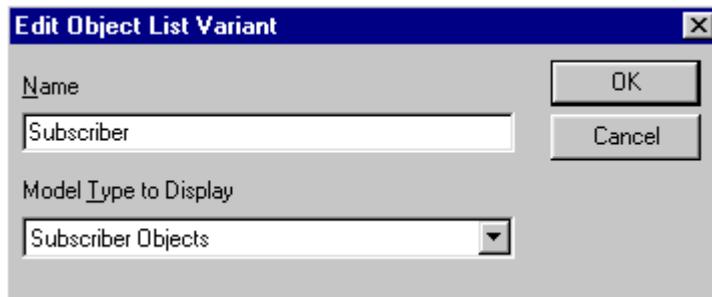
6. Click OK to initiate the changes and return to Select View Variant menu. The new view has been added.

7. Variants may be modified or deleted by selecting the variant and clicking *Modify* or *Delete* Button. Before a Variant is deleted the confirmation message is displayed.

8. To view the variant, select by clicking the item on the variant list and click the OK to display. The display shows all the STs, clicking any object on the list invokes the ST View.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
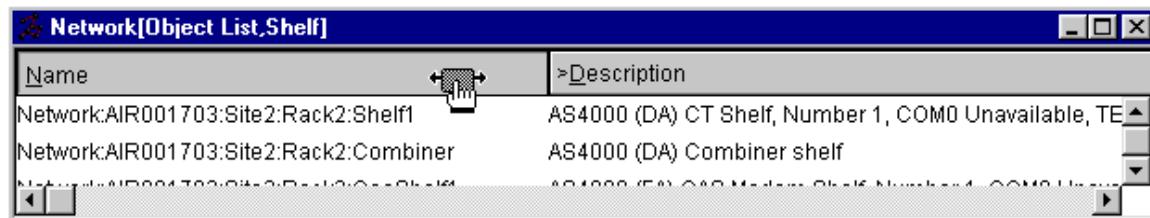
CUSTOMISING LISTS

Use this procedure to change the field order of object list views, subscriber list views and history list views. Fields may either be moved in which case all the other fields are displaced to the right of the insertion point or swapped in which case the fields change places with each other. This procedure describes both processes.

STEP	PROCEDURE

Move Field

1. Select from the *View* menu an object view or history view to be customized.

2. Move the cursor over list heading bar and it changes to the cursor shown in the screen shot below.

3. Move cursor over the field to be moved.

4. Hold down (keep pressed) the left mouse button; the field darkens. Drag the field to a new position on the bar.

5. Release the mouse button and the field is now positioned in the new order.

STEP	PROCEDURE

Swap Fields

1. To swap two fields in a menu move the cursor over one of the items and then click the mouse.

2. A menu drops down. Select the field to swap with by clicking the mouse button on the field name or alternatively use the hot keys. The fields then interchange.
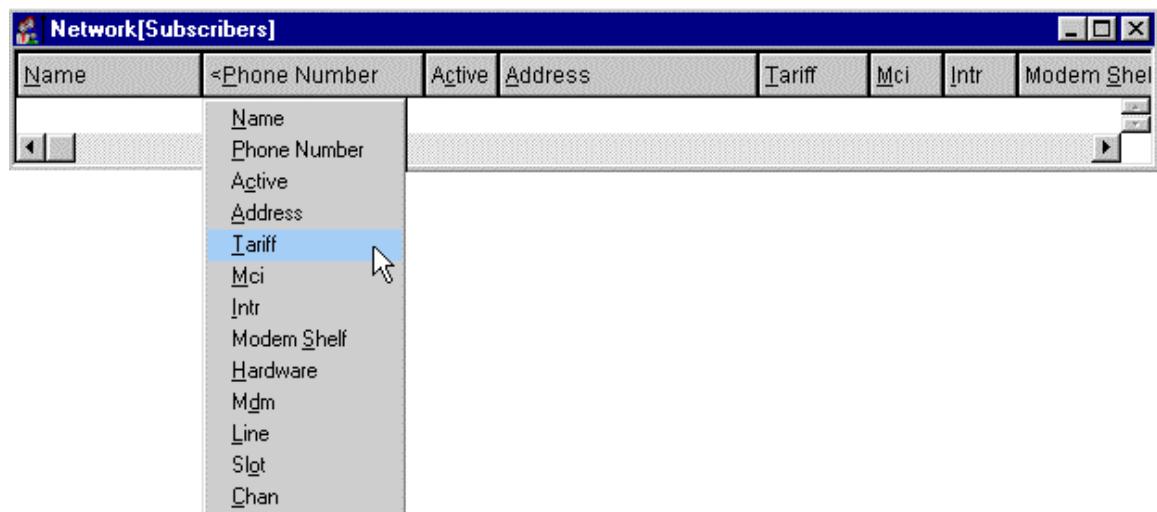
Order Lists

To sort a list into ascending or descending order click the mouse on the list name field. Each click toggles the order, a > before the title indicates ascending order and a < before the title indicates descending order.
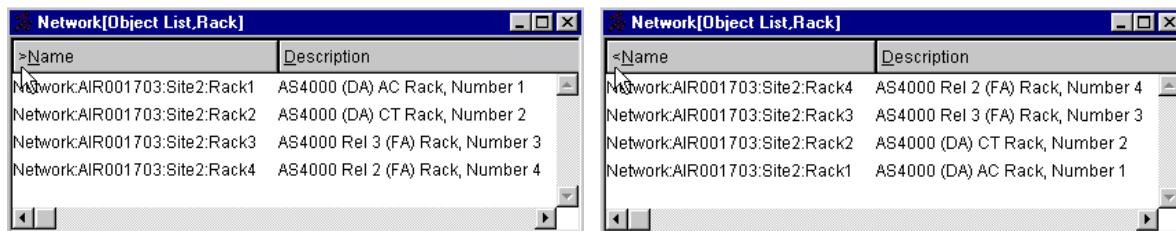
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

CREATING SUBLOGS

A sublog allows events from a specific object or group of objects to be filtered, logged and then displayed using Wordpad or any other text viewer.

STEP   **PROCEDURE**
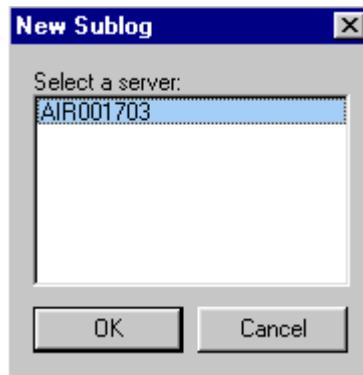
1. From the *View* menu select Sublog

2. To create a sublog click *New.* Click *OK*.

3. Select the server attached to the equipment to be logged.

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4. Enter name for sublog in the Name field. Select the destination for log file information destination. Selecting file directs the files to a location entered in the Box adjacent to the radio button (Enter Path and file name). Selecting Port directs the files to a printer or external monitoring device attached to a PC Port to which the device is attached.
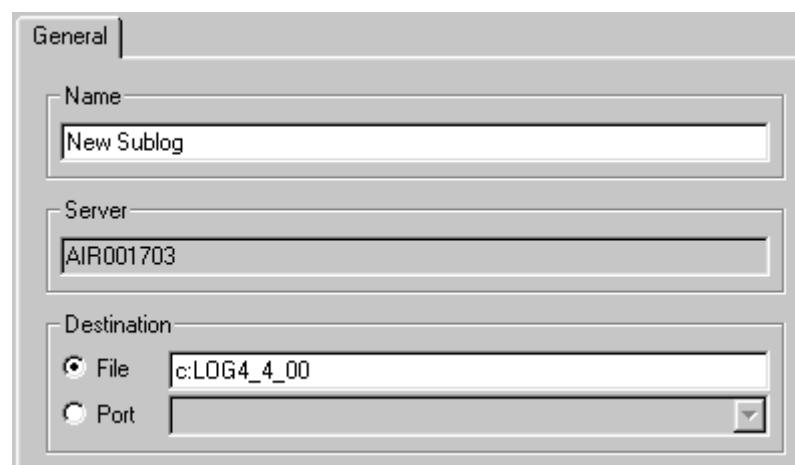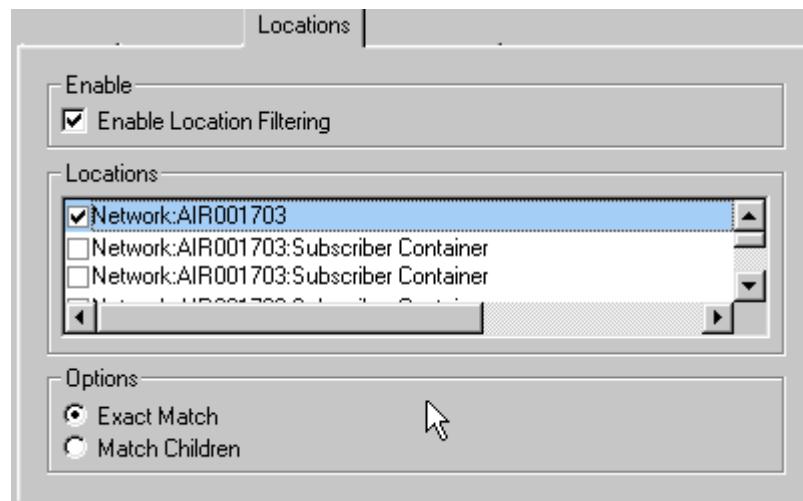
5. Select the *Operations* menu to enable alarm filtering. The events for all objects are reported. To select specific objects check *Enable Operational Filtering* box and select operations by checking the appropriate box(es). A ✓ indicates an object has been selected. To de select re-check the object.
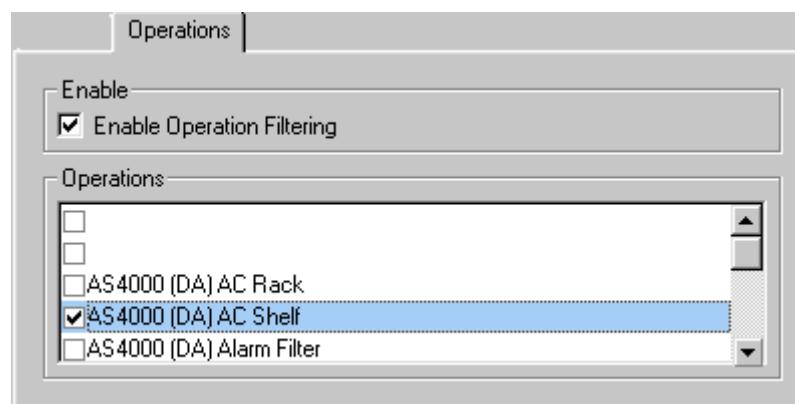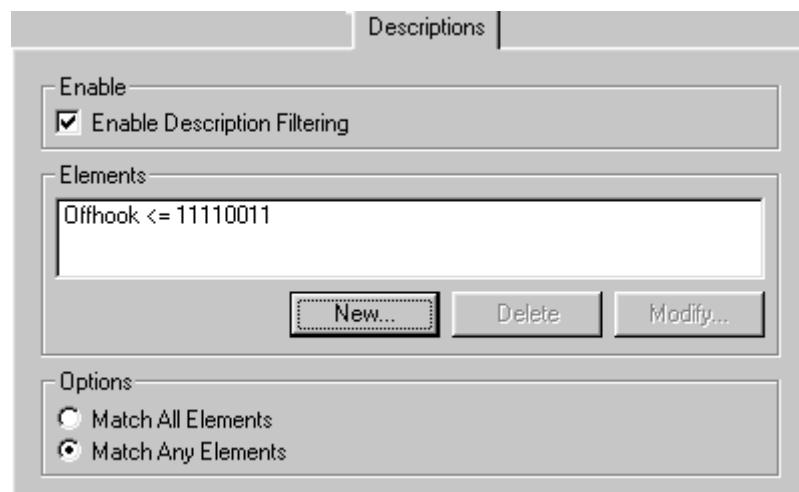
6. Select the *Locations* menu and check *Enable Location Filtering* to select objects from a specific location. Select operations by checking the appropriate box(es). Select

Exact Match to receive reports only from that object or *Match Children* to select all child objects associated with the object checked.

7. Select Descriptions to filter for specific messages from the shelf controller. Check *Enable Description Filtering*. Select *New* or modify an existing element.

8. Set the value to be searched in the appropriate boxes. Click OK to initiate.
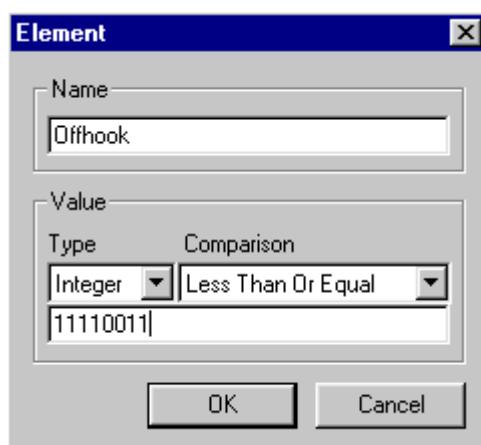
9. Click *OK* to initiate the Sublog. The Sublog appears in the Sublog window as active. Click *OK* to return to the Equipment View
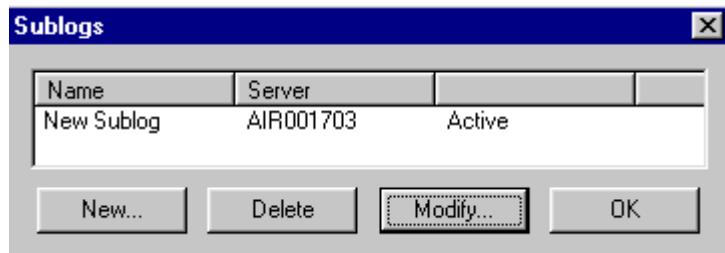
10. To view the output of a sublog that has been sent to file select the file stored in the location specified in step 4 folder and view with Notepad or any other text viewer.

11. The figure below shows a typical logfile output.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

VIEWING ALARM OBJECTS

Use this procedure to create an object view for system alarms.

STEP	PROCEDURE

1. From the *View* menu, select *Alarms*.

2. The Alarm View then shows the current alarm status.
    Red = persistent Alarm, Yellow = Intermittent Alarm, Green = Persistent Alarm
    Fields show the time and date of the event, source and type of alarm, the current state and the state previous to the event.

Network:UK1PC3181[Alarms]

Time	Target	After	Before
Sun Jun 07 00:22:24 1998	Network:UK1PC3181:Bedfont Lakes:Rack2:MultilineShelf1:ST3:Poor E1 BER	Alarm Persistent	Alarm Intermittent
Sun Jun 07 00:22:24 1998	Network:UK1PC3181:Bedfont Lakes:Rack2:MultilineShelf1:ST3:Poor E1 BER	Alarm Intermittent	Alarm Clear
Sun Jun 07 00:02:47 1998	Network:UK1PC3181:Bedfont Lakes:Rack2:MultilineShelf1:ShelfController:Lost C	Alarm Clear	Alarm Receiving Attention
Sat May 16 07:09:48 1998	Network:UK1PC3181:Bedfont Lakes:Rack2:MultilineShelf1:ShelfController:Lost C	Alarm Receiving Attention	Alarm Persistent

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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VIEW-HISTORY

Use this procedure to assist in performance monitoring. All system messages are logged and can be viewed.

STEP   **PROCEDURE**

---

1. From the *View* menu, select *History*. The window below is produced showing the system messages generated.

2. The system is capable of storing approximately 1000 system messages.

3. Different events are colour coded as follows:

   - Persistent Alarms - Red.
   - Intermittent Alarms - Orange.
   - Alarm Clear - Green.
   - All other events - Black.

4. The History fields are:

   - Time -displays Day, Date, Time (Hours: Minutes: Seconds), Year.
   - Operation -this displays the object generating the event.
   - Direction - This field shows if the communication was from the Server to the Equipment View (Cl<---Ser) or from the Equipment View to the Server (Cl--->Ser).
   - After - Gives current state of event.
   - Before - Gives details of state before the change of state.
   - Target. - The object receiving details and the details of the event.

5. To alter the order of presentation of the fields, see Customizing Lists (DLP-028).

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
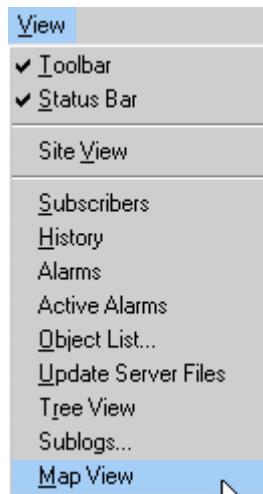
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AS8100 Sitespan User Guide Version 3.7	
605-0000-426	**DLP 029**
Draft Issue 6.0 Date 4/4/00	

Airspan
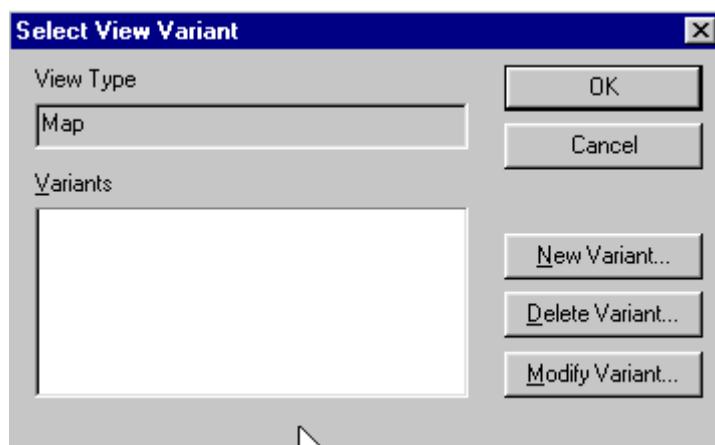
MAP VIEW

STEP	PROCEDURE
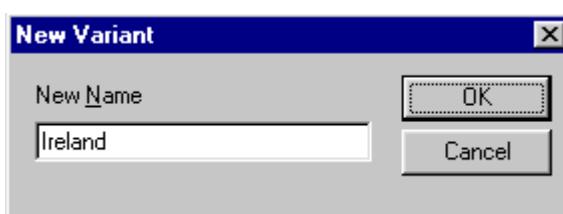
1. From the *View* menu, select *Map View.*

2. To create a new map select *New Variant* .
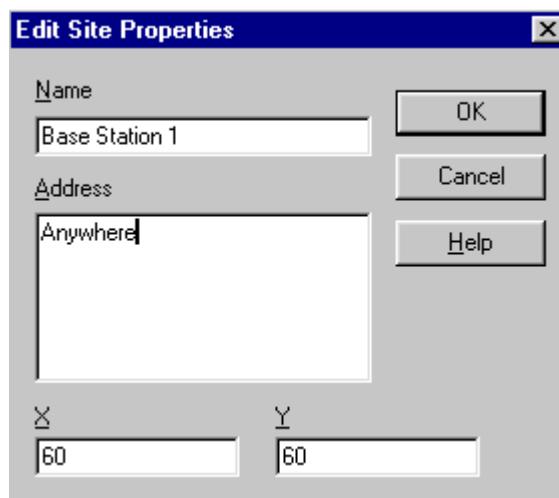
3. Enter the name of the variant. Click OK
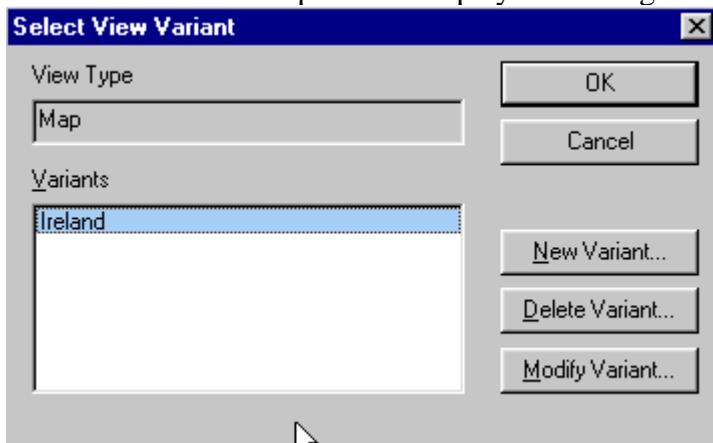
4. Enter details including the location of the map file on the PC. The map must be a Windows Enhanced Metafile (.emf). Enter the range values for X and Y to set the bottom left and top right corners of the map.
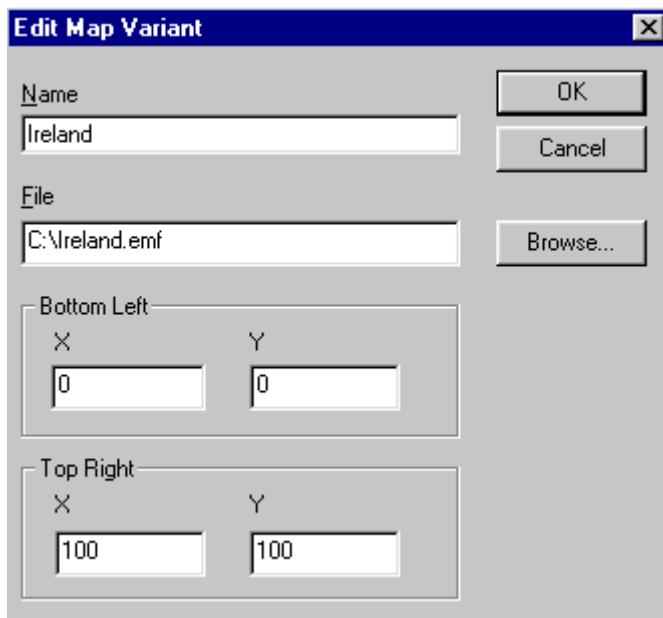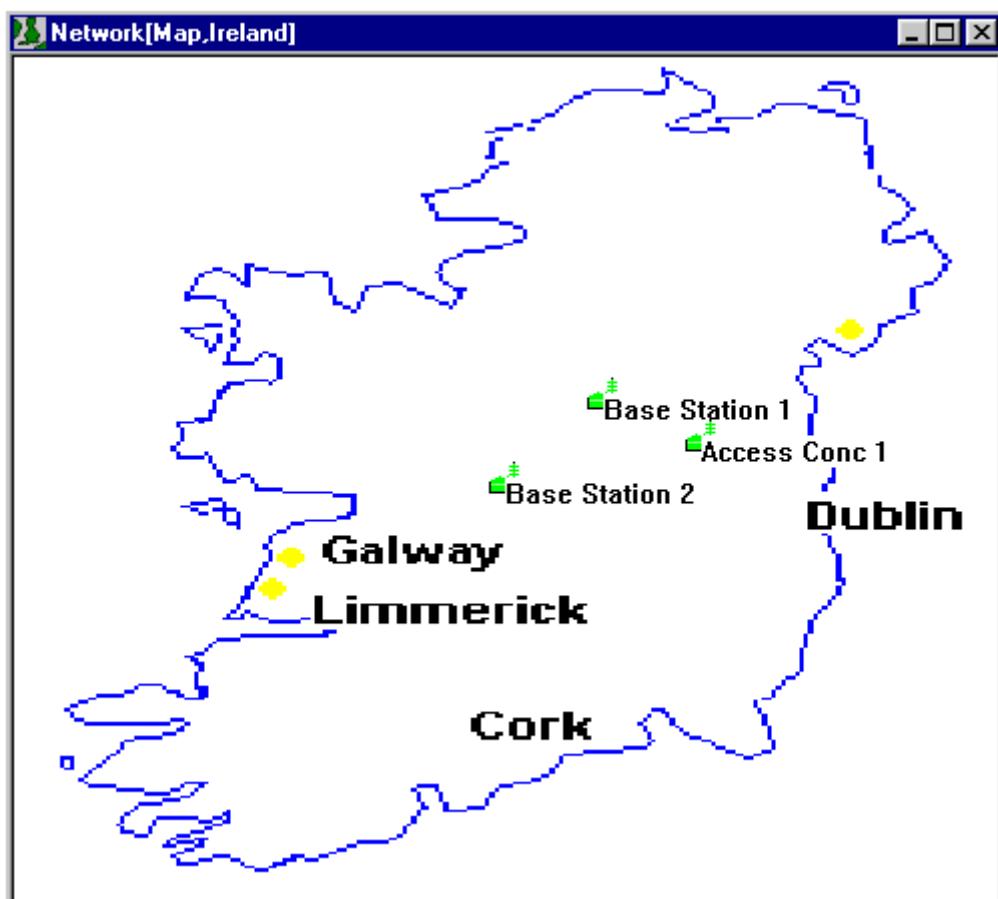
5. To set the Sites onto the map open the *Site Object List* and select the site to be placed on the map. Right click the mouse and select *Site Properties* from the drop menu. Enter the co-ordinates of the site. The co-ordinates must lie within the range set for the Map. Repeat for the other sites.

6. Return to the Select View Variant window and select the map to view. Double click the variant and the Map view is displayed showing the stations.

7. If the location is not accurate adjust the values for the site until an accurate representation is obtained.

Note. Each map must be given an exclusive range of numbers failure to do so may result is a station being shown on more than one map. If maps are designed to overlap the number ranges must also be designed to overlap isf a station is to appear on two maps

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
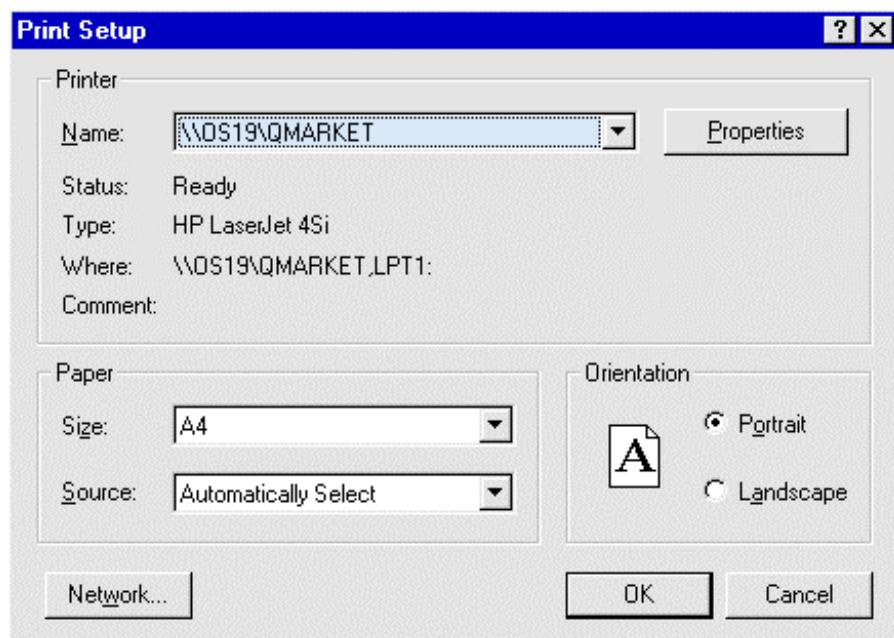
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PRINT SETUP

Use this procedure to set up the printer. Different printers have different set-up properties, consult the printer user manual if needed.

STEP   **PROCEDURE**

1. From the *File* menu, choose *Print Setup*. This produces a Print Setup dialogue box

2. Select printer, page size and source by clicking on ⬇ and then select the item by clicking on the desired choice on the list.

3. Select the appropriate orientation by clicking the mouse pointer next to either portrait or landscape.

4. Click on the *Properties* Button to produce a window allowing more printer parameters to be set. The contents of this window depend on the specific printer used. Refer to the printer user manual for details.

5. Click the OK button to initiate changes and return to menu.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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FILE PRINT

Use this procedure to print an event history or list. Ensure that the printer is set up in (DLP-033), is switched on and has paper.

STEP   **PROCEDURE**

1. From the *View* menu select *Object List* to view the object list to be printed.

2. If required from the *File* menu select *Print Preview* to view file to be printed.

3. Select *File Print* (or Ctrl P) from the menu bar or click the ![printer icon] icon to initiate printout.
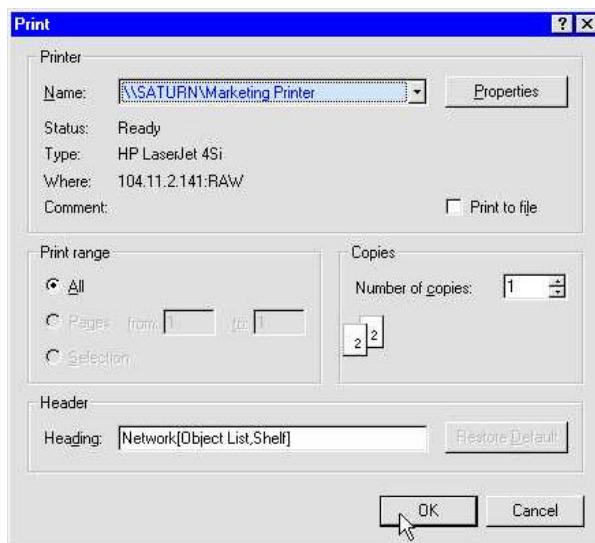
4. Select printer if different from the default one listed in printer name field.

5. Select number of copies.

6. Click OK to initiate Print and return to Equipment View.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
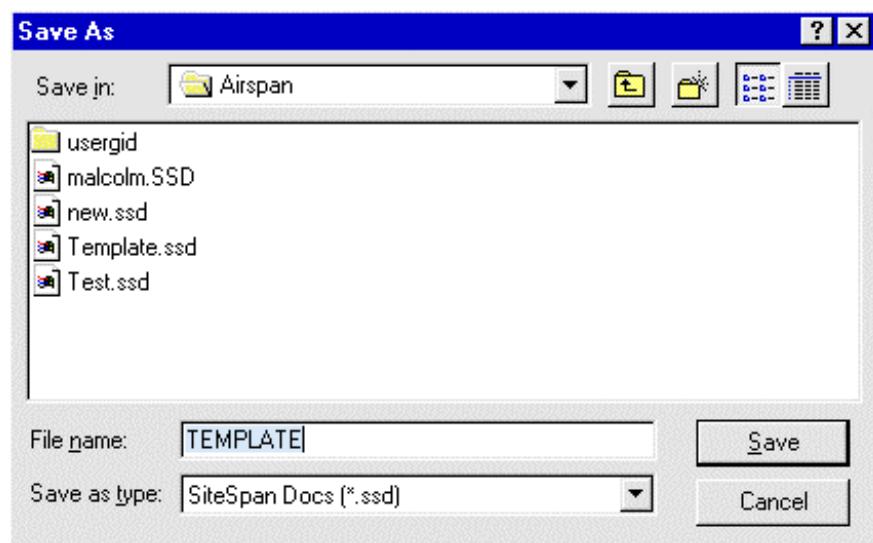
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SAVING THE CONFIGURATION FILE

Use this procedure for saving configuration files.

STEP   **PROCEDURE**

1. From *File* menu select:, *Save* or *Save As* or alternatively click the 🖫 on the toolbar.
   Select drive and directory and insert filename. Click OK to initiate save and return.

2. The Servers automatically save and load their individual databases on exit and entry.
   This starts the Sitespan Equipment View's cached database.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
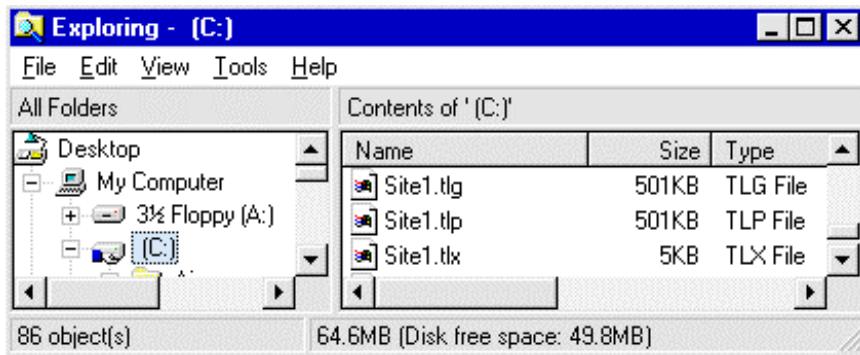
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FILE BACK-UP PROCEDURE FOR AS8100 SITESPAN

It is recommended that the Sitespan files be periodically backed-up on a Floppy or Tape Drive and stored in a secure location. The .SVD File is automatically backed up every 30 mins

STEP	PROCEDURE

1. The following files are essential to back-up.

Server Database Files	***.SVD**
Equipment View Database Files	***.SSD**
Signalling Files	***.SGF**

   Note   The * represents the file name designated by the user.
   These files are located in the root directory.

2. It would be desirable to back-up the following file though not essential.

   Log File   ***.0LG**

   Note   The log file is located in the Sitespan directory.

3. Automatic Back-up of SVD database files. The SVD file is saved with a temporary name. When the save is completed the original file is deleted and the new file is renamed with the same name as the deleted file. This ensures that in the event of a write problem there will always be a good database available.

4. To back-up use the file manager to locate the files in the relevant directories.

5. Place a formatted floppy disk in the A: drive or a tape into a Tape Backup drive.

6. Open Windows Explorer by selecting it from Start, Programs.

7. Select the file(s) to be copied by clicking the file name (s). To copy to the drive A, drag and drop the selection to the A drive icon.

8. To complete copying, choose the Yes button in the confirmation message box.

9.   If the destination directory contains a file with the same name, a dialog box prompts you to verify that you want to replace the existing file. Choose the Yes button to replace the existing file, or if you are copying more than one file, choose the Yes To All button. If you choose the Yes To All button, Windows Explorer does not prompt you for each file that is replaced.

10.   The size of the Transaction and Performance Log files are user definable using the Options Log File menu within site controller. If the transaction and performance log file sizes are large and do not fit on a floppy disc they may be compressed using a file compression utility such as PKZIP.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

UPDATING SERVER FILES

This DLP describes the procedure for downloading software from the client to the server.
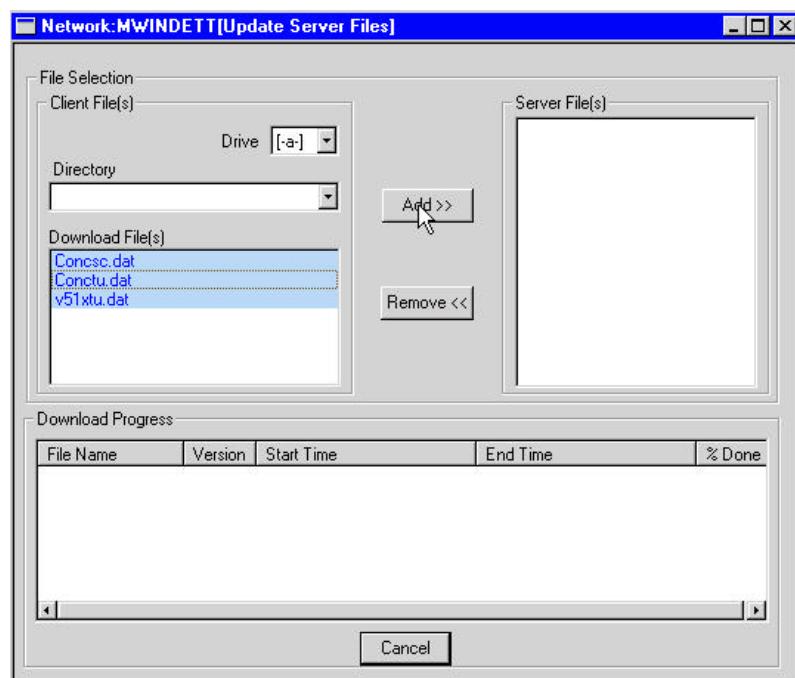
STEP	PROCEDURE

Installing Server Files
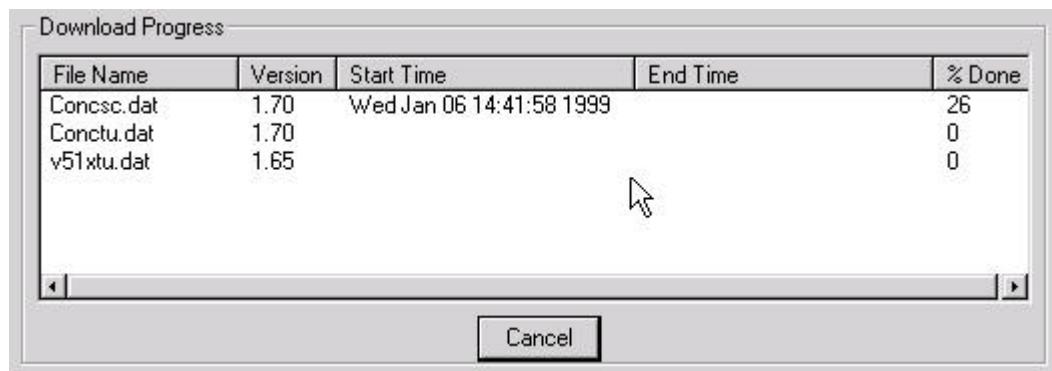
1. Display rack or shelf view, select *Update Server Files* from the *View* menu

2. Select the drive/directory containing the client files to download in the *Update Server File* window. Downloadable files have the extension **.dat.** An error message is invoked if a download of other file types is attempted.

3. Select the files and click the *Add* button. The files download into C:\Download directory on the Server. The progress of a download is monitored in the Download Progress window.

4. On completion of the download the files appear in the Server Files window.
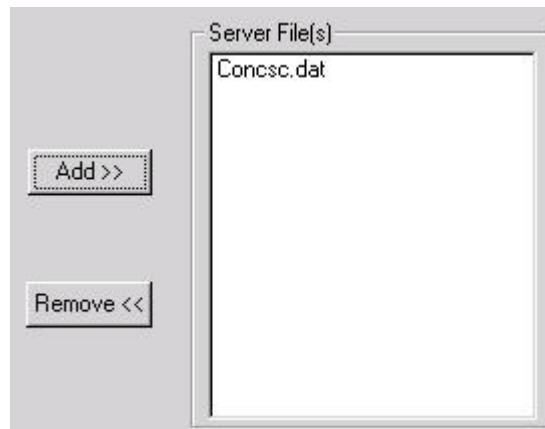
Removing Server Files
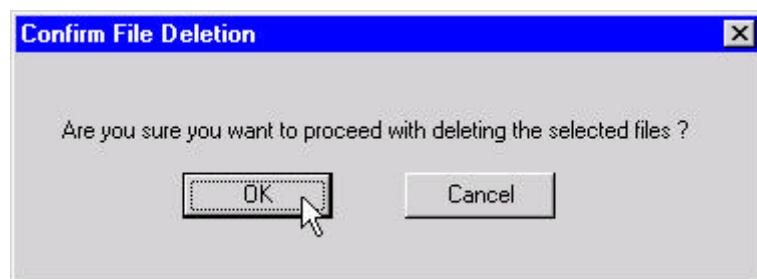
5. Display rack or shelf view, select *Update Server Files* from the *View* menu
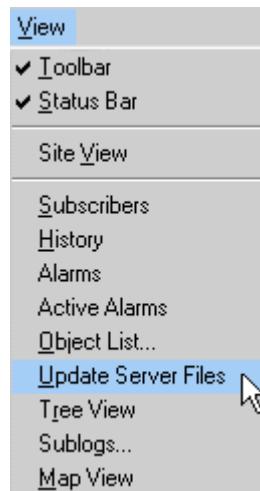
6. Select the server Files to be removed and click *Remove* button
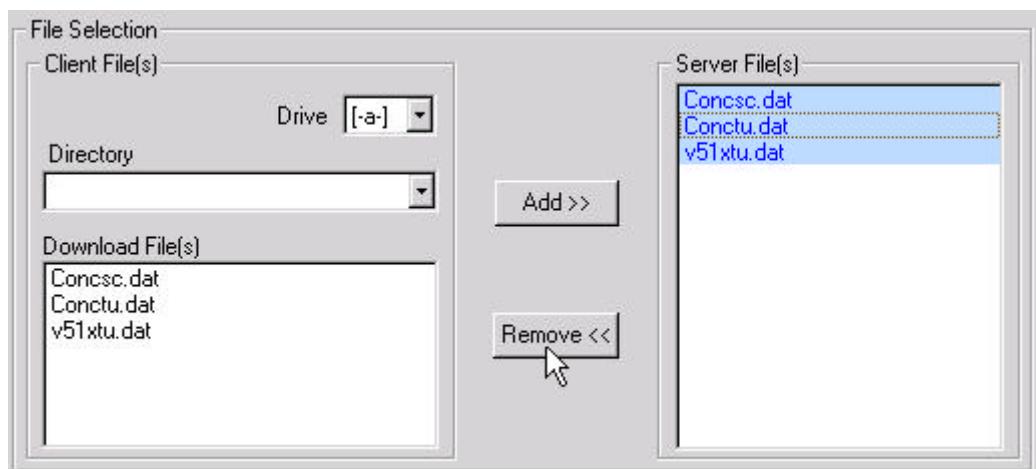
7. Click OK on confirmation message window. Note Remove file deletes the file It does not place it back in the client file directory.

8. For details on downloading software into the shelf controller in the Rack see DLP 038
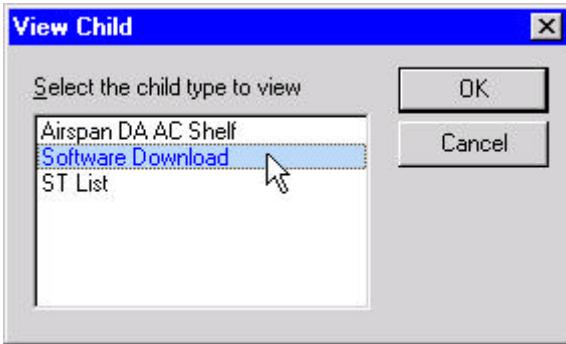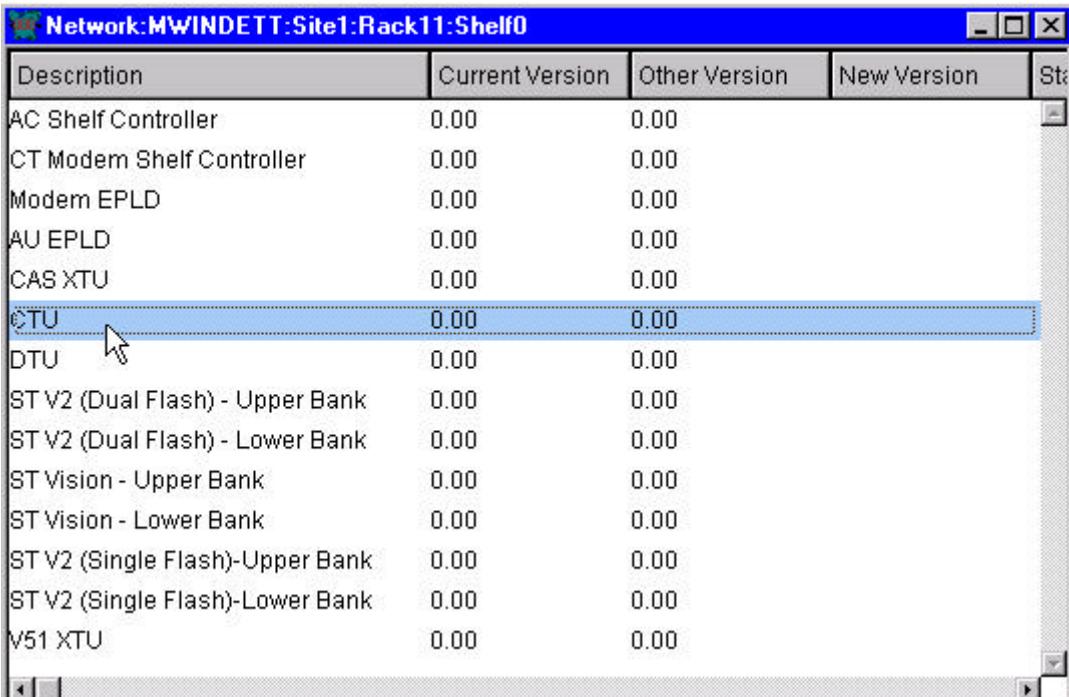
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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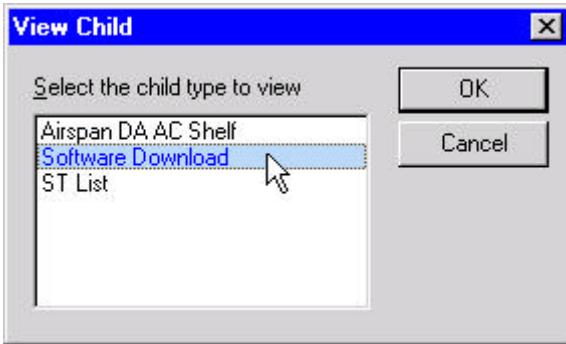
DOWNLOADING SOFTWARE

This DLP describes the procedure for downloading software from the server to the Modem Shelf and to Subscriber Terminals. The Modem shelves hold two versions of software, current and other. When software is downloaded it is downloaded into other and then has to be switched to current. The shelf cards will not use the new software until they have been reset. Software can be downloaded to Subscriber Terminals over the radio link.

STEP	PROCEDURE

Downloading to Shelf

1. Display rack or shelf view, select *Update Server Files* from the *View* menu

2. Highlight and double click software to download.

3. Click to download new version

4. New version is downloaded to the Shelf Controller
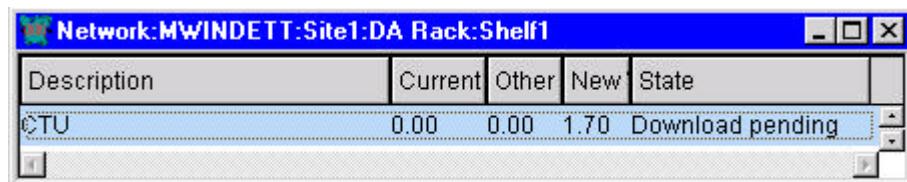
5. When download is complete the window shows the new version installed as other.
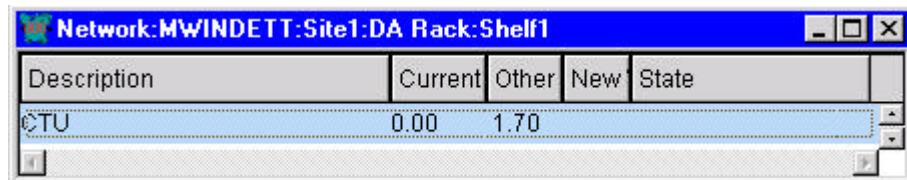
6. To switch from current to other version highlight double click field to download and select
    <-Switch-> on *Software Download* window.
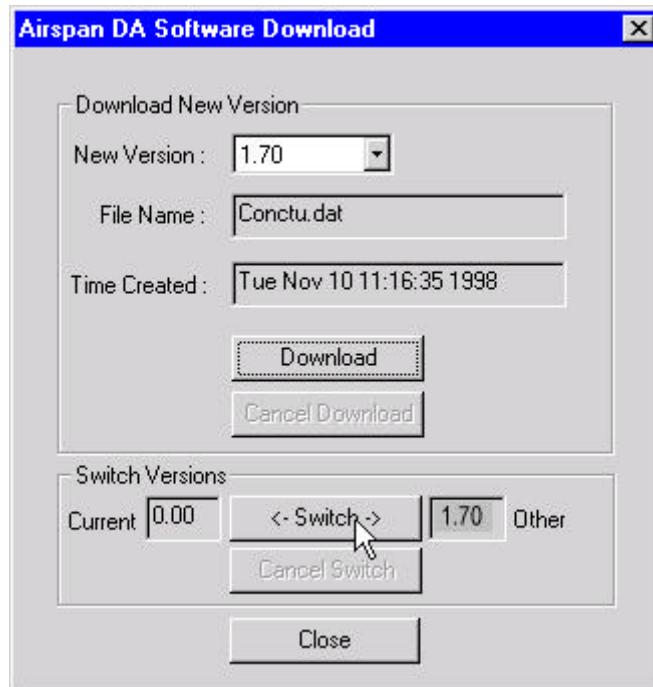
7. When the two versions are switched, reset the cards using the software to complete the
    software change.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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FILE IMPORT AND EXPORT

Sitespan Import/Export is used for:

- Rapid configuration of large numbers of STs off-line
- Archiving of configuration for inventory purposes.

STEP   **PROCEDURE**

Sitespan Import/ Export

Every Object List in Sitespan can be exported to a file. The file is tab delimited and can be imported into databases or spreadsheets for inventory tracking.
The following views can also be exported:

- History View.
- Alarm View
- Active Alarm View

The Subscriber list also has an import feature; that allows a previously exported list to be imported into another Sitespan database. It should be noted that the following restrictions apply to imported files

- The import feature is only intended to cover STs and their associated lines. There is no ability to import AC or CT shelf configuration. Therefore for an imported ST to work correctly, it is assumed that the AC / CT rack configuration in the new database matches that in the original database.
- There are a few attributes that are not currently preserved in the import – V5.1 L3 addresses, SW download and authentication flags.
- There are currently no safe-guards to deal with what to do if an imported ST already exists in the database or is invalid.

Exporting Lists

1. From the *View* menu select the view for export or from an *Object List* select object list for export from the list click *OK*.

2. From the *File* menu select *Export*.

3. Select the directory and insert file name. Click *Save*.

Importing Subscriber Lists.

1. From the *View* menu select *Subscriber View*.

2. From the *File* menu select *Import*.

3. Select the directory and insert file name. Click *Open*.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

SITESPAN DATABASE TRANSLATION V2.X TO V3.7

Use this procedure when transferring a database constructed in Sitespan 2.5/2.8 into Sitespan 3.7.

STEP	PROCEDURE

1. Close down all Sitespan Client/Server applications running on the network.

2. Ensure that the server25.olg & server25.svd files are located on the root C: drive of your PC.

3. Ensure that server35.olg & server37.svd files **DO NOT** exist on the root C: drive of your PC.

4. If there is a server35.olg or server37.svd file in the directory then delete it/them.

5. Run the Sitespan V3.7 "trans" program.
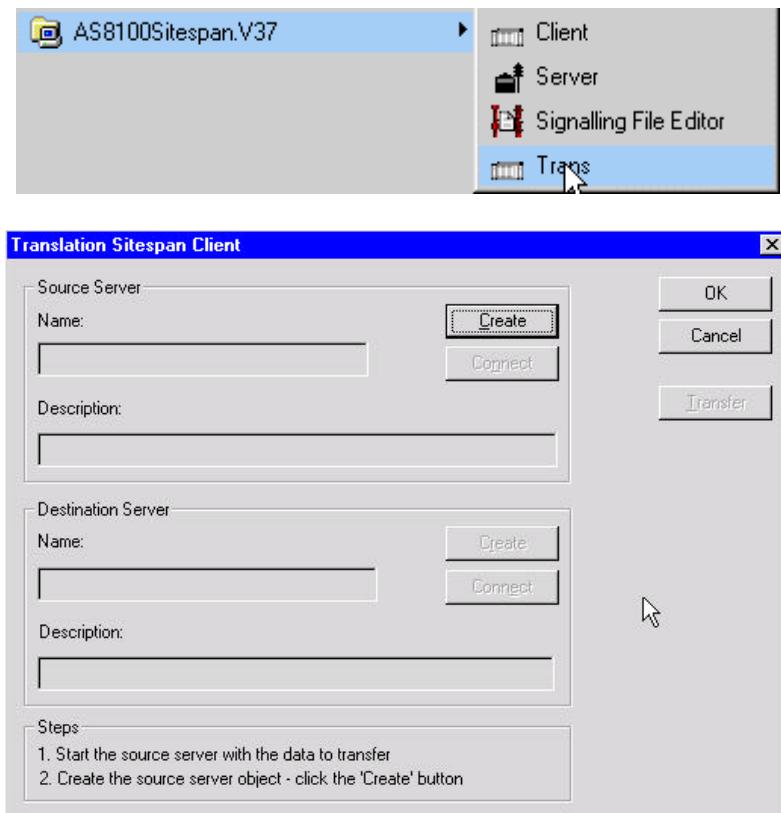
6. Run the Sitespan Server for Sitespan V2.5.

7. In the "Trans" program connect to the V2.5 Server by selecting "*Create*" and Select *OK* when prompted to connect to the Remote Machine Name.
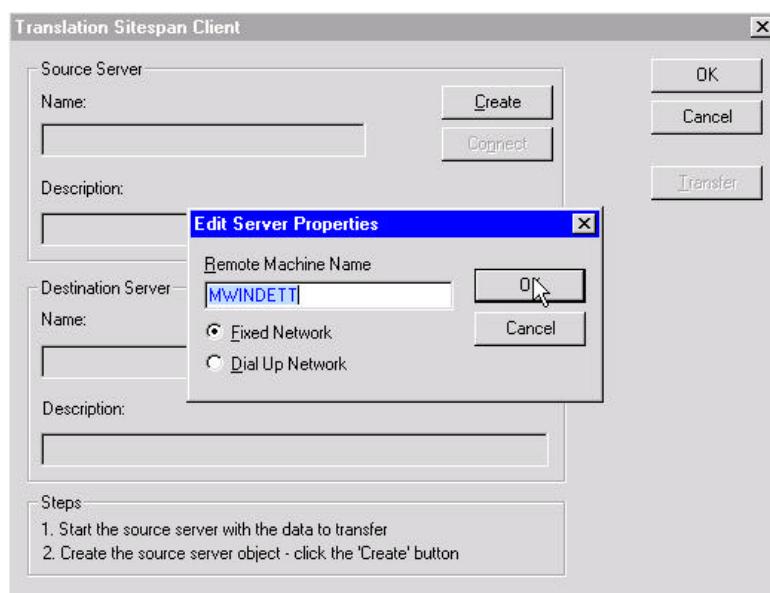
8. The Source Server then indicates that it is connected and ready.
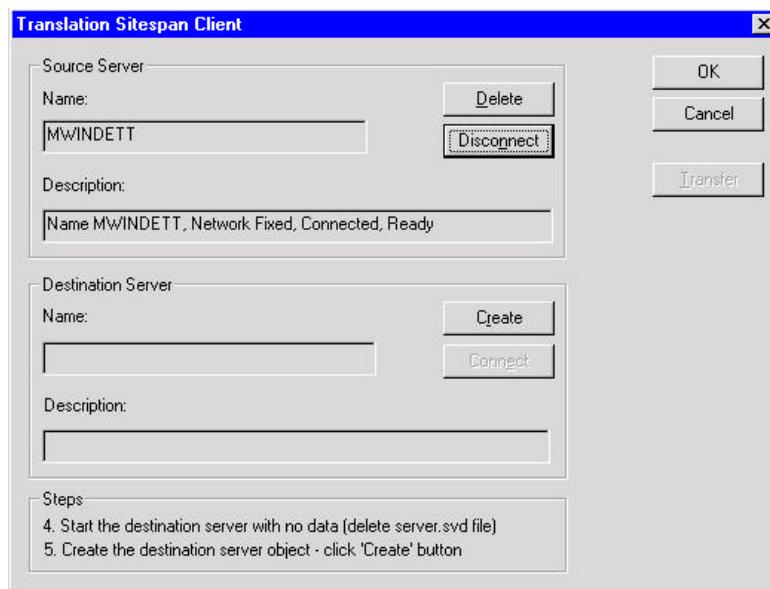
9. Disconnect the Source Server (V2.5).
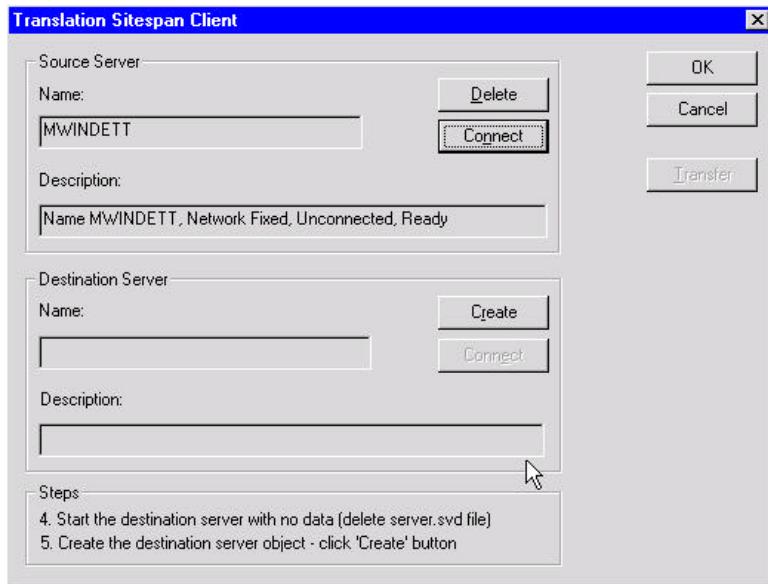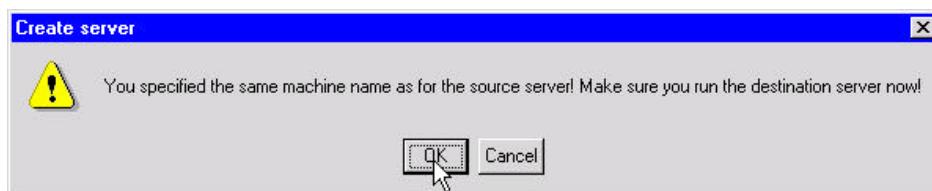
10. Shut down the Sitespan V2.5 Server program.
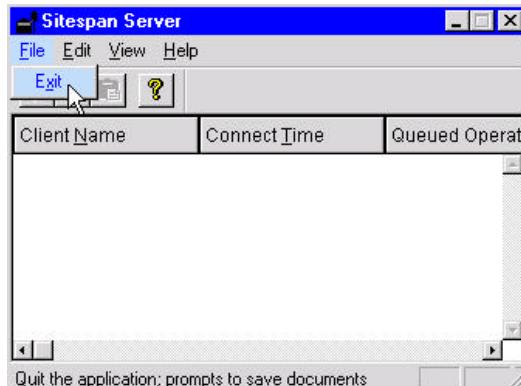
11. Start the Destination Server V3.7.

12. Connect to the Destination Server.

13. The destination server indicates that it is connected and ready.
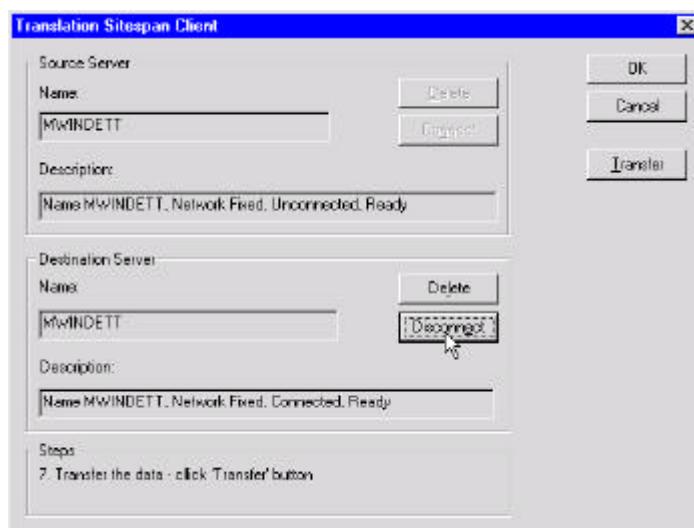
14. Click on the Transfer button. This starts converting the V2.5 database to the new V3.7 format.
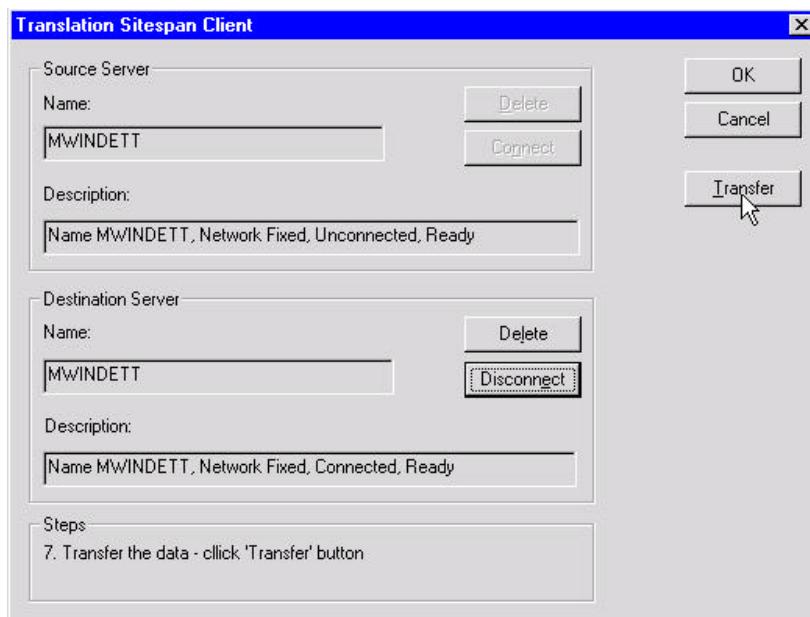
15. A status message is displayed when the conversion has been completed.

16. Close the V3.7 Server and exit the "trans" program.

The files C:\ server35.olg & C:\ server37.svd should now be created on your PC.
Your Database is now compatible with the new V3.7 Server & Client applications.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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CLOSING AS8100 SITESPAN

Use this procedure to exit from Sitespan Software.

STEP   **PROCEDURE**

1. From the *File* menu choose *Exit*.

2. A confirmation message window appears, giving the options to Save changes.
    Click on appropriate option button.

    - *Yes*:   Saves the changes made during this session

    - *No*   Exits the program without saving changes.

    - Cancel   Returns to Sitespan.
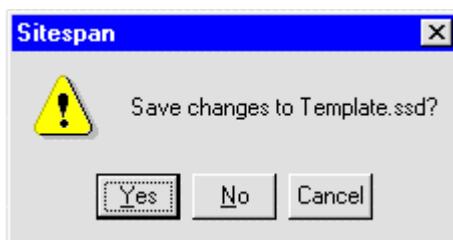
3. If the Equipment View Database file has not been saved before the following window is displayed.
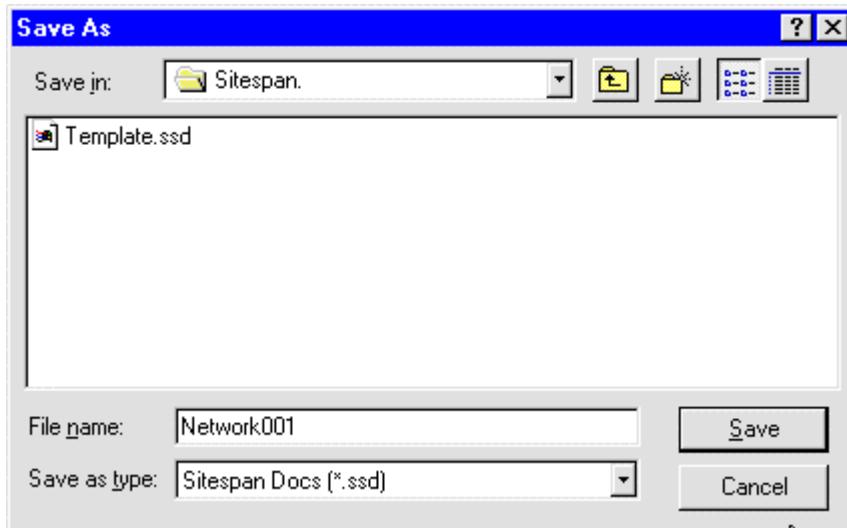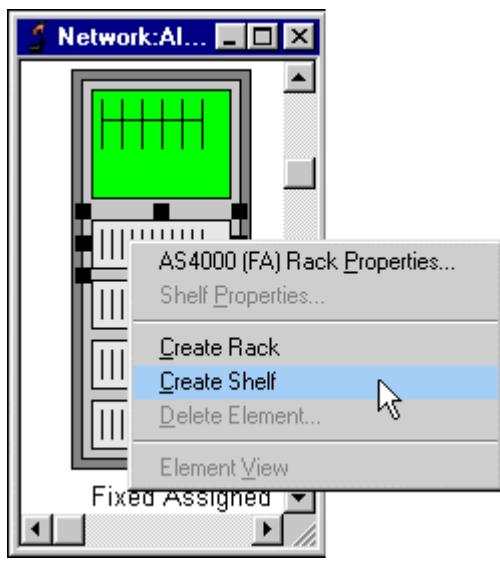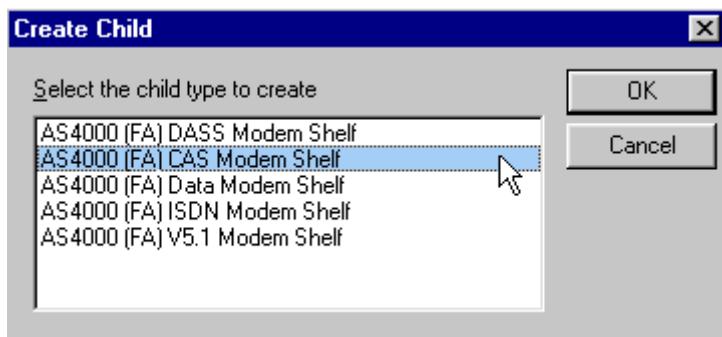
4. Type File Name in the *File Name box,* Choose the drive and directory to save the file in. The *Network* button allows the users connected to a network to select a network drive other than those listed under drives.

5. Click OK to save file.

6. The file is saved and Sitespan closed.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

CREATE AS4000 FIXED ASSIGNMENT MODEM SHELF

Use this procedure to create an AS4000 Modem shelf. Two alternative procedures are documented, (a) To create a shelf using GUIs and (b) To create a shelf using the object lists. Each shelf is created together with its signalling properties. The shelf type should be selected to match the installation type.

STEP	PROCEDURE

(a) To create a Modem Shelf, using GUIs.

1. Select the rack either by selecting _View,_ and choosing _Site View_ when in the network object list window, or continue from DLP-014.

2. Click on the desired Modem Shelf (1-4). The selected shelf is highlighted with black markers.

3. Place cursor over shelf and click the right mouse button. From the menu select: _Create Shelf_.

4. To create AS4000 Shelf, select the type of Modem Shelf from the Create Child window and click on the OK button.

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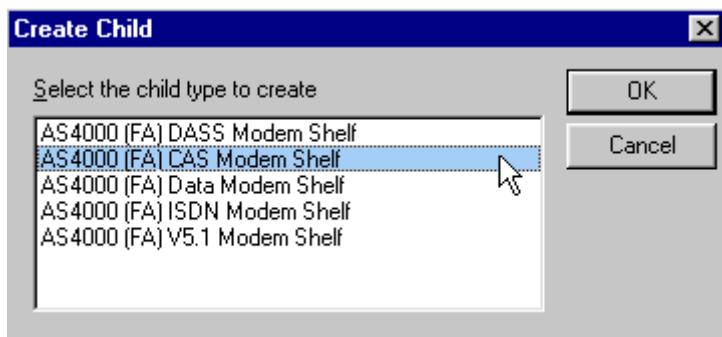
5. Click the OK button to initiate the changes and return. A modem shelf displays without active windows. The Modems display the ST icon associated with the type of shelf created. The Icons are shown below:

6. To set shelf parameters, go to Edit Shelf Properties DLP-053.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
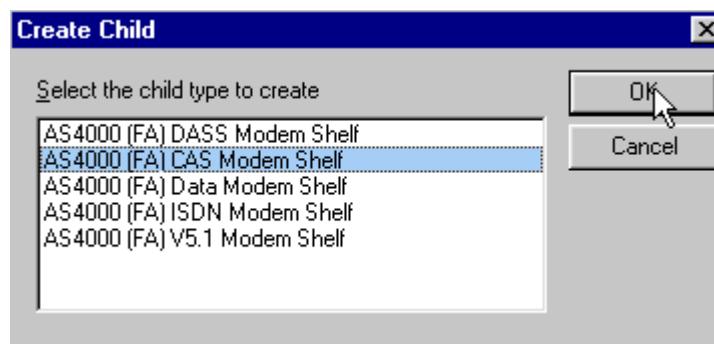
STEP	PROCEDURE

(b) To create a Modem Shelf using object lists.
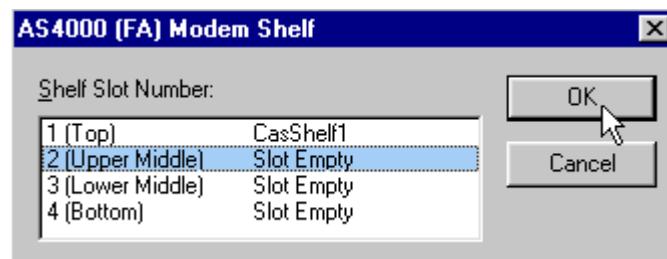
1. Select the rack by pointing to the rack in the *Network [Object List, Rack]* window and click right mouse button. From the menu select: *Create Child Element*.
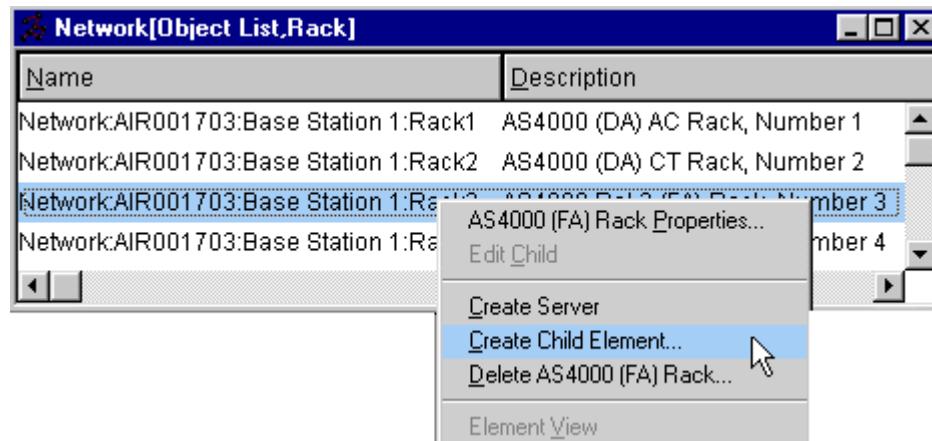
2. To create an AS4000 Shelf, select the *AS40000 (type) Modem Shelf* from the *Create Child* window and click on the OK button.
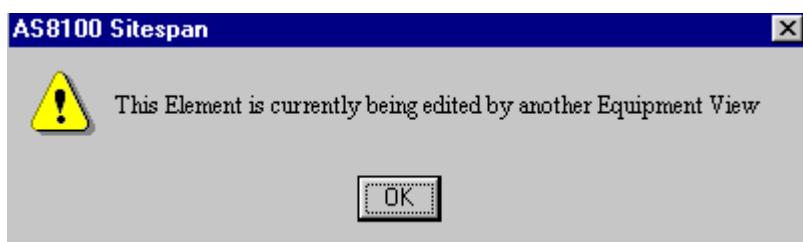
3. Using the mouse select an empty slot. Click the OK button to initiate changes and return.

4. The *Network [Object List, Shelf]* window now includes the new shelf.

5. To set shelf parameters, go to Edit Shelf Properties DLP-053.

6. **Note:** It is not possible for a user to gain access to any object if it, it's parent or child is currently being edited by another user. It is possible however to edit a peer object. For example if a user is editing a shelf then all Site, Rack, Card objects relating to that shelf are locked. This does not however stop another user creating, editing or deleting other shelves on the same rack or other shelves, racks etc. on the same or other sites.

7. If an attempt is made to access a locked object then the following message appears.
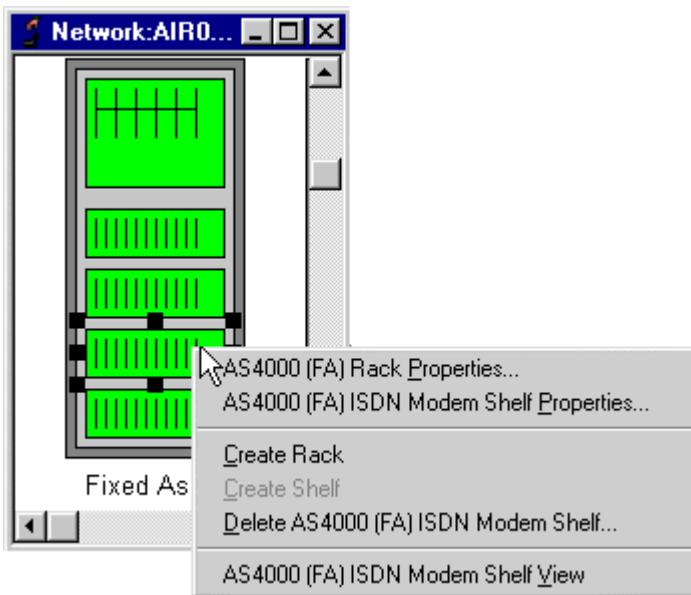
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

DELETING MODEM SHELVES

Use this procedure to delete Modem Shelves that have been created and are now not needed. Procedure (a) is for deleting a shelf from the GUI View and procedure (b) is for deleting a shelf from an Object List View.

For a Shelf that has just been created consider using the *Undo* command in the *Edit* menu. The Equipment View must be connected to the Server to perform a deletion.

STEP	PROCEDURE

(a) Deleting a shelf using the GUI View.

1. Display the Rack containing the shelf to be deleted.
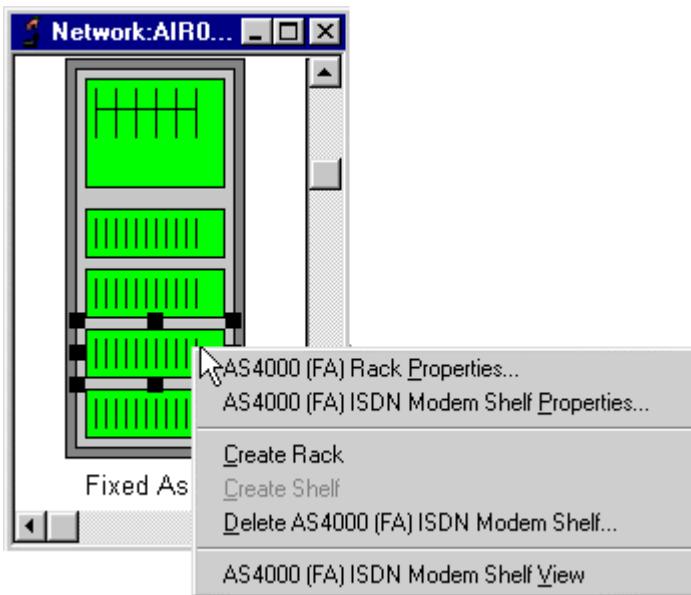
2. Place cursor over shelf and click the left mouse button. The selected shelf is highlighted with black markers. Place cursor over shelf and click the right mouse button. From the menu select: *Delete (type) Shelf*.

3. A confirmation window is displayed. Click the 'OK' button to initiate deletion.

4. The Rack is now displayed with the deleted shelf returned to the non-active color.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

STEP	PROCEDURE

(b) Deleting a shelf using an Object List.

1. Display the Network [Object List, Shelf] containing the shelf to be deleted. Select the Modem Shelf to be deleted Click right mouse button and from the menu select: *Delete AS4000 (shelf type) Modem Shelf.*
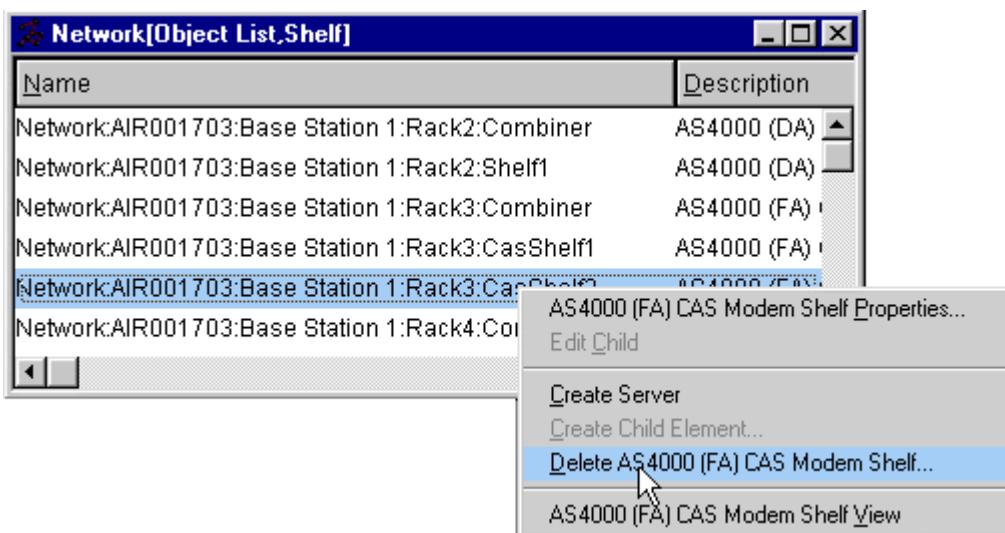
2. A confirmation window is displayed. Click the 'OK' button to initiate deletion.
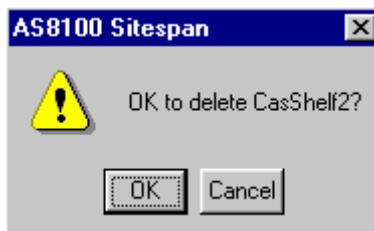
3. The Object List is now displayed with the shelf removed.
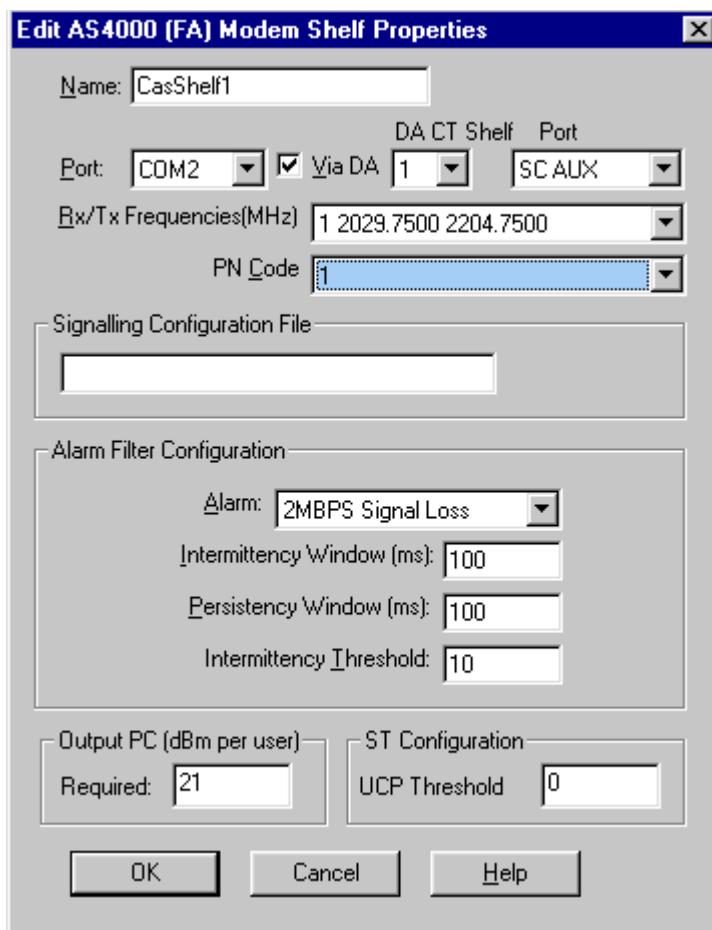
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

EDIT AS4000 FIXED ASSIGNMENT MODEM SHELF PROPERTIES
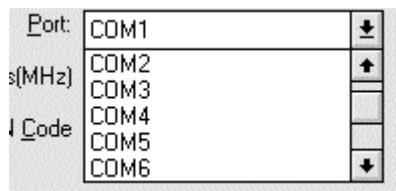
Use this procedure to edit AS4000 fixed assignment modem shelf properties. The shelf view, or an Object list containing the shelf, should be displayed at the start of this procedure. See TNG-004 Selecting Views.

STEP	PROCEDURE

1. Place cursor over shelf and click the right mouse button, or select the shelf on an Object List.

2. From the Menu, choose *AS4000 Modem Shelf Properties.*

3. Enter the shelf name/number into the dialog box and click the OK button.

4. Select the Port by clicking ⬇ to drop the options box and choosing the appropriate communications/serial port on the **Server PC** that is connected to the Shelf Controller on the AS4000 Rack (each Modem shelf requires a different COM port). The ports listed are those available on the Server machine; this may not necessarily be the machine running the Sitespan Equipment View.

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5. If the FA shelf is fitted into a DA Rack there is the option to backhaul the Sitespan connection to a remote server at the Access Concentrator site via the DA modem Shelf. Check the Via DA box by click left mouse button with the cursor over the box. Select the DA CT shelf that is going to host the back haul and the port that the output of the FA shelf to Sitespan is connected to on the DA Modem Shelf. The options are to connect either to the SC AUX port or the Sitespan 2 port.
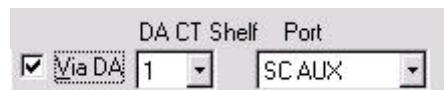
6. Select Rx & Tx Frequencies by clicking ↓ to drop the options box and clicking the appropriate frequency pair on the drop down list. The frequency pairs are usually determined as part of the system planning process.
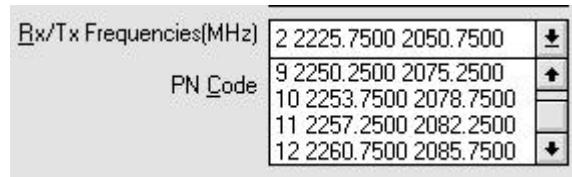
7. Select PN Code (1-7) by clicking ↓ to drop the options box and clicking the appropriate number from drop-down list. The PN codes are usually determined as part of the system planning process.
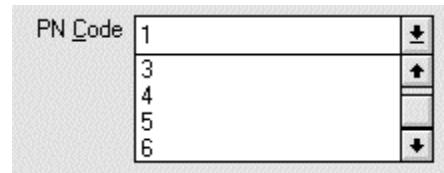
8. For CAS files fill in the *Signaling Configuration File* or select one using the browse option. The Signaling configuration files are installed in a directory on the server named Sigfiles. Signaling configuration files have the extension .SGF. If an SGF file is not specified then config file that exists in the shelf is used. If providing an ISDN Shelf then this box is titled *Supplementary Services File Name*. This file contains network specific keypad functions and has the extension .IDN. Enter the file name or select using the browse option.

9. The output of the system per user is set into the *Output Required per User* field. This is dependant on the frequency band in which the shelf is operating.

10. The UCP Threshold sets the limits of code phase displacement that are tolerated before an alarm is given. If a CRU is moved to another location an alarm is raised at the Sitespan Equipment View.

11. The Alarm Filter Configuration section of the window allows the user to increase or decrease the sensitivity of the alarms. This is not operational on AS4000 systems. These are automatically set to the default levels.

   Note: Allocation of Frequency and PN code usually forms part of the network planning and is not usually determined by an individual editing the shelf properties.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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MODEM SHELF CARD VIEWS FIXED ASSIGNMENT

This procedure describes the Modem Shelf Card Views.

STEP   **PROCEDURE**

1. Display the Modem Shelf. To display view see GSI-017.
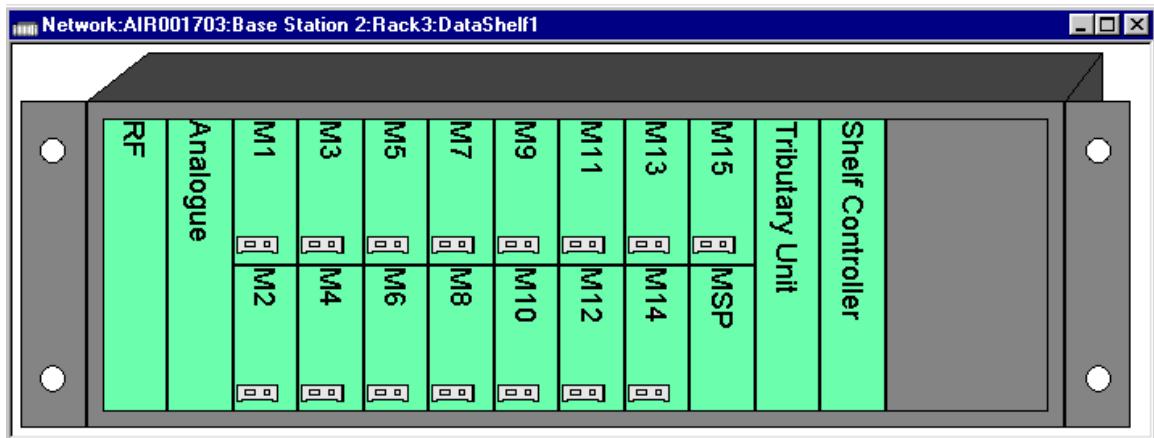
Release 2
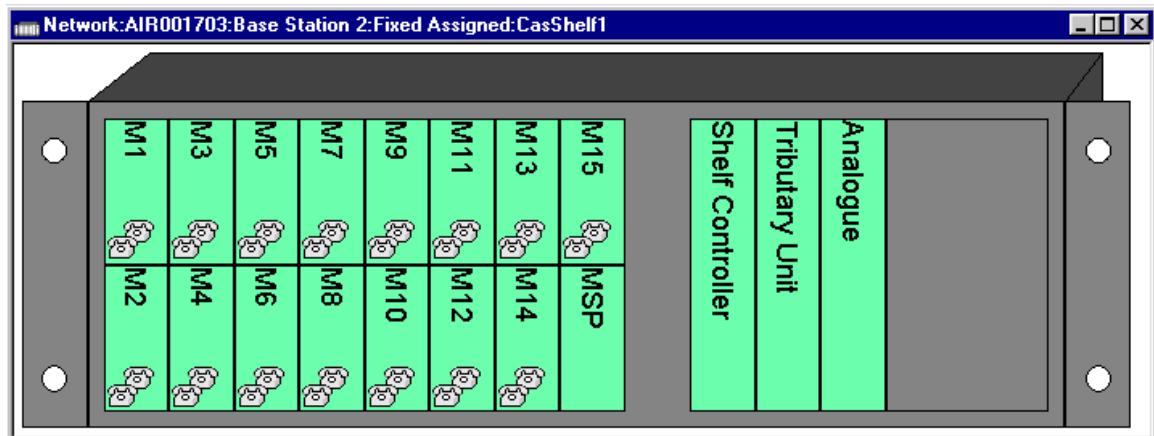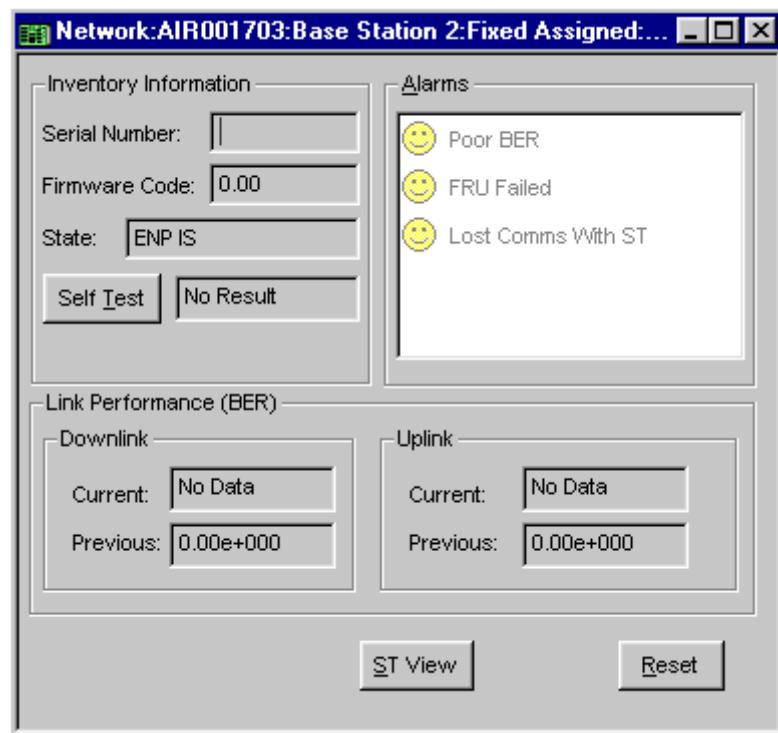
Fixed Assignment

2. To display the **RF card** (Release 2 only) double click the mouse while pointing to the card. The following information is displayed:

- Inventory Information. See DLP-019 for details.

- RF Gain Adjust. For information on using these fields see DLP-024

- Configuration showing which RF channel and which frequencies are being used.

- The Edit Shelf Configuration button allows the user to edit modem shelf properties. For details on using this button see DLP-053.
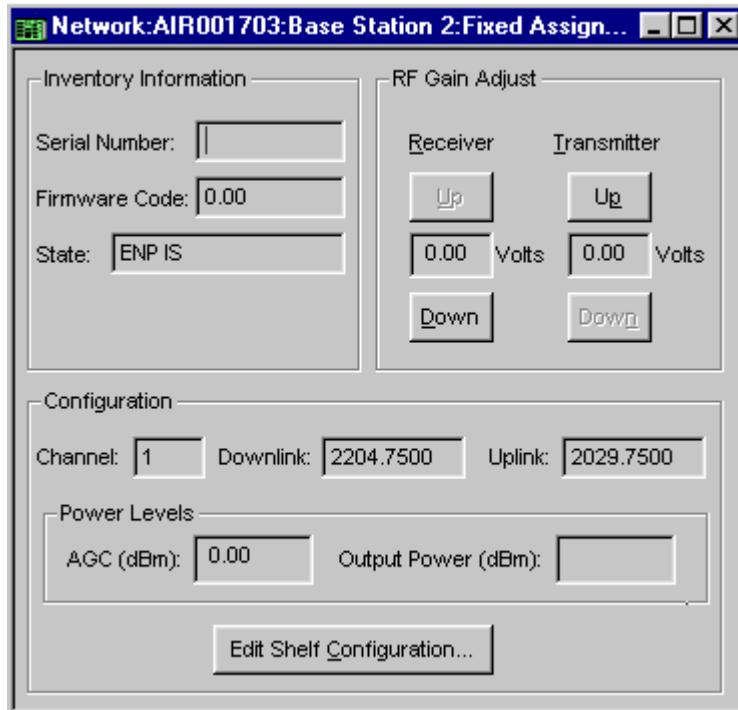
3. To display a **Modem card** double click the mouse while pointing to the card. The following information is displayed:

- Inventory Information. See DLP-019 for details.

- A Self Test button. For details of use see DLP-016.

- Link Performance (BER). For details of these measurements see DLP-068.

- Alarms   Poor BER.

- FRU Fail.

- Lost comms with ST.

- Reset button to reset the Modem.

- ST View button to display the Subscriber Terminal Card View. See DLP-056. Note this has no function on Demand Assignment Modem card views.
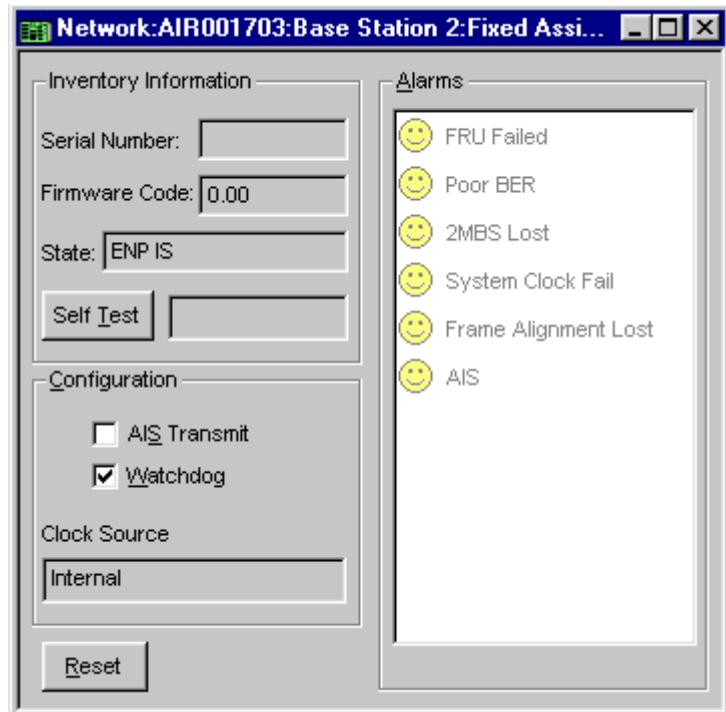
4. To display the **Tributary Unit(TU) card** double click the mouse while pointing to the card.
   The following information is displayed:

- Inventory Information. See DLP-019 for details.

- A Self Test button. For details of use see DLP-016.

- Reset button to reset the card.

- Alarms: FRU Fail.

                 Poor BER.
                 2Mbit/s Lost.
                 System Clock Fail.
                 Frame Alignment Lost.
                 AIS.

- Watchdog: A ⊠ indicates the watchdog is checking the system. If it is locked up it reset accordingly.

- AIS transmit: A ⊠ indicates that Alarm Indication Signal is being sent towards the Central Office.

- Clocksource : either Internal or External.
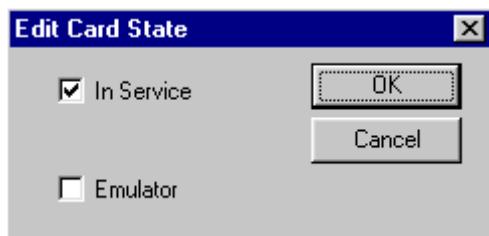
Tributary Unit Fixed Assignment

5. To display the **Shelf Controller Card (SC)** card double click the mouse while pointing to the card. The following information is displayed:

- Inventory Information. The inventory shows both the current and other Firmware See DLP-019 for other inventory details.

- A Self <u>T</u>est button. For details of use see DLP-016.

- <u>R</u>eset button to reset the card.

- Alarms: Lost Comms with EM: PSU Fail.

- General Status Poll Button to initiate a poll of FRUs on the modem/combiner shelf

6. To edit card state choose <u>*E*</u>*dit (Card Type) Properties* from the *Edit* menu.

7. Set the card state to the required service state by clicking the check box with the mouse.

- In Service

- Emulator

8. Click OK to initiate state change.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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RESERVED FOR FUTURE USE

STEP   **PROCEDURE**

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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SUBSCRIBER TERMINAL VIEWS FIXED ASSIGNMENT

This procedure describes Subscriber Terminal Views.

STEP	PROCEDURE

1. Display the Modem Shelf. To display a view see DLP-019 or GSI-017.
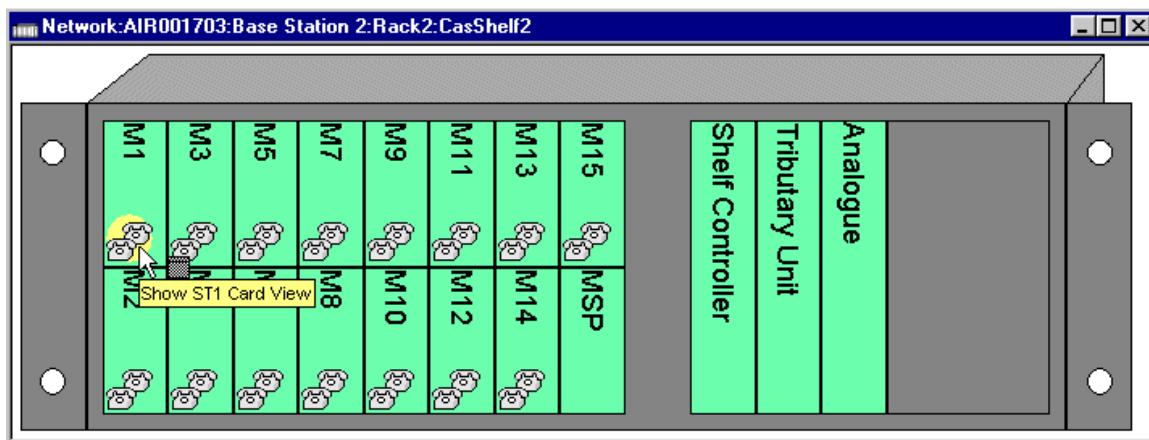
2. To display the Subscriber Terminal either double click the mouse while pointing to the ST icon on the Modem Card, or use the ST View button when in the Modem Card View.

3. The ST Icon indicates the type of ST connected to the Modem
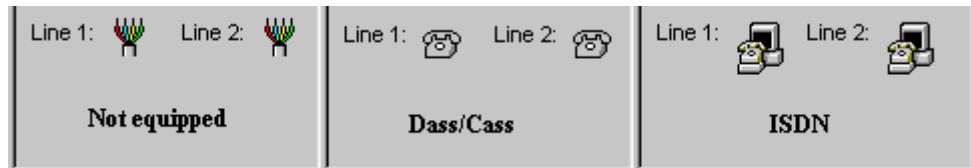
4. The ST View displays the following information:

    - Inventory Information. The inventory shows both the Current and Other Firmware versions being used. See DLP-019 for other inventory details.
    - A Self Test button. For details of use see DLP-016.
    - Reset button to reset the card.
    - An Apply Loopback button. This is not operational in this version.
    - Alarms: Link Unavailable.
                 Poor BER.
                 PSU Tamper (CRU using Type 2 PSU only).
                 Switch to Battery (CRU using Type 2 PSU only).
                 Low Battery (CRU using Type 2 PSU only).
    - CRU Signal Strength. See DLP-069 Measuring Signal Strength.
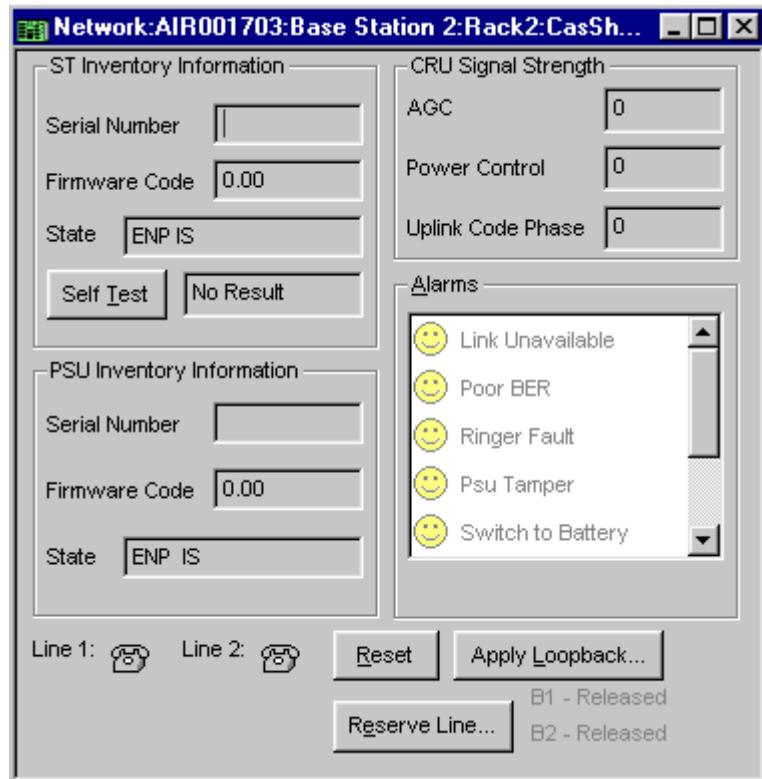
5. The ST Views for the ST-V2 and the ISDN also shows the status of equipment connected at the ST in the lower left hand corner of the window.

6. To edit card state choose *Edit (Card Type) Properties* from the *Edit* menu.
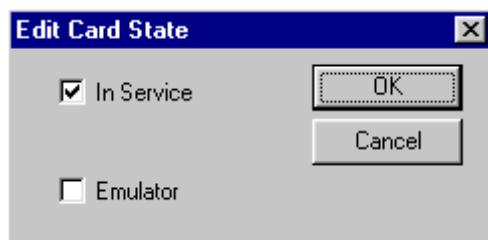
7. Set the card state to the required service state by clicking the check box with the mouse.

- In Service
- Emulator

8. Click OK to initiate state change.
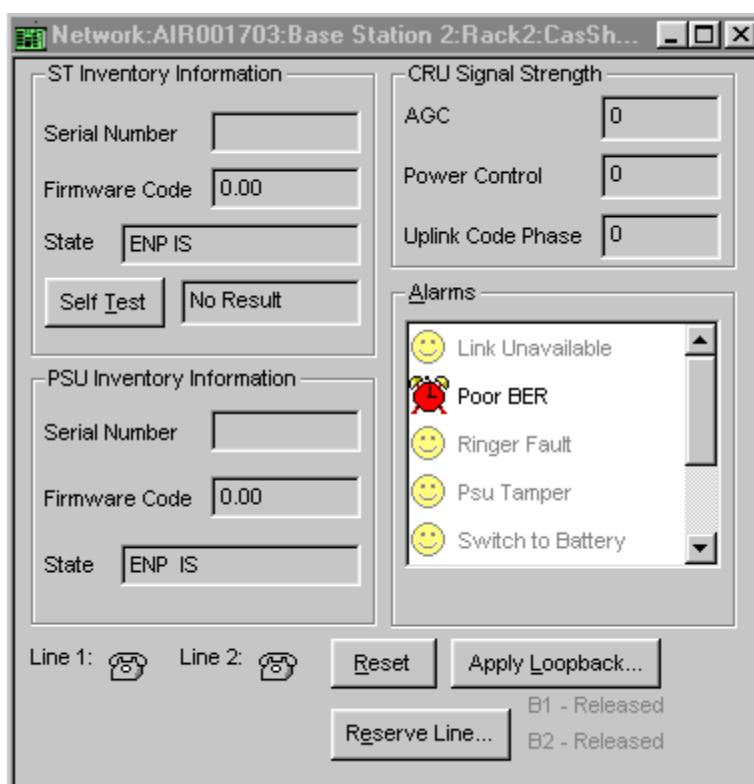
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

FA ALARMS IN ST VIEW

Use this procedure to look at the alarms in ST view Fixed Assignment only.

STEP	PROCEDURE

1. If the alarm is at the ST, the symbols displayed on the Shelf View are coloured red.

2. Clicking on the symbol brings up the Card View ST. Alternatively the ST View can be displayed by clicking on *ST View* button when in Modem Card View.

3. The Card View ST in the screenshot shows the status of the ST, i.e., Poor Bit Error Rate. The alarm icon colour indicates whether they are OK, faulty or receiving attention. Also shown are details of the Serial Number and Firmware Code of the ST.

Alarm States possible in ST view are:-
- Poor Bit Error Rate (Errors greater than 1 in 10^{-3}).
- Link Unavailable   (Complete failure of RF path).
- Ringer Failed
- ST PSU Tampered
- ST Switched to Battery
- ST Battery Low

Note: The Serial No, Firmware Code and Status of the PSU can be seen in the PSU Inventory Information box.

<div align="center">

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

</div>
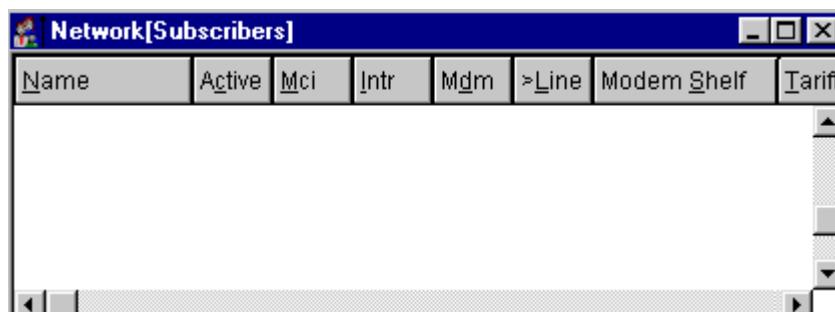
DASS/CASS (FA) SUBSCRIBER CREATOR WIZARD:

It is recommended when provisioning a shelf that the wizard is used to create default subscribers and then provision details for each subscriber can amended to insert details.

STEP	PROCEDURE

1. Select which site to create subscribers on by clicking on the appropriate item in the listing.

2. From the Tool bar, select Subscriber List icon to generate a listing of all available subscribers, if any.

3. From the Tools pull-down menu, select Subscriber Creator Wizard.

4. The Subscriber Creator dialog box displays.
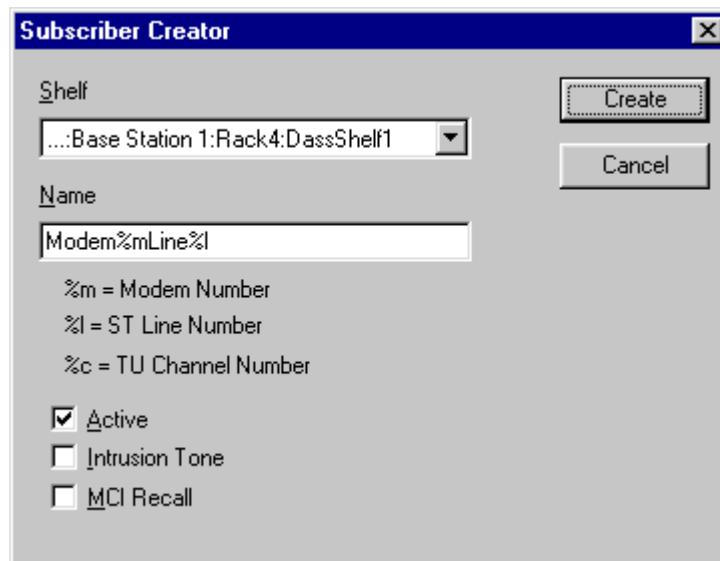
- To choose the shelf to create subscribers on, click on ↓ next to the Shelf field. A list of shelves displays. Click on the desired shelf.

- No entry is needed in the name field. The Creator Wizard names the subscribers according to modem and line number.

- Click the cursor in the Active box at the bottom of the dialog box to cause each subscriber to default to active if required.

- Set the Intrusion Tone if the subscriber is to receive indication of a test clerk on the line. This is for ST-V2 using DASS only.

- Set the MCI (Malicious Call Indication) to enable the facility. This is for ST-V2 using DASS only.

- Review the choices made. Click the Create button to create the subscribers with information just entered.

- The following subscriber view displays:

5. Each subscriber can be edited by using the Edit pull-down menu and choosing Subscriber or by double clicking the mouse on the name field of the selected modem. See DLP-064 for details of editing subscribers

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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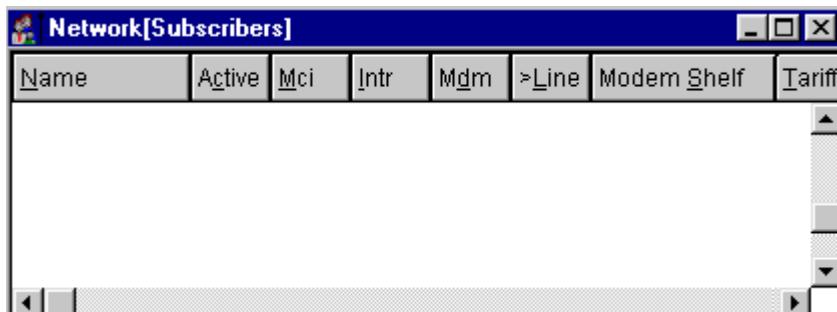
ISDN (FA) SUBSCRIBER CREATOR WIZARD

It is recommended when provisioning a shelf that the wizard is used to create default subscribers and then provision details for each subscriber can amended to insert details.

STEP   **PROCEDURE**

1. Select which site to create subscribers on by clicking on the appropriate item in the listing (example shows Site0 selected).
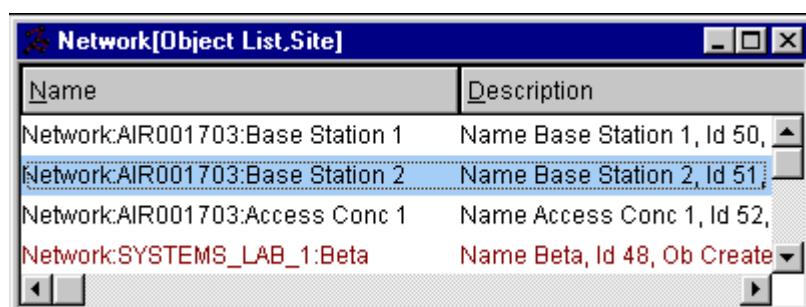
2. From the Tool bar, select Subscriber List icon This generates a listing of all available subscribers, if any.

3. From the Tools pull-down menu, select Subscriber Creator Wizard.

4. The Subscriber Creator dialog box displays. Choose the shelf to create subscribers on, click on ⬇ next to the Shelf field. A list of shelves displays. Click on the desired shelf. If the Shelf is configured for ISDN the Subscriber Creator changes to offer ISDN options
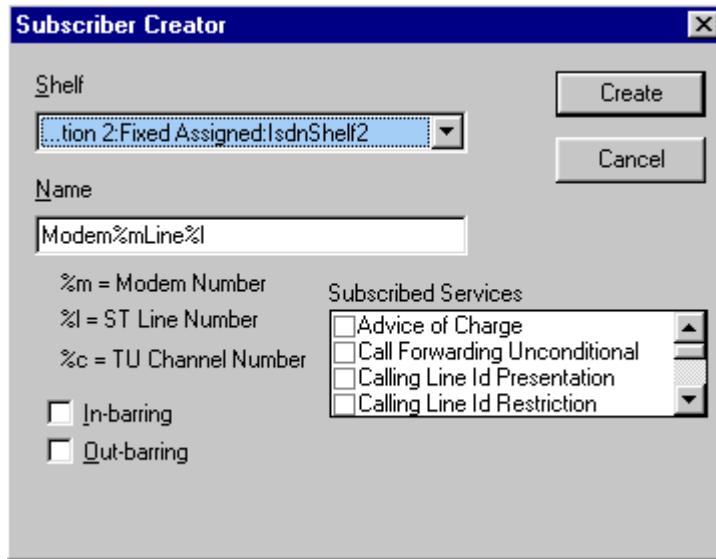
5. No entry is needed in the name field. The Creator Wizard names the subscribers according to modem and line number.

6. Click the cursor in the <u>A</u>ctive box at the bottom of the dialog box to cause each subscriber to default to active if required.

7. Enter the Subscribed Services by clicking the mouse on the boxes next to the service. When a service is selected a ☑ is shown. Use the scroll bar to view other services. The services available are:

> Advice of Charge
> Call Forwarding Unconditional
> Calling Line Id Presentation
> Calling Line Id Restriction
> Closed User Group
> Call waiting
> Call Hold
> MCI
> Sub Addressing
> Terminal Portability
> User to User Signalling

8. Click ⊠ In Barring and Out Barring if required

9. Review the choices made. Click the Create button to create the subscribers with information just entered.

10. The following subscriber view displays:

11. Each subscriber can be edited by using the Edit pull-down menu and choosing Subscriber or by double clicking the mouse on the name field of the selected modem. See DLP 065 for details of editing subscribers

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
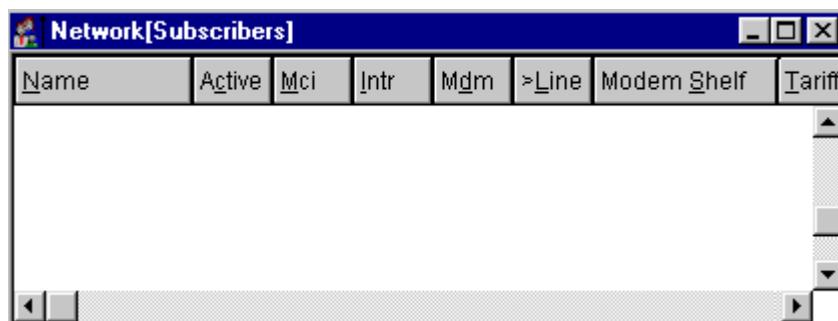
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CREATING ST-V2 (FA) SUBSCRIBERS
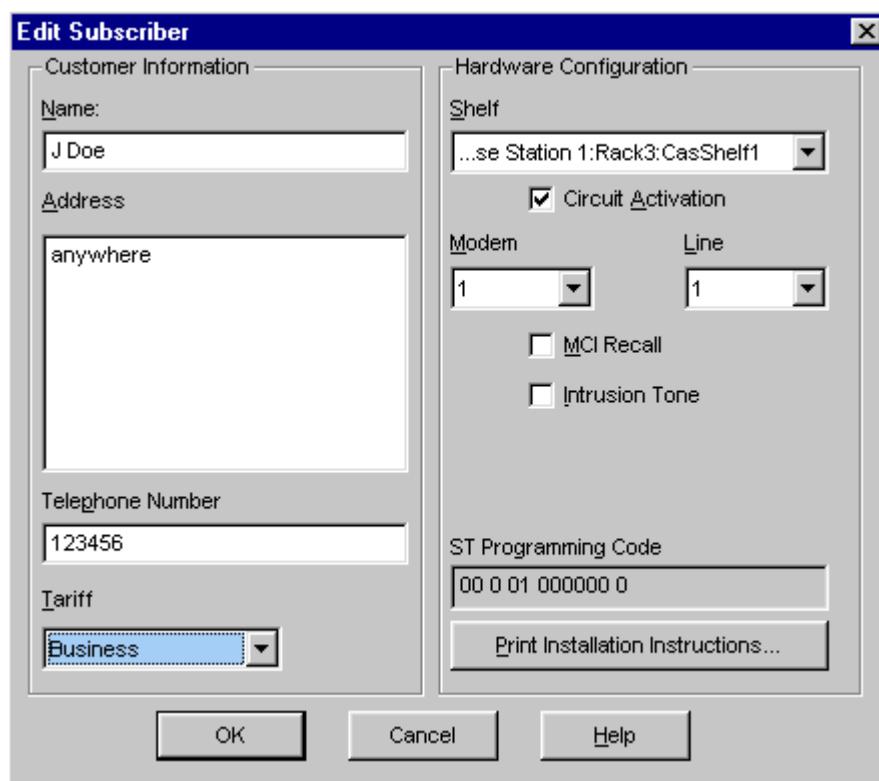
Use this procedure to create/add subscribers on the CAS/DASS shelf. Also consider using the ST-V2 Subscriber Creator Wizard DLP-058.

STEP   **PROCEDURE**

1. Display the Network[Subscribers]view by clicking the button on the toolbar or by selecting *Subscribers* from the *View* menu.

2. From the *Edit* Menu select *Create Subscriber.* or click the button on the toolbar. to produce the Edit Subscriber dialog box.

3. Enter the customer information in the *Name, Address, and Telephone Number* fields.
   Note: to move to a new line in the address field use Ctrl and ↵.

4. Select the Tariff from the drop down menu. The inclusion of the tariff is for information only and does not set a tariff.

5. Select the hardware configuration by selecting the *Shelf*, (the field may be dropped by clicking the mouse on the ↓) *Modem* and *Line* number. If the modem / line is already in use then the Sitespan displays a message, select a new modem / line.

6. Set the Intrusion Tone if the subscriber is to receive indication of a test clerk on the line. This is for ST-V2 using DASS only.

7. Set the MCI (Malicious Call Indication) to enable the facility. This is for ST-V2 using DASS only.

8. Set the customers active by clicking in the circuit activation box (□). A ⊠ shows that the subscriber is in service.

9. Click OK to initiate the creation of the subscriber. The Network [Subscribers] window shows the configuration details.
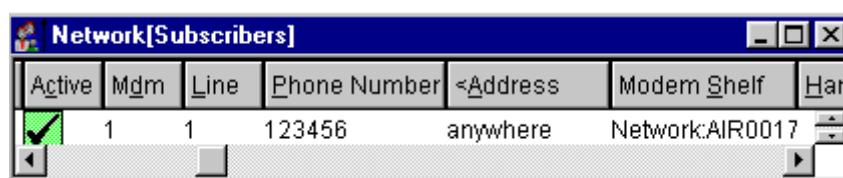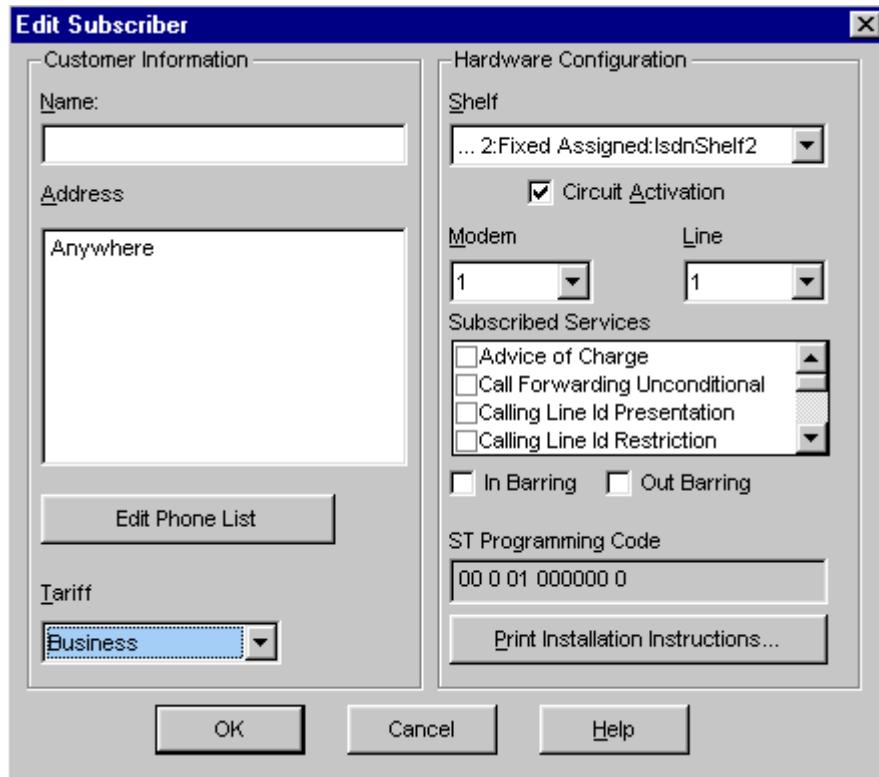
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

CREATING ISDN (FA) SUBSCRIBERS
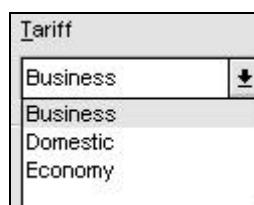
Use this procedure to create/add subscribers on an ISDN shelf. Also consider using the ISDN Subscriber Creator Wizard DLP-058.

STEP	PROCEDURE

1. Display the Network[Subscribers]view by clicking the button on the toolbar or by selecting *Subscribers* from the *View* menu.

2. From the *Edit* Menu select *Create Subscriber.* or click the button on the toolbar. to produce the Edit Subscriber dialog box.

3. Enter the customer information in the *Name, Address, and Telephone Number* fields. **Note:** to move to a new line in the address field use Ctrl and ↵.

4. Select the Tariff from the drop down menu. The inclusion of the tariff is for information only and does not set a tariff.

5. Select the hardware configuration by selecting the *Shelf*, (the field may be dropped by clicking the mouse on the ↓) *Modem* and *Line* number. If the modem / line is already in use then the Sitespan displays a message, select a new modem / line.

Edit Subscriber

⚠ Subscriber already exists on shelf Network:AIR001703:Base Station 2:Fixed Assigned:IsdnShelf2, modem 1, ST line 1.

OK

6. Enter the Subscribed Services by clicking the mouse on the boxes next to the service. When a service is selected a ☑ is shown. Use the scroll bar to view other services. The services available are:

> Advice of Charge
> Call Forwarding Unconditional
> Calling Line Id Presentation
> Calling Line Id Restriction
> Closed User Group
> Call waiting
> Call Hold
> MCI
> Sub Addressing
> Terminal Portability
> User to User Signaling

7. Click ⊠ In Barring and Out Barring if required

8. Set the customers active by clicking in the circuit activation box (☐). A ⊠ shows that the subscriber is in service.

9. Click OK to initiate the creation of the subscriber. The Network [Subscribers] window shows the configuration details.

   When a subscribed service is selected the subscribed service is also applied to the other line on the modem. A message appears on the screen to show that this is the case. Click *yes* to apply to both lines, or *no* to leave both lines unchanged and return to the subscriber Editor.

AS8100 Sitespan

⚠ The configuration changes you have made will also affect modem 3, line 1. Do you wish to continue? Selecting 'No' will return you to the subscriber editor.

Yes   No
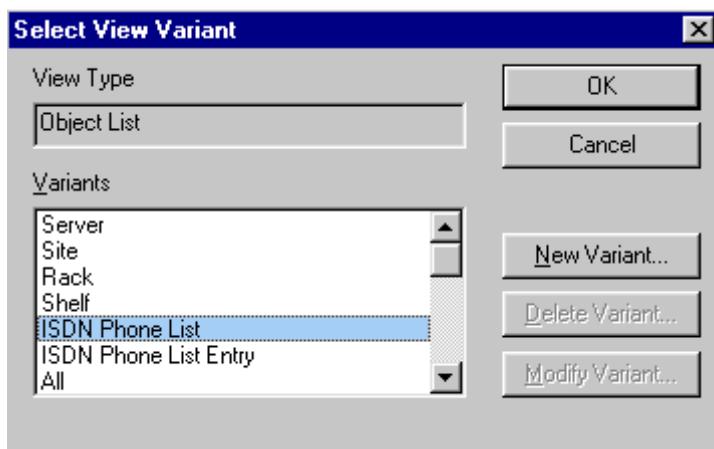
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

CREATING ISDN SUBSCRIBERS PHONE LIST

The Phone List provides the TU with information for mapping the ISDN B channels to a specific modem line. Each number can be mapped to a number of different subscribers or a group of numbers can be mapped to a particular subscriber.

STEP	PROCEDURE

1. Select *Object List* from the *View* menu

2. Select ISDN Phone List from the view variants and click OK.

3. The ISDN Phone List contains a list of all the TU cards associated with ISDN shelves. To set the number of digits acted upon by the ISDN mapping select the TU card from the list.
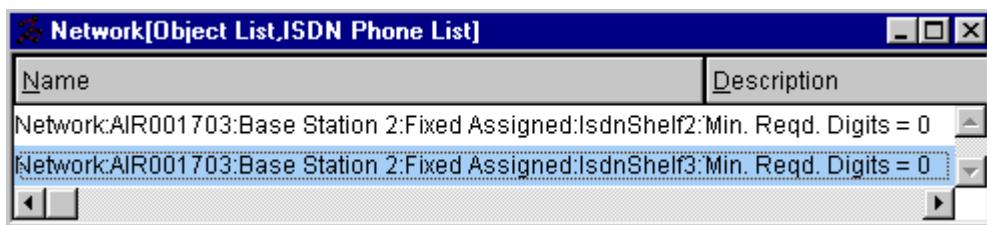
4. From the *Edit* Menu select *ISDN Phone List Properties.*

5. Enter the Minimum Required Digits in the Edit Phone List Properties window. If a number contains less than the required digits it is not mapped. If the number is set to zero it attempts to map any number but in the failure of a match defaults to the first line in the phone list.
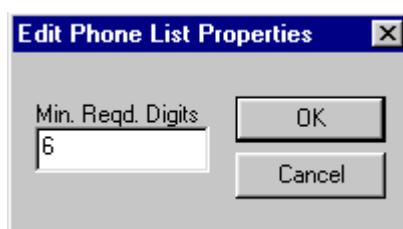
6. The Phone list now shows the minimum required digits.
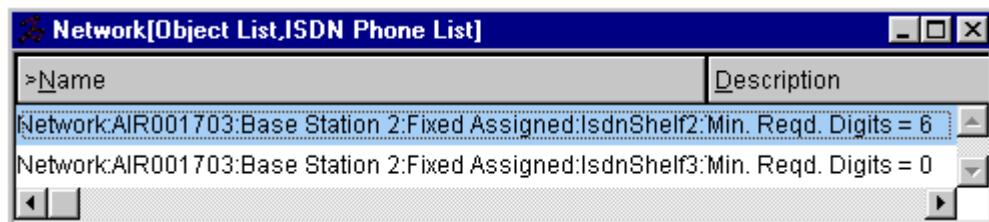
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

CREATING AND EDITING ISDN SUBSCRIBERS PHONE LIST ENTRIES

The Phone List provides the TU with information for mapping the ISDN B channels to a specific modem line. Each number can be mapped to a number of different subscribers or a group of numbers can be mapped to a particular subscriber.

STEP	PROCEDURE

1. If a phone list does not already exist, create one. (See DLP-062)

2. Display the phone list by selecting *Phone List* from the <u>View</u> , <u>Object List</u> menu.

3. Select required phone list from the list.
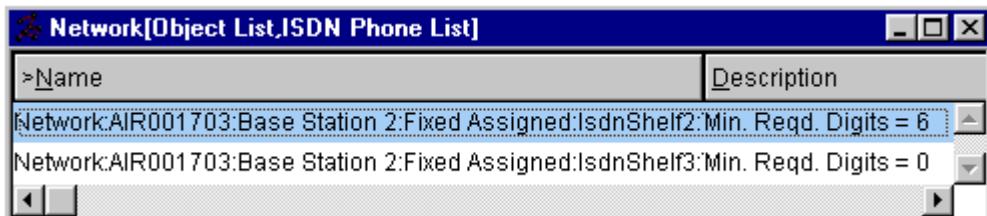
4. Place cursor over shelf and click the right mouse button. To create phone list entries for mapping the numbers Select. *Create ISDN Phone List Entry* from the <u>Edit</u> menu
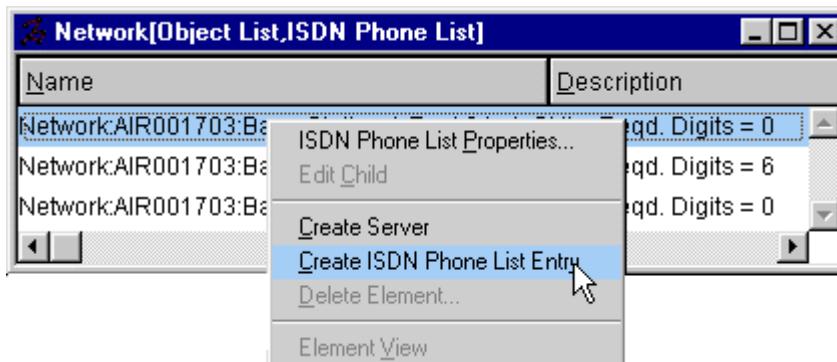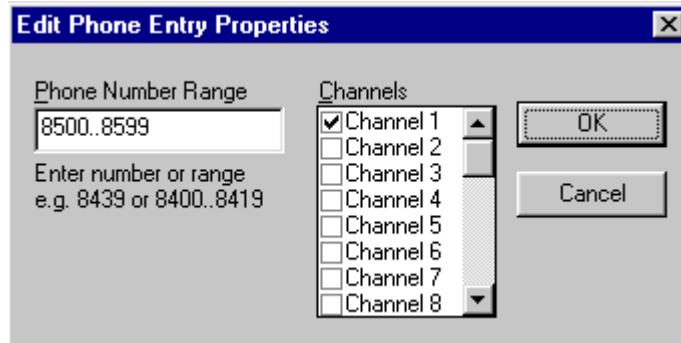
5. The phone list entry is automatically created in the Network[Object List, ISDN Phone List Entry. To view the object list use the *Select Object List* from the *View* menu and choose *ISDN Phone List Entry*.
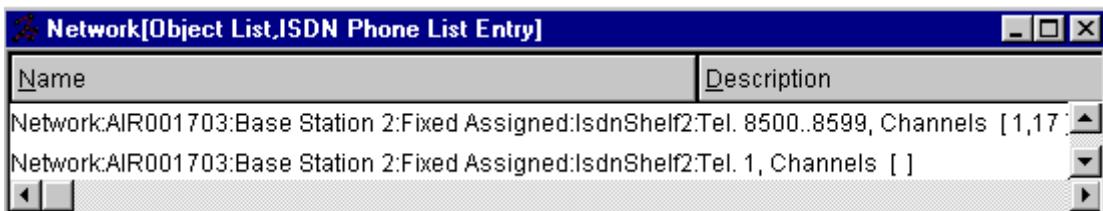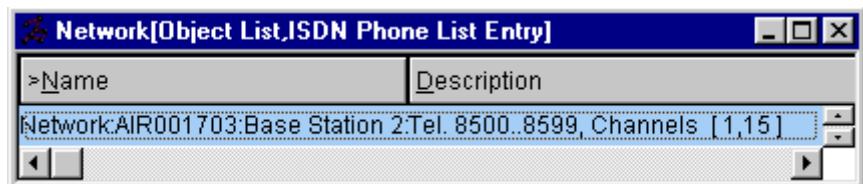
6. To edit the properties of a phone list entry select the entry by Place cursor over shelf and click the right mouse button and choose *ISDN Phone List Entry Properties.* from the menu.
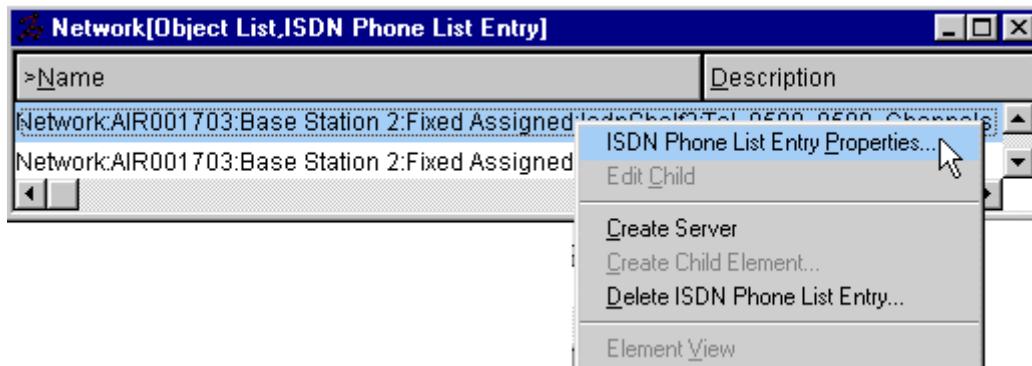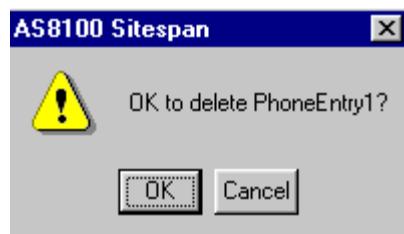
7. In the *Phone Number Range* text box enter the number to be mapped. The length of the number should be the same as that specified in the minimum required digits. The number can then be mapped to a channel by clicking on the channel box. The Number can be mapped to more than one channel. A range of numbers may also be mapped to a channel(s). To enter a range enter the first and last number separated by .. e.g. 1234..1244.

8. Click OK and the Object List, ISDN Phone List Entry shows the channels mapped against that number.

9. To delete a phone list entry, select entry on the Object List, ISDN Phone List Entry and choose Delete ISDN Phone List Entry from the Edit menu.

10. A confirmation window confirms choice. Choose OK to initiate deletion, or Cancel to abort.

11. The Object List, ISDN Phone List Entry has the entry removed.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
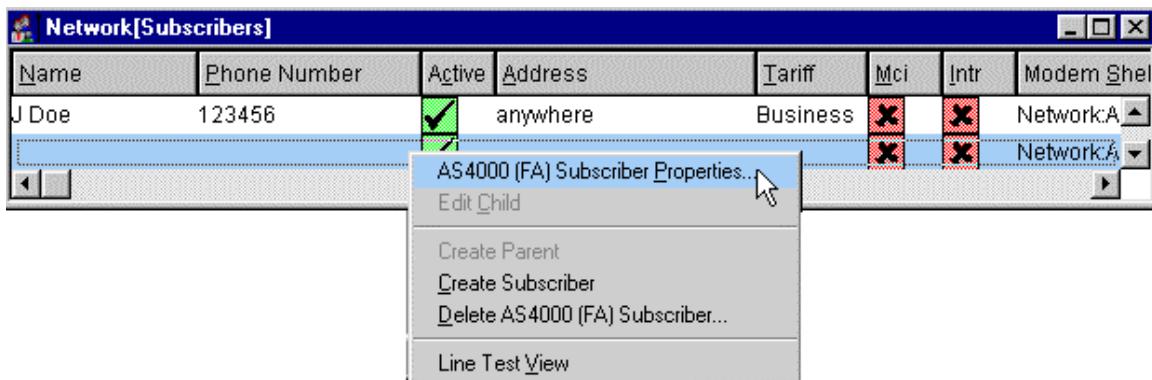
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EDITING ST-V2 (FA) SUBSCRIBERS

Use this procedure to edit ST-V2 subscribers on the CAS/DASS shelf.

STEP	PROCEDURE

1. Display the Network[Subscribers]view by clicking the ⌗ button on the toolbar or by selecting *Subscribers* from the *View* menu.

2. Place cursor over shelf and click the right mouse button. From the menu select *AS4000 (Type) Subscriber Properties.* or click the ⌗ button on the toolbar to produce the Edit Subscriber dialog box.

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3. Edit the customer information in the *Name, Address, and Telephone Number* fields. **Note:** to move to a new line in the address field use Ctrl and ↵.

4. Select the Tariff from the drop down menu. The inclusion of the tariff is for information only and does not set a tariff.

Tariff

Business ⬇
Business
Domestic
Economy

5. The customer may be moved to a new equipment by selecting the *Shelf*, (the field may be dropped by clicking the mouse on the ⬇) *Modem* and *Line* number. If the modem / line is already in use then the Sitespan displays a message, select a new modem / line.

Edit Subscriber

⚠ Subscriber already exists on shelf Network:AIR001703:Base Station 1:Rack3:CasShelf1, modem 1, ST line 1.

OK

6. Set the Intrusion Tone if the subscriber is to receive indication of a test clerk on the line. This is for ST-V2 using DASS only.

7. Set the MCI (Malicious Call Indication) to enable the facility. This is for ST-V2 using DASS only.

8. Set the customers active by clicking in the circuit activation box (☐). A ☒ shows that the subscriber is in service.

9. Click OK to initiate the creation of the subscriber. The Network [Subscribers] window shows the configuration details.

Network[Subscribers]

Name	Phone Number	Active	Address	Tariff	Mci	Intr	Modem Shel
J Doe	123456	✓	anywhere	Business	✗	✗	Network:A
any name	123457	✓	any place	Business	✗	✗	Network:A

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

EDITING ISDN (FA) SUBSCRIBERS
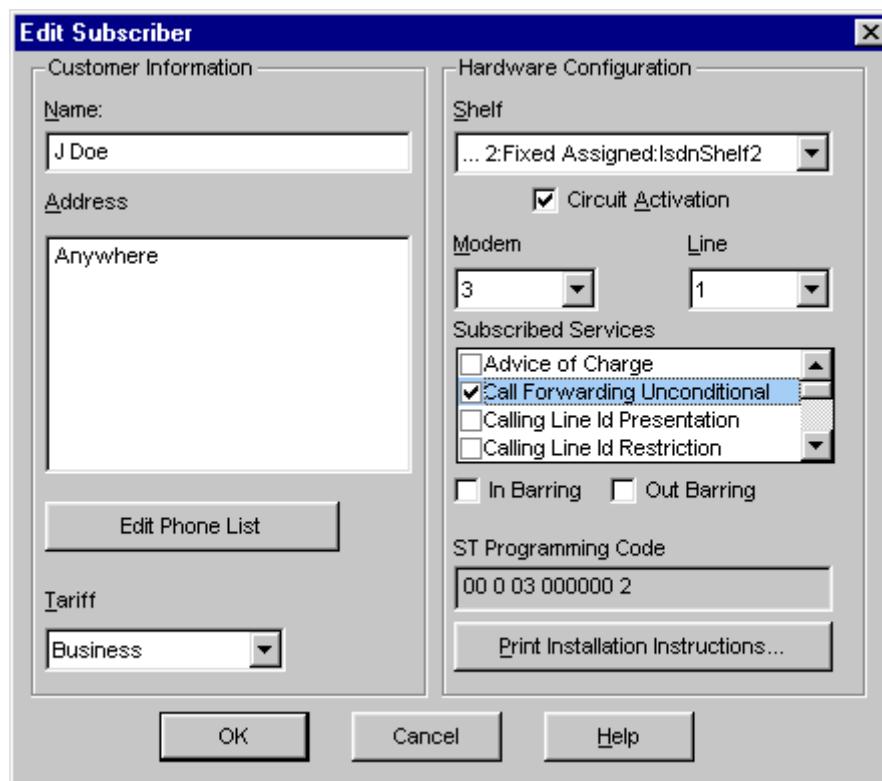
Use this procedure to edit subscribers on an ISDN shelf.

STEP	PROCEDURE

1. Display the Network[Subscribers]view by clicking the [icon] button on the toolbar or by selecting *Subscribers* from the *View* menu.

2. From the *Edit* Menu select *AS4000 (Type) Subscriber Properties.* or click the [icon] button on the toolbar to produce the Edit Subscriber dialog box.

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3. Edit the customer information in the *Name, Address, and Telephone Number* fields. **Note:** to move to a new line in the address field use Ctrl and ↵.

4. Select the Tariff from the drop down menu. The inclusion of the tariff is for information only and does not set a tariff.

```
Tariff

 Business        ±
 Business
 Domestic
 Economy
```

5. The customer may be moved to a new equipment by selecting the *Shelf*, (the field may be dropped by clicking the mouse on the ↓) *Modem* and *Line* number. If the modem / line is already in use then the Sitespan displays a message, select a new modem / line.

```
Edit Subscriber                                                      ⊠

  ⚠   Subscriber already exists on shelf Network:AIR001703:Base Station 2:Fixed Assigned:IsdnShelf2, modem 3, ST line 1.

                          [ OK ]
```

6. To Edit the Subscribed Services click the mouse on the boxes next to the service. When a service is selected a ☑ is shown. Use the scroll bar to view other services. The services available are:

> Advice of Charge
> Call Forwarding Unconditional
> Calling line Id Presentation
> Calling Line Id Restriction
> Closed User Group
> Call waiting
> Call Hold
> MCI
> Sub Addressing
> Terminal Portability
> User to User Signalling

7. Click ⊠ In Barring and Out Barring if required

8. Set the customers active by clicking in the circuit activation box (☐). A ⊠ shows that the subscriber is in service.

9. Click OK to initiate the creation of the subscriber. The Network [Subscribers] window shows the new details.

Name	Phone Number	Active	Address	Tariff	Mci	Intr	Modem Shel
J Doe	123456	✔	anywhere	Business	✘	✘	Network:A
any name	123457	✔	any place	Business	✘	✘	Network:A
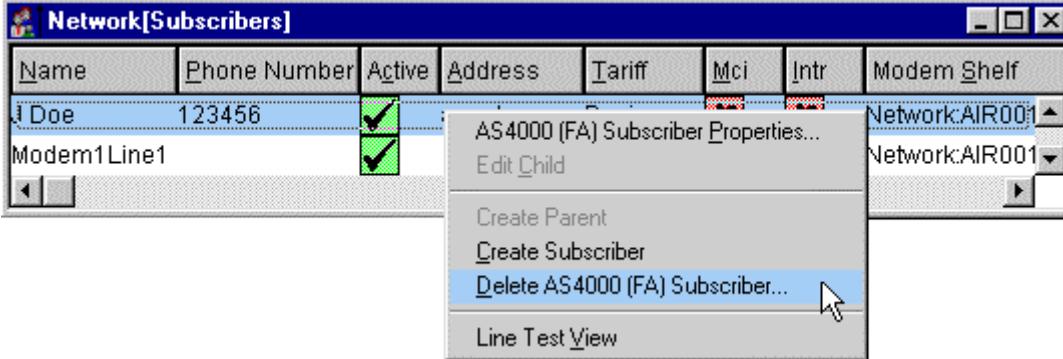
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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DELETING SUBSCRIBERS

Use this procedure to delete Subscribers that have previously been created and are not needed. The Equipment View must be connected to the Server to perform a deletion.

STEP	PROCEDURE

1. Display the Network[Subscribers]view by clicking the ⊞ button on the toolbar or by selecting *Subscribers* from the *View* menu.

2. From the list of subscribers click the mouse on the subscriber to be deleted. The subscriber selected is highlighted.

3. Place cursor over shelf and click the right mouse button. From the Edit Menu, select *Delete AAS4000 Subscriber.*

4. A confirmation window is displayed showing which subscriber will be deleted. Click the 'OK' button to initiate deletion.

5. The Network (Subscribers) list is displayed with the subscriber removed.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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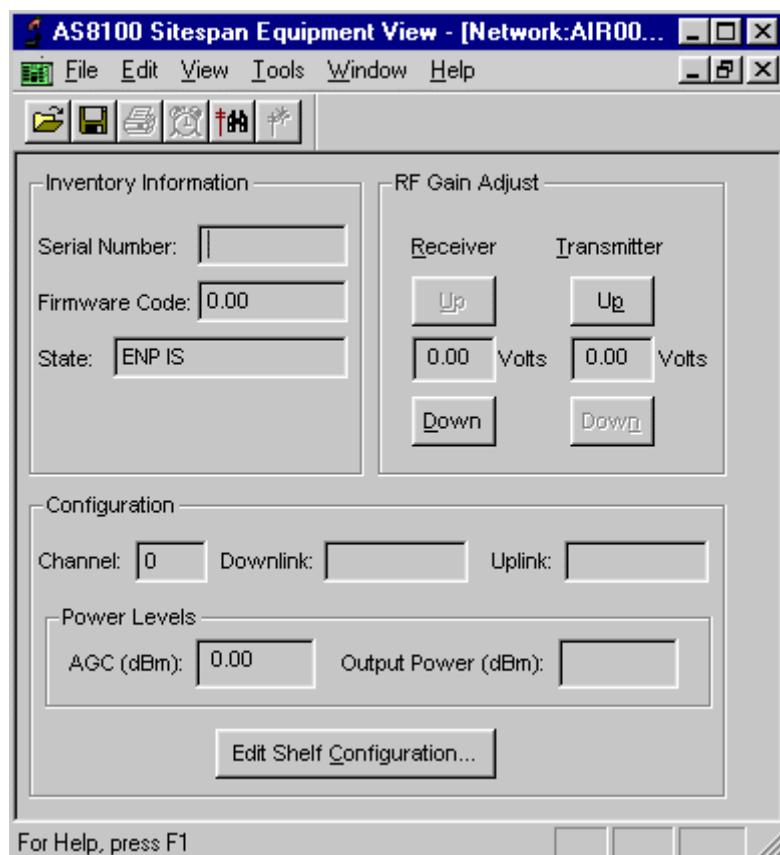
SETTING FIXED ASSIGNMENT RF GAIN LEVELS

Use this procedure to set the RF gain levels for Fixed Assignment AS4000 RF cards.

STEP	PROCEDURE

Fixed Assigned Racks

1. From the Modem Shelf View (release 2 equipment) or from Combiner Shelf View (Fixed Assignment Release 3 equipment) click right mouse on the RF Card.

2. From the menu, select *AS4000 RF Card View*.

3. Receiver and Transmitter gains can be adjusted by using the mouse to adjust the voltage up and down. See 605-0000-432 or 452 for details on level settings.

4. Clicking the *Edit Shelf Configuration* button invokes the Edit Shelf Properties window. For details on using this window, see Edit Shelf Properties DLP-053.

5. Close by clicking mouse on the screen outside of the RF card view window.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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MEASURING FIXED ASSIGNMENT BIT ERROR RATE (BER).

Use this procedure to monitor the error performance of Fixed Assignment Modem links. The Downlink is from the CT to ST and the Uplink is from the ST to CT.

STEP	PROCEDURE

1. Select Shelf <u>V</u>iew

2. Click on the modem to be measured.

3. Either double click the mouse on the modem or from the <u>V</u>iew menu, select Airspan 60 Modem Card <u>V</u>iew.

4. The Link Performance (BER) is displayed for both the Uplink and Downlink.
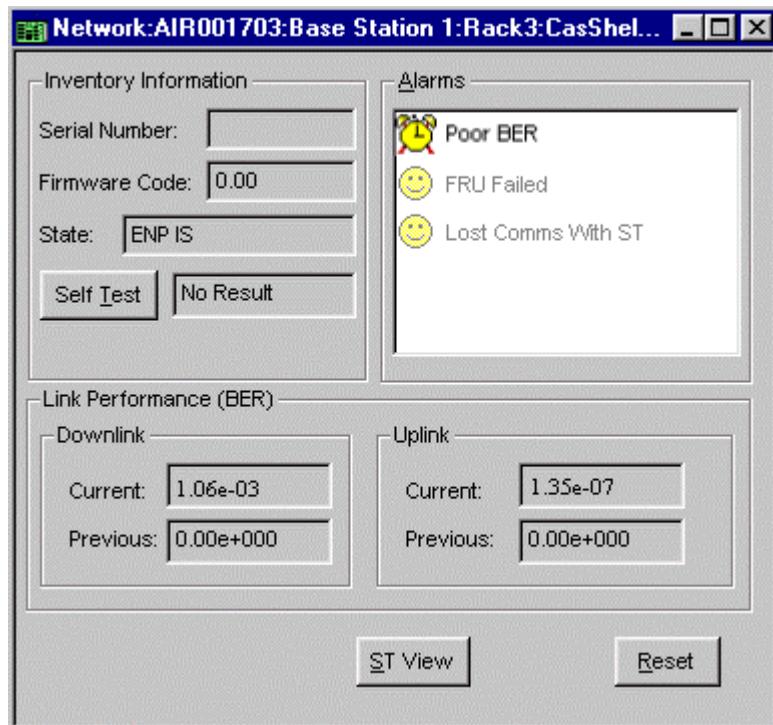
5. In normal operation the BER should be equal to or better than 1 in 10^{-7}. An alarm is initiated when the BER is greater than 1 in 10^{-3}.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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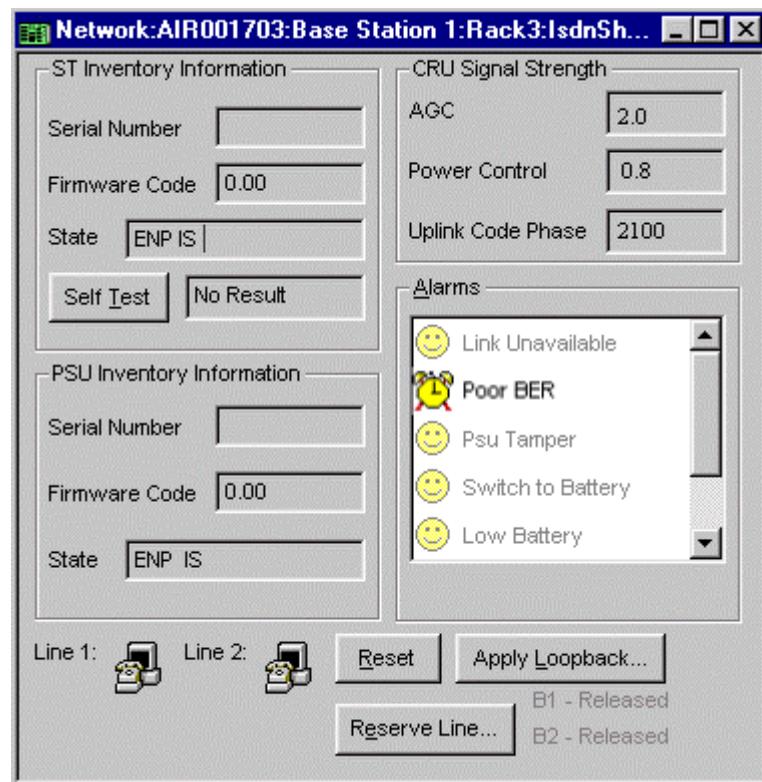
MEASURING FIXED ASSIGNMENT CRU SIGNAL STRENGTH

Use this procedure to monitor performance of the Fixed Assignment Subscriber Terminal.

STEP	PROCEDURE

Measuring the ST performance
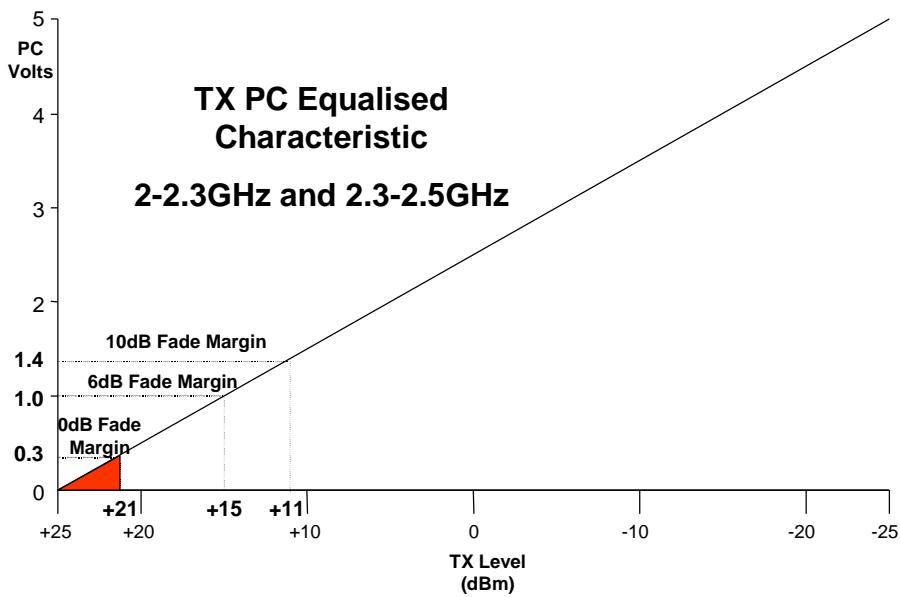
1. From the Modem Card View click on *ST View* button.

2. CRU Signal Strength section shows values for:

   - AGC.
   - Power Control.
   - Uplink Code Phase.

- **AGC** In ST View the value shown in the CRU Signal Strength AGC box is the voltage measure from the RF stage of the CRU, and, although related to, is not the same as the voltage measured at the CRU terminal block. The graph below shows the relationship between the AGC voltage and the ST receive level (dBm).

RX AGC Equalised Characteristic

AGC Volts

10dB Fade Margin
6dB Fade Margin
0dB Fade Margin

5
4
3
2
1.7
1.3
1
0.7
0

-105 -100 **-98** **-92** **-88** -90 -80 -70 -60 -55

RX Level (dBm)
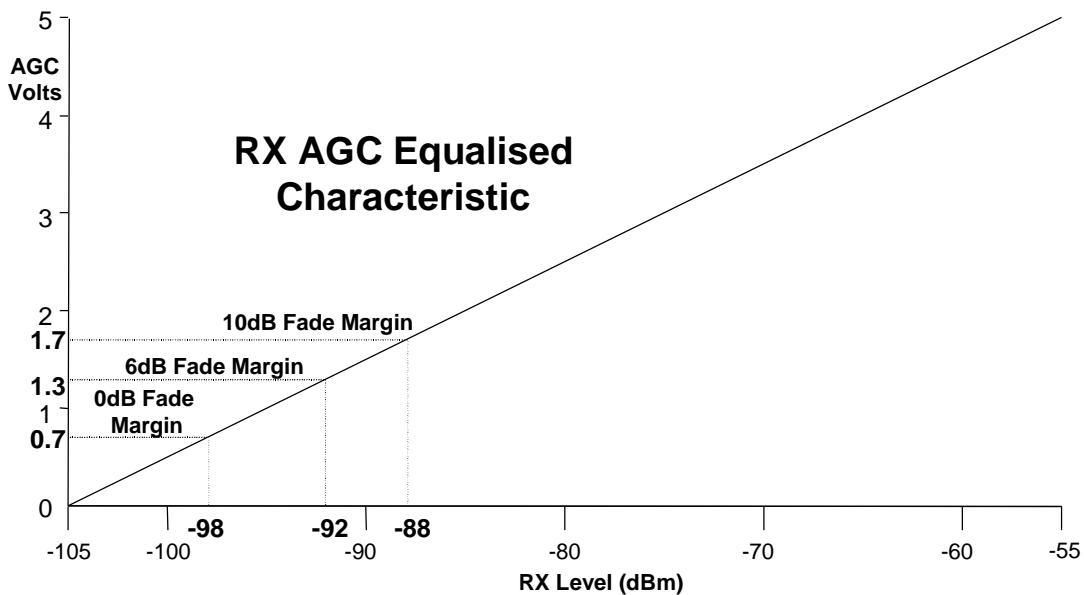
- **Power Control** In ST View the CRU Signal Strength Power Control measures a voltage corresponding to the output power from the CRU. The graph below gives the relationship between that voltage and the output power (dBm).

TX PC Equalised Characteristic

2-2.3GHz and 2.3-2.5GHz

PC Volts

10dB Fade Margin
6dB Fade Margin
0dB Fade Margin

5
4
3
2
1.4
1.0
0.3
0

+25 +20 **+21** **+15** **+11** +10 0 -10 -20 -25

TX Level (dBm)

TX PC Equalised Characteristic

3.4-3.6GHz

(Graph: PC Volts on Y-axis from 0 to 5, TX Level (dBm) on X-axis from +25 to -25. Markers shown: 10dB Fade Margin at 1.7, 6dB Fade Margin at 1.3, 0dB Fade Margin at 0.7. X-axis callouts +18, +12, +8.)
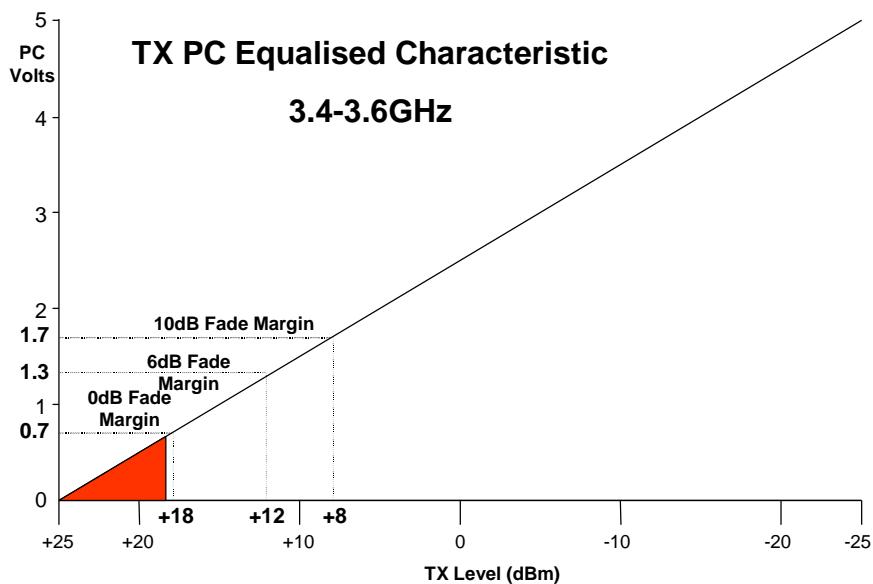
- **The Uplink Code Phase** The value shown in the Sitespan ST View Uplink Code Phase is an indication of how much the ST transmit waveform has been time advanced in order for it to be received at the CT time synchronised with the downlink waveform, and may be used to compute the distance between an ST and the CT.

  - The range of the uplink code phase values is 0 to 4095. Uplink code phase is measured in sixteenth-chips where 1/16th chip is equivalent to 24.414 ns. Multiplying the uplink code phase value by 24.414 ns yields the approximate round trip delay from the CT to the ST and back to the CT.

  - For an ST located within 14829m of the CT, approximate ST range is computed as follows;

    Range = (Uplink Code Phase -50) * 3.666 m

  The correction of -50 made to the uplink code phase value is included to take account of the fixed delay within the AS4000 system.

  - For an ST located between 14830 and 29850m of the CT, approximate ST range is computed is modified to take account of the wrap-around in uplink code phase when the value reaches 4095;

    Range = (Uplink Code Phase + 4046) * 3.666 m

  - Uplink code phase accuracy is +/- 3/4 chip which corresponds to a ranging accuracy of +/- 44m.
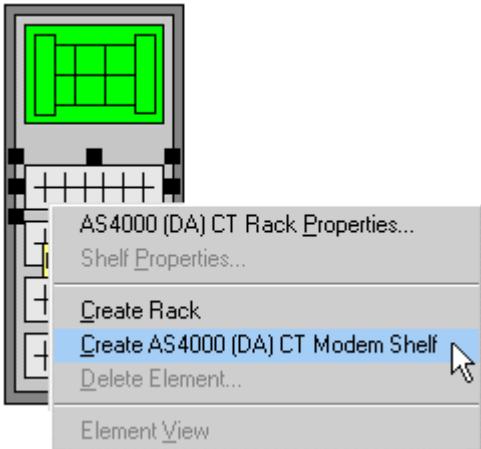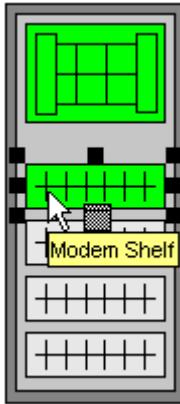
STOP. THIS PROCEDURE HAS BEEN COMPLETED.
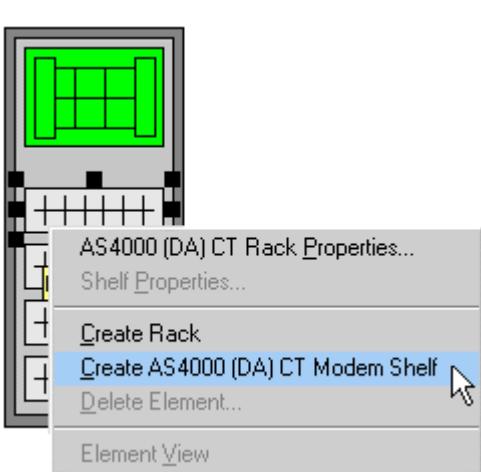
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CREATE AS4000 DEMAND ASSIGNMENT MODEM SHELF
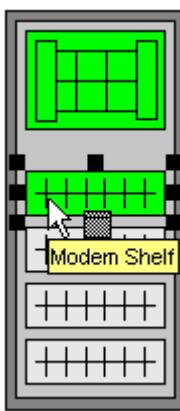
Use this procedure to create an AS4000 DA Modem shelf. Two alternative procedures are documented, (a) To create a shelf using GUIs and (b) To create a shelf using the object lists. Each shelf is created together with its signalling properties.

STEP   **PROCEDURE**

(a) To create a Modem Shelf using GUIs.

1. Select the rack either by selecting *View,* and choosing *Site View* when in the network object list window, or continue from DLP-014.

2. Click on the desired Modem Shelf (1-2). The selected shelf is highlighted with black markers.

3. From the *Edit* menu select: *Create Airspan DA Modem Shelf.* The shelf now appears highlighted in the active colour.

4. To set shelf parameters, go to Edit DA Shelf Properties DLP-102.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
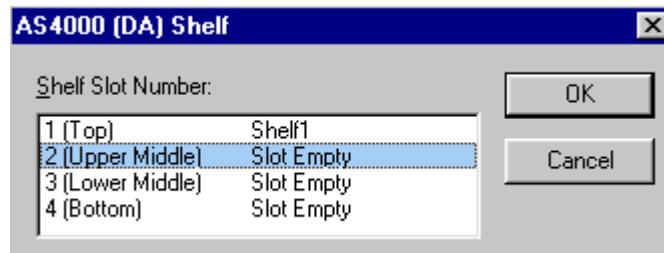
STEP	PROCEDURE

(b) To create a Modem Shelf using object lists.

1. Select the rack by pointing to the rack in the *Network [Object List, Rack]* window, click right mouse button. From the drop menu select: *Create Airspan DA CT Modem Shelf.*
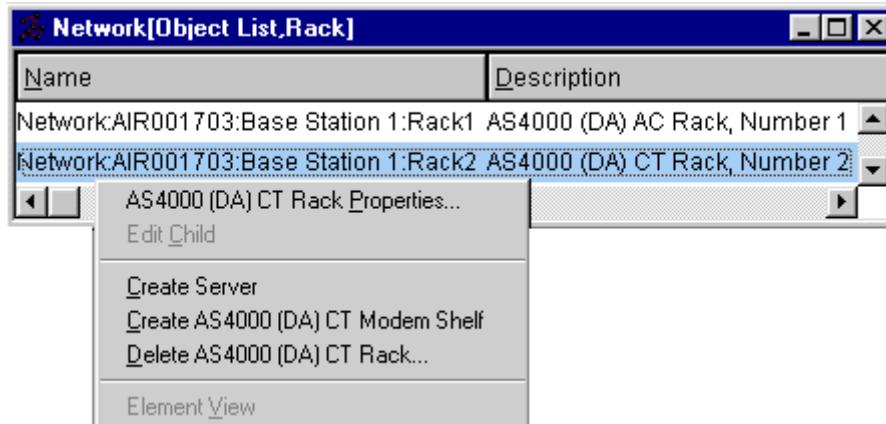
2. Using the mouse select an empty slot. Click OK button to initiate changes and return.

3. The *Network [Object List, Shelf]* window now includes the new shelf.

4. To set shelf parameters, go to Edit DA Shelf Properties DLP-102.

5. **Note:** It is not possible for a user to gain access to any object if it, it's parent or child is currently being edited by another user. It is however, possible to edit a peer object. For example if a user is editing a shelf then each of the Site, Rack, Card objects relating to that shelf are locked. This does not however stop another user creating, editing or deleting other shelves on the same rack or other shelves, racks etc. on the same or other sites.

6. If an attempt is made to access a locked object then the following message appears.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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EDIT AS4000 DEMAND ASSIGNMENT MODEM SHELF PROPERTIES

Use this procedure to edit AS4000 Demand Assignment Modem Shelf properties. The Site view, Shelf view, or an Object list containing the shelf should be displayed at the start of this procedure. See GSI-017 Selecting Views.

STEP	PROCEDURE

1. Either select the shelf from Site View or select the shelf on an Object List. Click the right mouse button and select *Shelf Properties.*

2. Select *Airspan DA CT Modem Shelf* and click OK.

3. In the *Airspan DA CT Shelf Properties* window enter the shelf name into the dialog box and click the OK button.

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4. Select Com port communicate with the AC shelf.
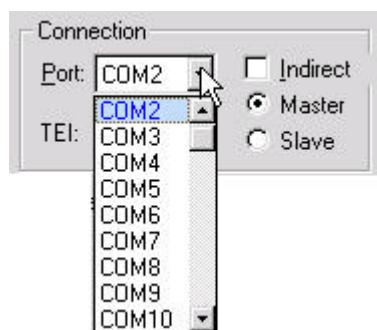
5. Each Shelf within a Sitespan domain requires a unique reference number to be allocated in the TEI drop menu.
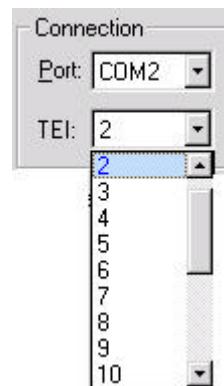
6. Set the reference clock source to the DTU connected to the CTU in the AC rack from where the clock source is derived. This is usually Slot 5 E1-1 for 75ohm Backhaul or Slot 5 E1-5 for 120ohm Backhaul. Enter the RF card type, Frequency and PN Code and set the TX gain to 3300 and the RX gain to 2200 (these are nominal values and are fine tuned when the RX sensitivity is set)

7. If the shelf is to be managed from the Access Concentrator remotely then check (✓) the *Indirect* box. If the **Server PC** connects to the Shelf Controller on the AS4000 Rack (each Modem shelf requires a different COM port). Select the Port by clicking ↓ to drop the options box and choosing the appropriate communications/serial port. The ports listed are those available on the Server machine; this may not necessarily be the machine running the Sitespan Equipment View.

8. Select Master / Slave. When Master is selected Sitespan is in control and objects are downloaded into the shelf. When Slave is selected objects are uploaded from the shelf into Sitespan.
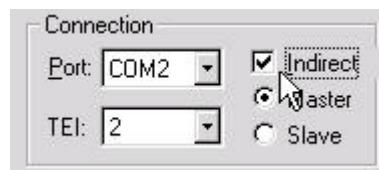
9. Select Rx & Tx Frequencies by clicking ↓ to drop the options box and clicking the appropriate frequency pair on the drop down list. The frequency pairs are usually determined as part of the system planning process.
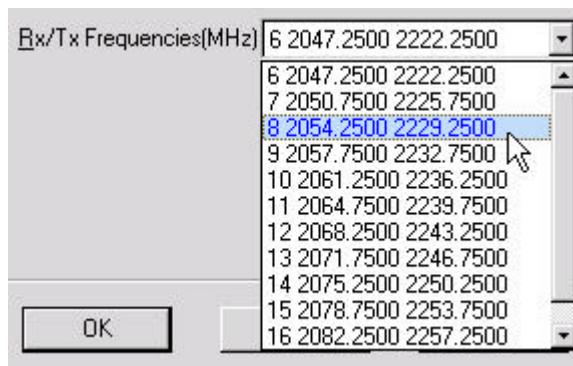
10. Select PN Code (1-7) by clicking ↓ to drop the options box and clicking the appropriate number from drop-down list. The PN codes are usually determined as part of the system planning process.
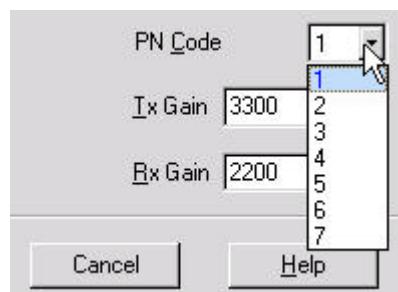
11. **Note.** The Feedback Loop checkbox has no function in this release of software

12. Click the OK button to set.

13. **Note:** Allocation of Frequency and PN code usually forms part of the network planning and is not usually determined by an individual editing the shelf properties.

RF Output Scaling

1. The Scaling Factor optimises the system by fine tuning the power output depending on the number of users. The scaling is set on the AU card. To display the Analogue Unit(AU) card double click the mouse while pointing to the card on the Modem Shelf view
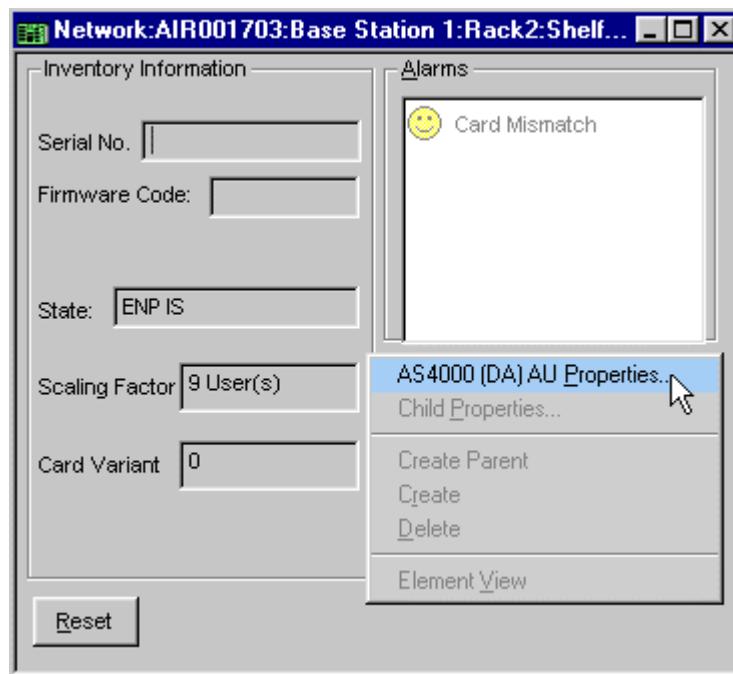
2. Click the right mouse button on the Analogue Unit (AU) card to drop menu. Select Airspan DA AU properties.

3. Select the number of users that can use the system at any one time. When in service it is necessary to check the soft errors reported. If soft errors occur the number of users should be increased or the TX power reduced to produce less power output until the soft errors are eliminated.
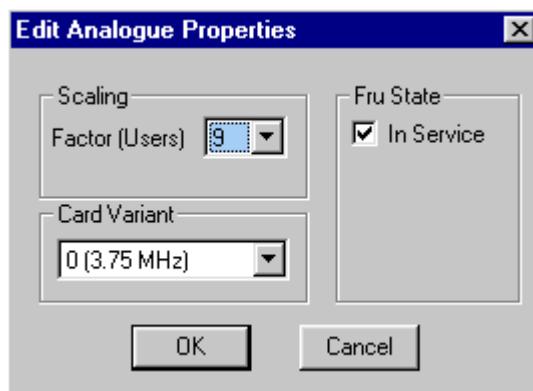
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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MODEM SHELF CARD VIEWS DEMAND ASSIGNMENT

This procedure describes the Modem Shelf Card Views.

STEP	PROCEDURE

4. Display the Modem Shelf. To display view, see DLP-019 or GSI-017. To display a card double click the left mouse button while pointing to the card on the Modem Shelf view.

Demand Assignment
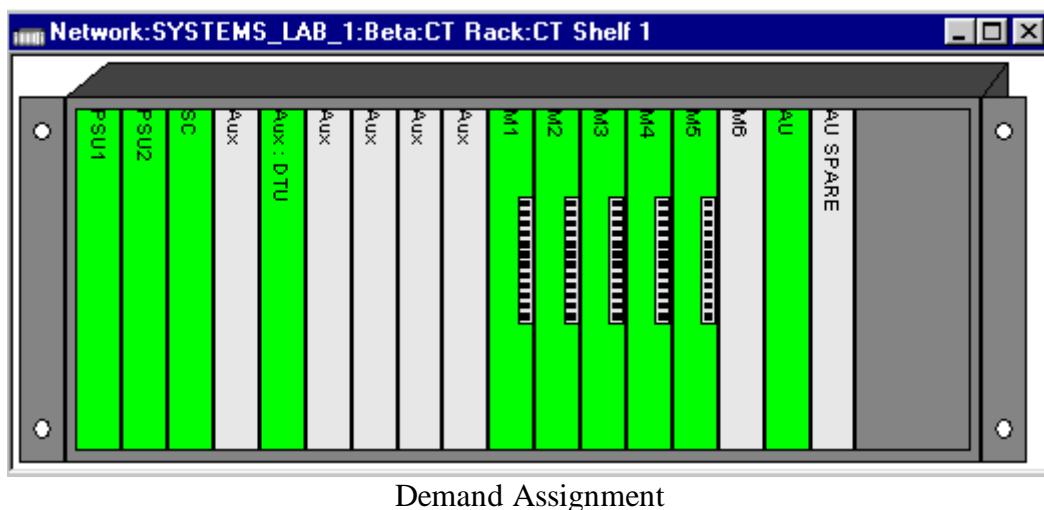
Modem Cards

1. Double click the left mouse button while pointing to the card on the Modem Shelf view to display card.

2. The following information is displayed:

   - Inventory Information. See DLP-019 for details.
   - A Self Test button. For details of use see DLP-016.
   - Alarms: Card Mismatch
   - Reset button to reset the Modem.

Network:SYSTEMS_LAB_1:Beta:CT Rack:CT Shelf...

Inventory Information

Serial No. F00028300T0002M0

Firmware Code:

State: IS

Alarms

☺ Card Mismatch

Reset
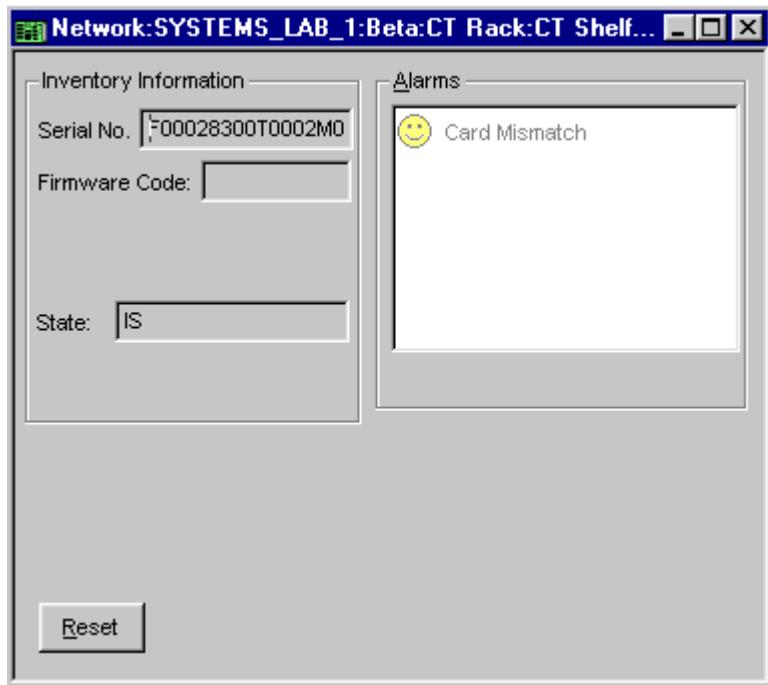
Tributary Units

1. To display the Tributary Unit(TU) card double click the mouse while pointing to the card on the Modem Shelf view
   The following information is displayed:

   - Inventory Information. See DLP-019 for details.
   - A Self Test button. For details of use see DLP-016.
   - Reset button to reset the card.
   - Alarms: Card Mismatch
                   FRU Fail.
                   E1 Loss of signal
                   E1 Loss of Frame
                   E1 Loss of Multiframe Alignment
                   E1 TS16 AIS
                   E1 AIS.
                   E1 Remote Alarm Indication
                   E1 Remote Loss of Multiframe A.

   - TheRW Management View. This displays the current state of the RW codes
IS	In service
OOS	Out of service no acquisition possible.
OOS (10K)	Out of service but a service engineer can force the ST to acquire from STMON for Windows at 10kbits/sec.
OOS(160K)	Out of service but a service engineer can force the ST to acquire from STMON for Windows at 160kbits/sec.
   - E1 in use. Shows the E1 link used to backhaul to the CTU at the Access Concentrator
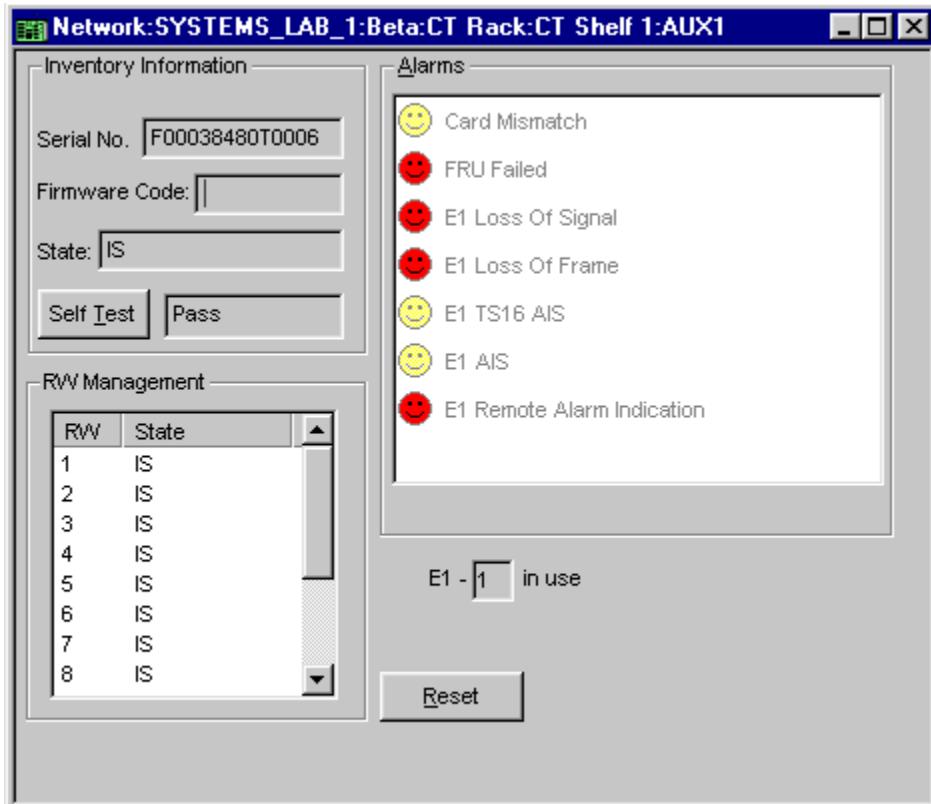
Shelf Controller

1. To display the Shelf Controller Card (SC) card double click the mouse while pointing to the card on the Modem Shelf view. The following information is displayed:

    - Inventory Information. The inventory shows both the current and other Firmware See DLP-019 for other inventory details.
    - A Self Test button. For details of use see DLP-016.
    - Reset button to reset the card.
    - Alarms: Lost Comms with EM.
    - PSU Fail.
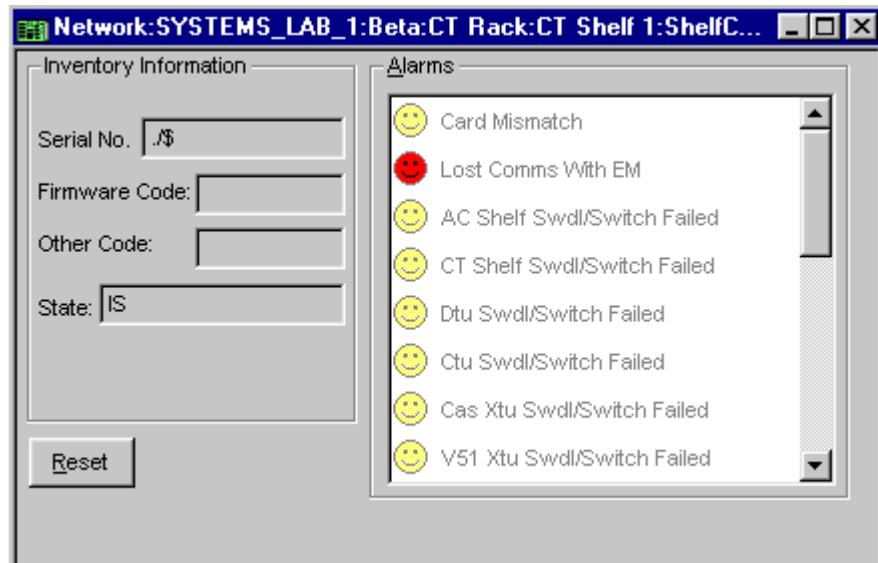
2. To edit card state, select the SC card from the shelf view, Click the right mouse button anywhere on the window and select *Airspan DA SC properties*.
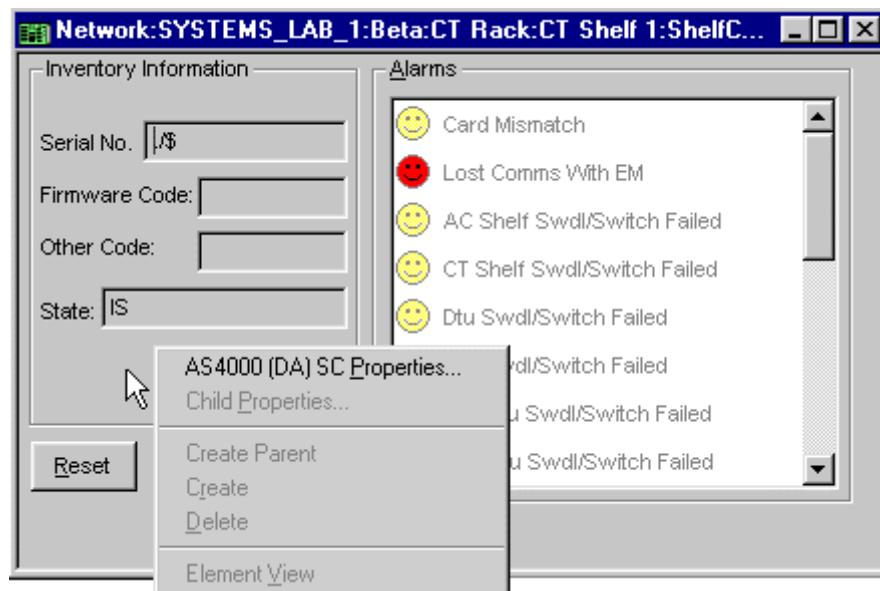
3. Set the card state to the required service state by clicking the check box with the mouse.

    * In Service
    * Emulator
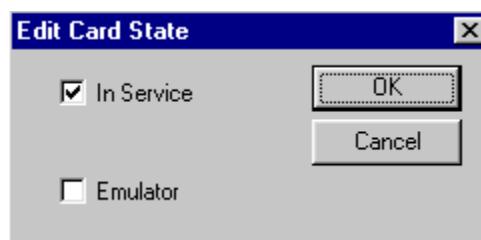
4. Click OK to initiate state change.

AU Card

1. To display the Analogue Unit(AU) card double click the mouse while pointing to the card on the Modem Shelf view
    The following information is displayed:

    - Inventory Information. See DLP-019 for details.
    - Card state.
    - <u>R</u>eset button to reset the card.
    - Alarms: Card Mismatch
    - Scaling Factor   See below
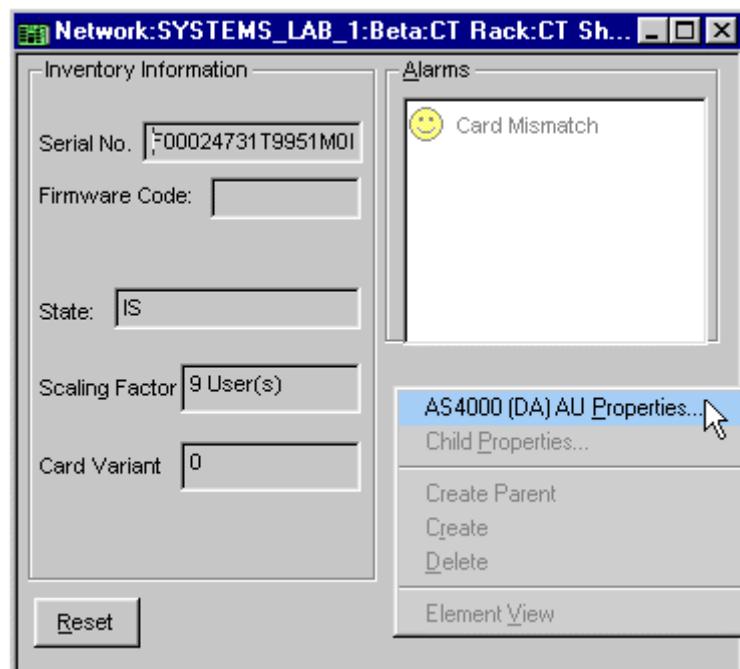
2. Click the right mouse button on the Analogue Unit (AU) card to drop menu. Select Airspan DA AU properties.

3. The Scaling Factor optimises the system by fine tuning the power output depending on the number of users. Select the number of users that can use the system at any one time. When in service it is necessary to check the soft errors reported (a soft error is the errors that occur before error correction). If soft errors occur the number of users should be increased or the TX power reduced to produce less power output until the soft errors are eliminated.
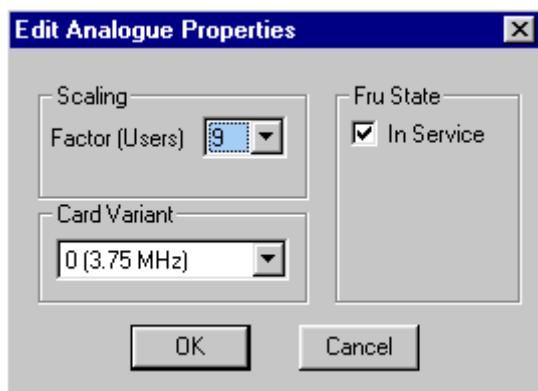
STOP. THIS PROCEDURE HAS BEEN COMPLETED.

CREATE DEMAND ASSIGNMENT MODEM SHELF AUX CARDS
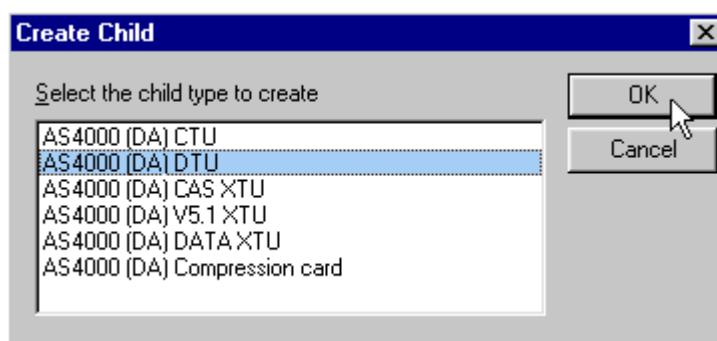
Use this procedure to Create AS4000 DA modem shelf Aux Cards. The shelf view, or an Object list containing the shelf, should be displayed at the start of this procedure. See GSI-017 Selecting Views.

STEP	PROCEDURE

1. Either Select Shelf from Site View by clicking on the required shelf, or select the shelf on an Object List. Click the right mouse button and select *Create AUX*
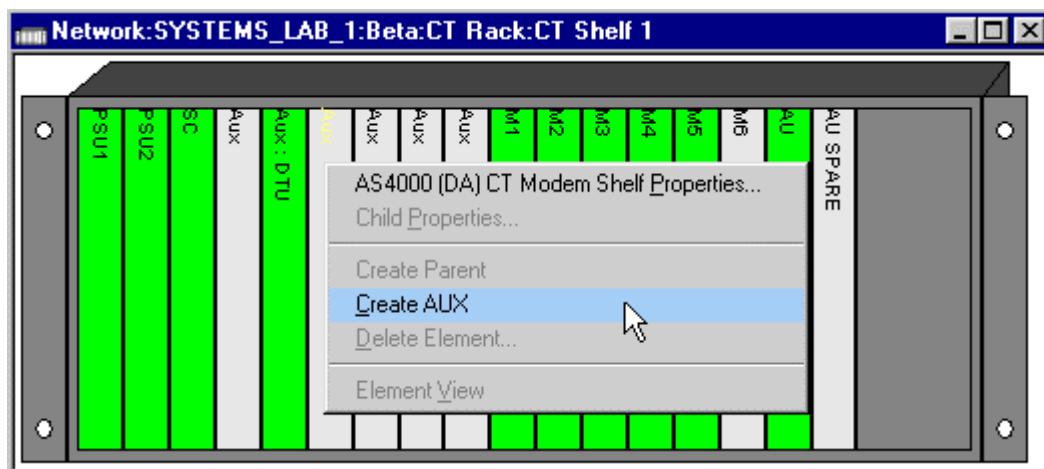
2. For a Modem Shelf select Airspan DA DTU from the cards listed.

3. The Shelf view shows the card allocated to the selected slot.
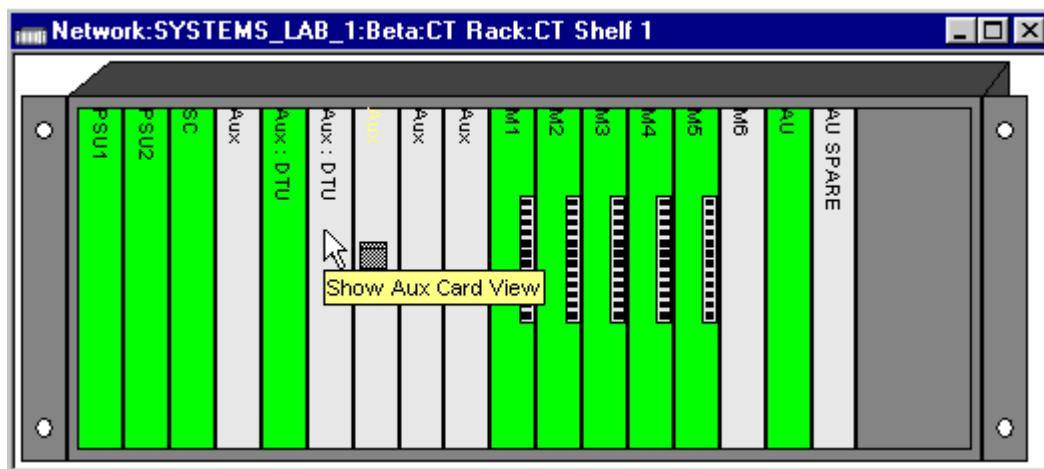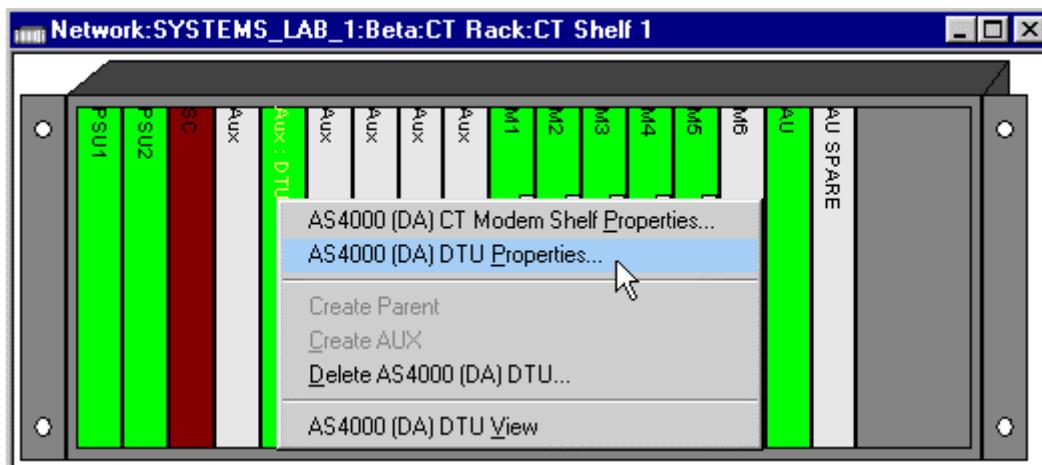
4. Repeat for each Aux Card installed, and then create the corresponding Aux cards in the Access Concentrator.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

EDIT AS4000 DEMAND ASSIGNMENT MODEM SHELF DTU CARD PROPERTIES

Use this procedure to edit AS4000 DA Modem Shelf DTU Card Properties. The site view, shelf view, or an object list containing the shelf should be displayed at the start of this procedure. See GSI-017 Selecting Views.

STEP	PROCEDURE

1. Open the object list *AS4000 DA DTU*. (See DLP 025)

2. Select the card to be configured, click the right mouse button and from the drop menu select *AS4000 DA DTU Properties*.

5. The *Edit DTU Properties* window is displayed. Enter the *Radio List Management* values for the card into the boxes to optimise the performance of the system.

Max Net Entry Channels: On start-up the STs are made aware of the network and data is downloaded into each ST. The larger the number of NET entry channels the shorter the time to get the system operational. One channel per shelf within the system is always configured to run net entry, but in addition, the user can configure additional potential net entry channels. (Selected on the DTU properties in Sitespan). Each channel selected here requires a full RW i.e. 160K of bandwidth, and therefore, if the RW is used for net entry, it is removed in entirety from the available pool for traffic.

Free List: The free list allocates the free list at each traffic rate. (160k, 80k, 40k) The way the list is divided depends on the ST population. If a channel is not available at a required rate the next highest rate is selected.

Incoming Call Availability: Incoming call availability is calculated from the allocation and distribution of channels across the free lists

FRU State: In Service makes the FRU available for system use.

Emulator is for development use only.

RW Management allows the RW codes to be set as:

IS	In service
OOS	Out of service no acquisition possible.
OOS (10K)	Out of service but a service engineer can force the ST to acquire from AS7020 STMON for Windows at 10kbits/sec.
OOS(160K)	Out of service but a service engineer can force the ST to acquire from As7020 STMON for Windows at 160kbits/sec.
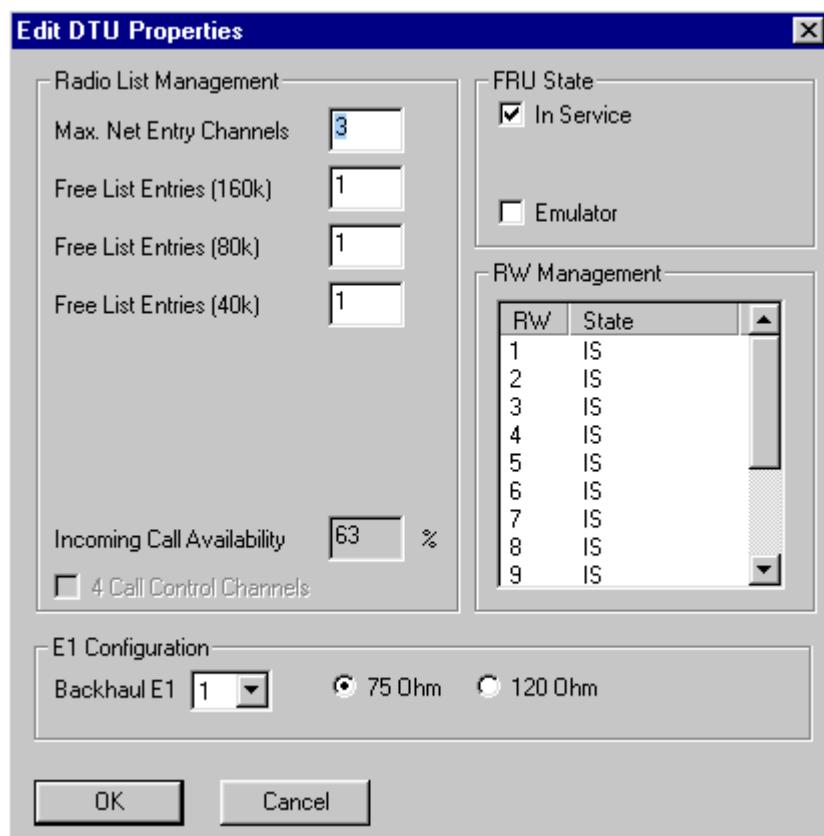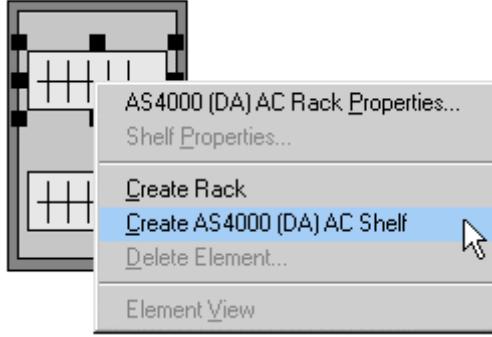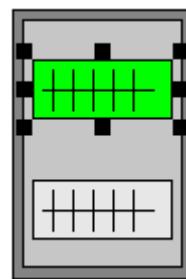
6. Click OK to set values.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

CREATE AS4000 ACCESS CONCENTRATOR SHELF

Use this procedure to create an AS4000 Access Concentrator shelf. Two alternative procedures are documented, (a) To create a shelf using GUIs and (b) To create a shelf using the object lists. Each shelf is created together with its signalling properties. The Shelf type should be selected to match the installation type.

STEP	PROCEDURE

(a) To create a Access Concentrator Shelf using GUIs.

1. Select the rack either by selecting *View,* and choosing *Site View* when in the network object list window, or continue from DLP-014.

2. Click on the desired Access Concentrator Shelf (1-2). The selected shelf is highlighted with black markers.

3. Place cursor over shelf and click the right mouse button. From the menu select: *Create AS4000 (DA) AC Shelf*.

4. The created shelf is highlighted in the active colour

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

| STEP | PROCEDURE |

(b) To create an Access Concentrator Shelf using object lists.

1. Select the rack by pointing to the rack in the *Network [Object List, Rack]* window. Click the right mouse button and select: *Create Airspan DA AC Shelf*.
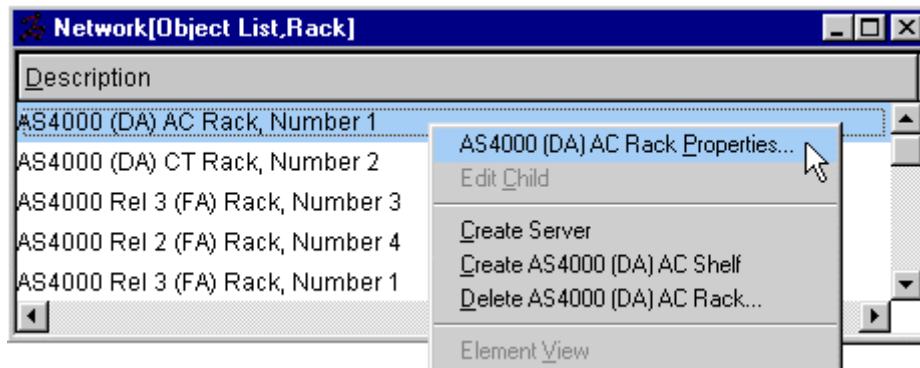
2. Using the mouse select an empty slot. Click the OK button to initiate changes and return.
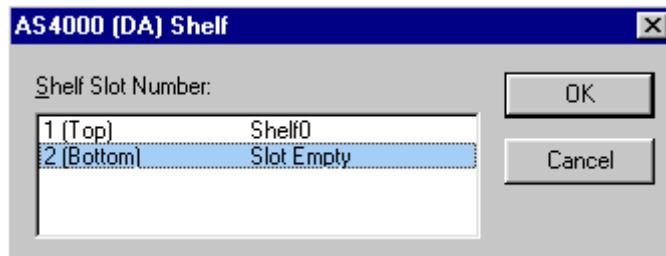
3. The *Network [Object List, Shelf]* window now includes the new shelf.

4. To set shelf parameters, go to Edit Access Concentrator Shelf Properties DLP-107.

5. **Note:** It is not possible for a user to gain access to any object if it, it's parent or child is currently being edited by another user. It is possible however to edit a peer object. For example if a user is editing a shelf then all Site, Rack, Card objects relating to that shelf is locked. This does not however stop another user creating, editing or deleting other shelves on the same rack or other shelves, racks etc. on the same or other sites.

6. If an attempt is made to access a locked object then the following message appears.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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EDIT AS4000 DEMAND ASSIGNMENT ACCESS CONCENTRATOR SHELF PROPERTIES

Use this procedure to edit AS4000 Demand Assignment Access Concentrator Shelf properties. The Site view, Shelf view, or an Object list containing the shelf, should be displayed at the start of this procedure. See GSI-017 Selecting Views.

STEP	PROCEDURE

1. Either select the shelf from *Site View* by clicking on the required shelf, or select the shelf on an *Object List*, Click the right mouse button and select. *Shelf Properties*.

2. From the *Edit Properties* window, select *Airspan DA AC Shelf* and click OK.

3. The *Edit Airspan DA Shelf Properties* window appears.

4. Enter Shelf Name. Enter Reference Clock Source to derive timing from the network. This is usually the first E1 on the first XTU card i.e. slot 5 E1-1. Leave the indirect box unchecked. The UCP threshold is used as a security measure to detect changes in code phase caused by any changes in the location of the Antenna and should be set between 3-5 to avoid unnecessary alarms.
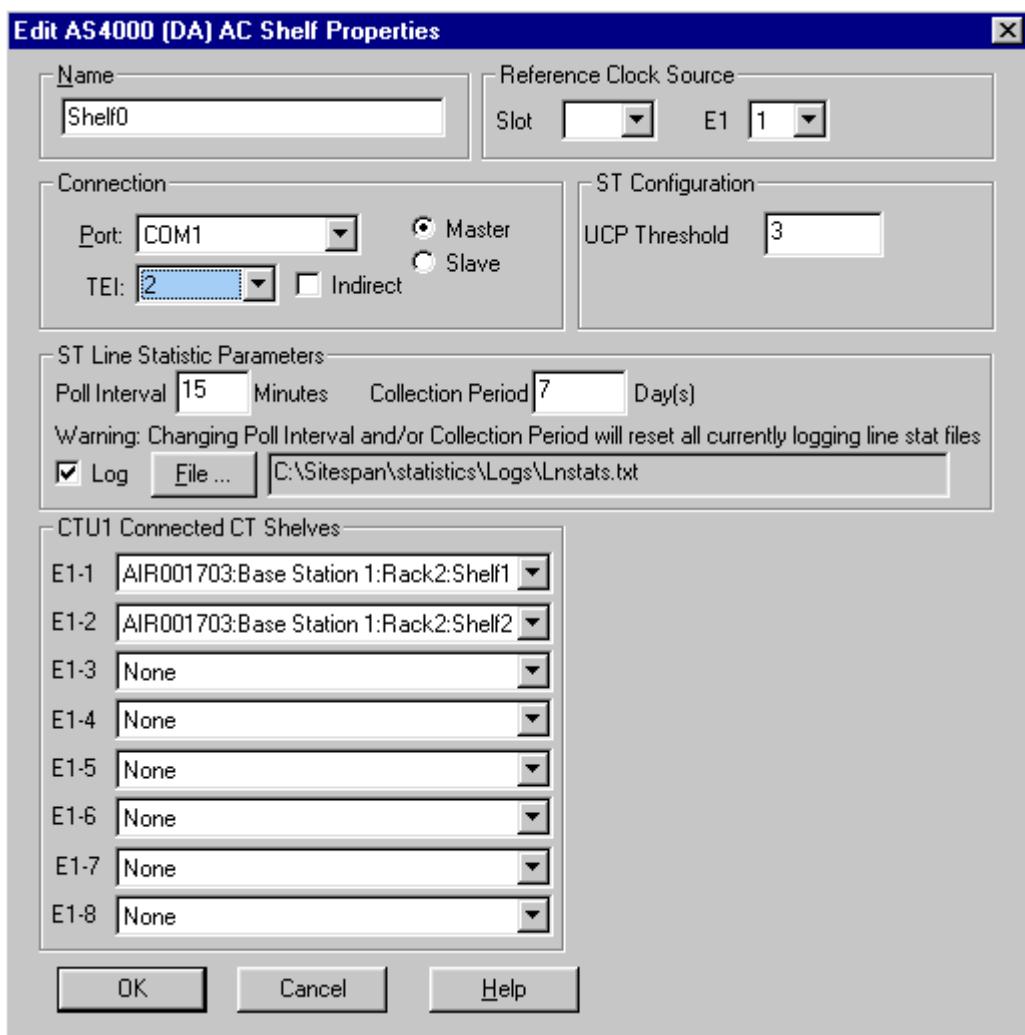
5. Drop the *Port Selection* box and select the com port allocated the shelf by clicking
    with the mouse on the required port. The com port is the Sitespan PC port connected
    to the AC shelf.
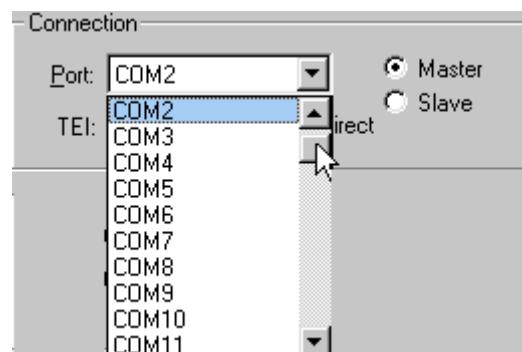
6. Select *Indirect* if the CT is managed through the Access Concentrator. *Select Master /
    Slave*. When Master is selected Sitespan is in control and objects are downloaded into
    the shelf. When Slave is selected Sitespan uploads objects from the shelf.

7. Select the TEI (Terminal Equipment Identifier) for the shelf. The TEI must be a unique number within the system. The shelf object list shows what TEIs have been allocated to each shelf.
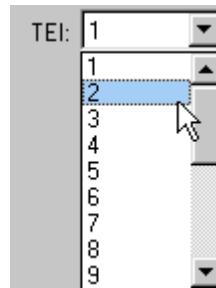
8. The CT shelves connected to the Access Concentrator are allocated to the E1 link connecting them, drop window and select all the CT shelves to be managed by the AC Shelf.
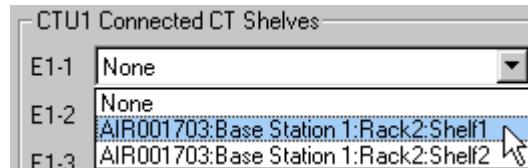
STOP. THIS PROCEDURE HAS BEEN COMPLETED.
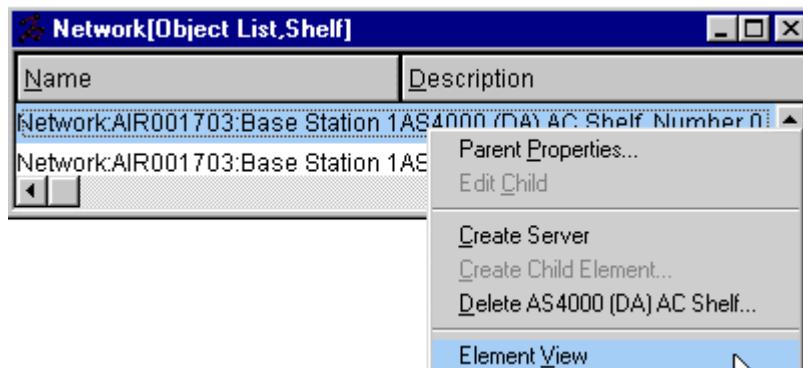
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CREATE DA ACCESS CONCENTRATOR SHELF AUX CARDS
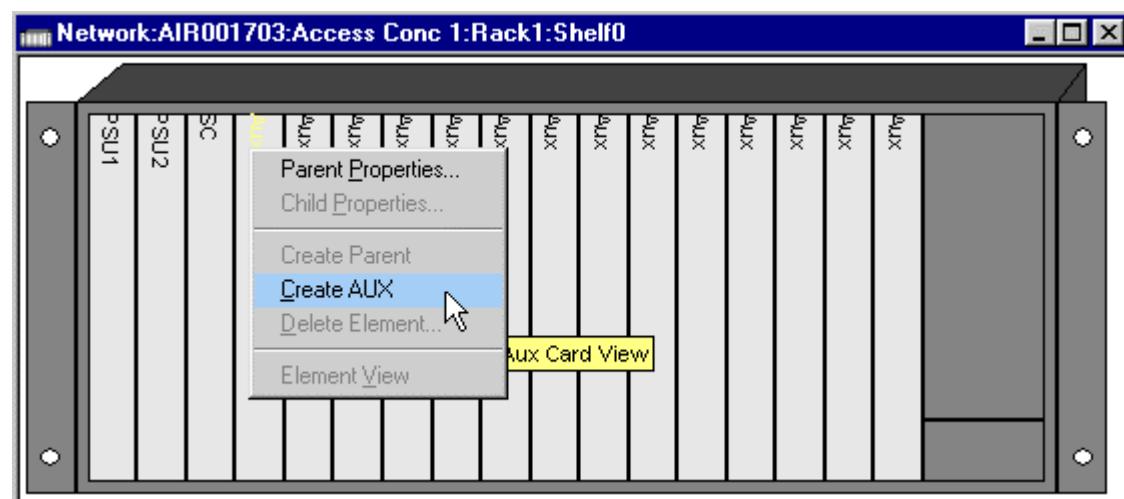
Use this procedure to edit AS4000 DA Access Concentrator Shelf Aux Cards. The shelf view, or an Object list containing the shelf, should be displayed at the start of this procedure. See GSI-017 Selecting Views.
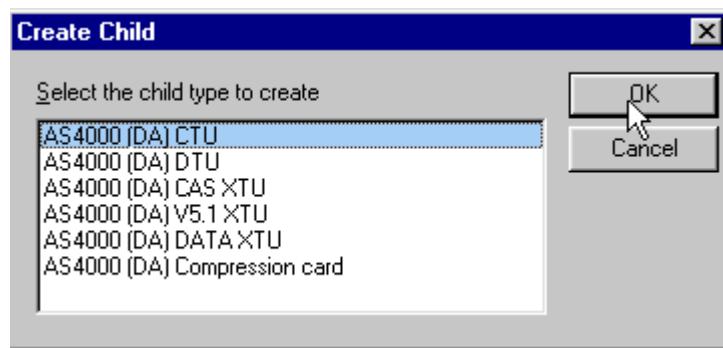
STEP	PROCEDURE

1. Any Aux Card may be assigned to any Aux slot, but it is preferable to assign CTU Cards to slots 4,5, & 6, XTU cards in slots 7-14 and Compression Cards in slots 15-17.

1. From Object List, Shelf select Access Concentrator, click right mouse button and select *Element View*

2. From the shelf view point to AUX card and click the right mouse button. *Create AUX*

3. Select card type from the cards listed. For Access Concentrator Shelf select CTU.
    XTU(CAS), XTU(Data), V5.1 or Compression.

4. The Shelf View shows the card allocated to the selected slot.

5. Repeat for each Aux Card installed.

6. To configure Aux cards go to the following DLPs
    CTU   DLP-109
    XTU(CAS)   DLP-110
    XTU(Data)   DLP-111
    V5.1   DLP-112
    Compression.   DLP-113

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

"
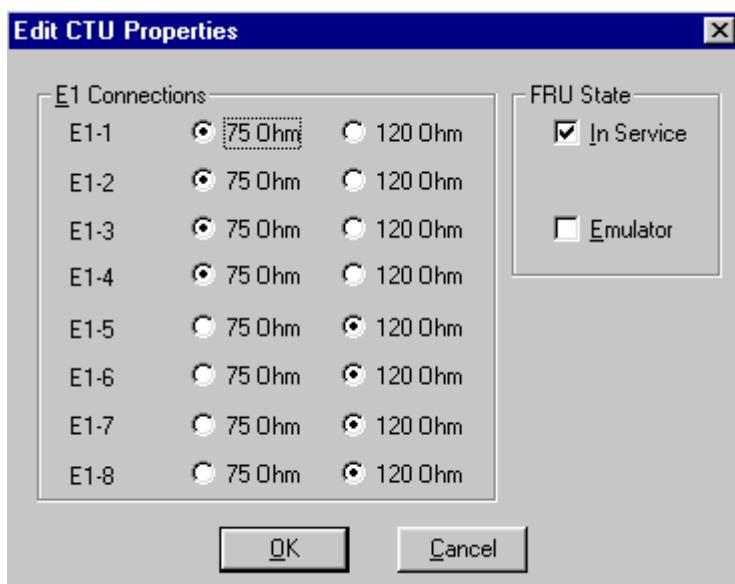
# CONFIGURE AS4000 DA ACCESS CONCENTRATOR SHELF CTU CARD

Use this procedure to set-up the CTU Card on the AS4000 DA Access Concentrator Shelf. The shelf view, or an object list containing the card should be displayed at the start of this procedure. See GSI-017 Selecting Views.

STEP	PROCEDURE

1. Select the Card to be set, click the right mouse button and select from the drop menu select the *Airspan DA (CTU)View*.
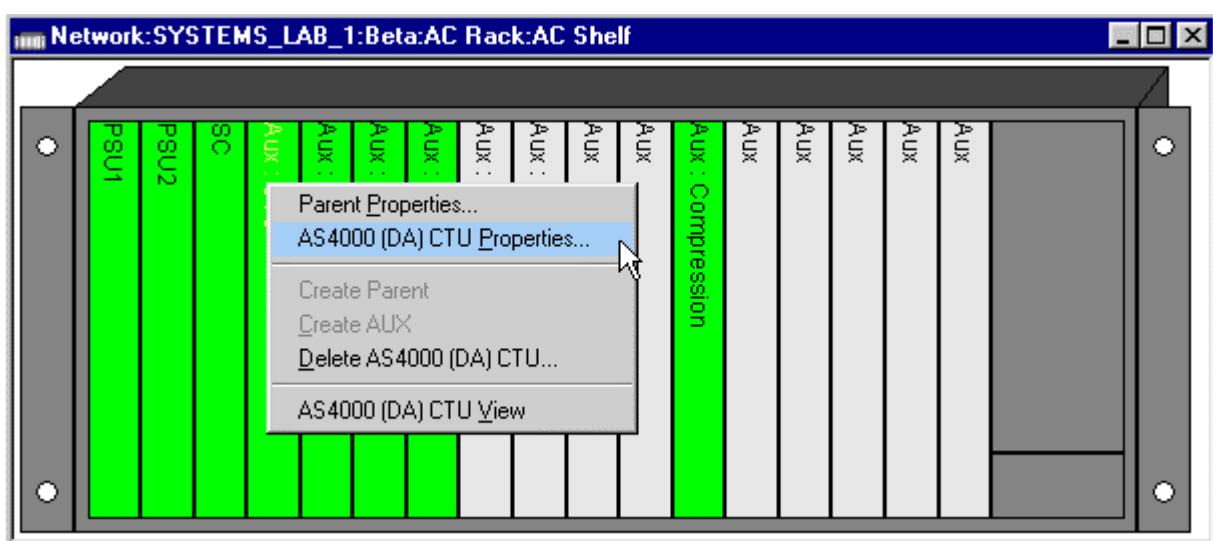
2. Select the Impedance of the E1 connections to match the impedance of the link to the Central Terminal. Repeat for other CTU cards.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

"
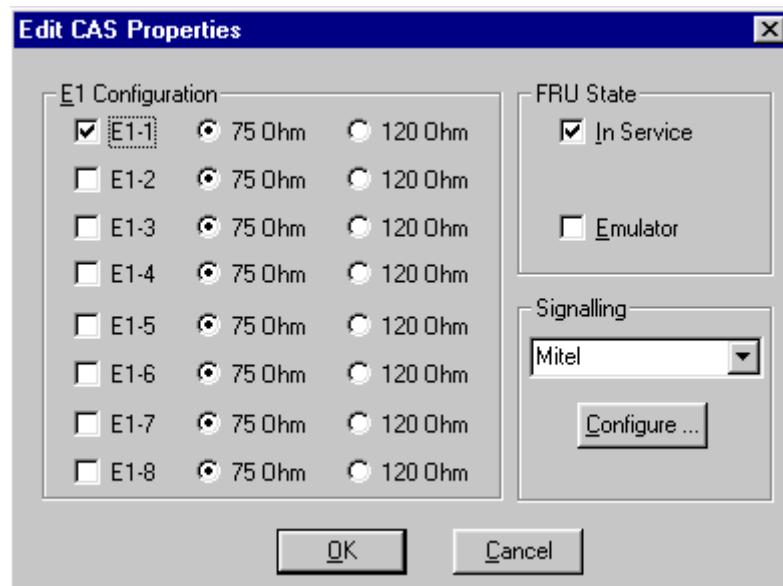
CONFIGURE AS4000 DA ACCESS CONCENTRATOR SHELF XTU CAS CARD

Use this procedure to set-up the XTU CAS card on the AS4000 DA Access Concentrator Shelf. The shelf view, or an object list containing the card should be displayed at the start of this procedure. See GSI-017 Selecting Views.

STEP   **PROCEDURE**

1. Select the Card to be set, click the right mouse button and select from the drop menu select the *Airspan DA XTU(CAS)View*.
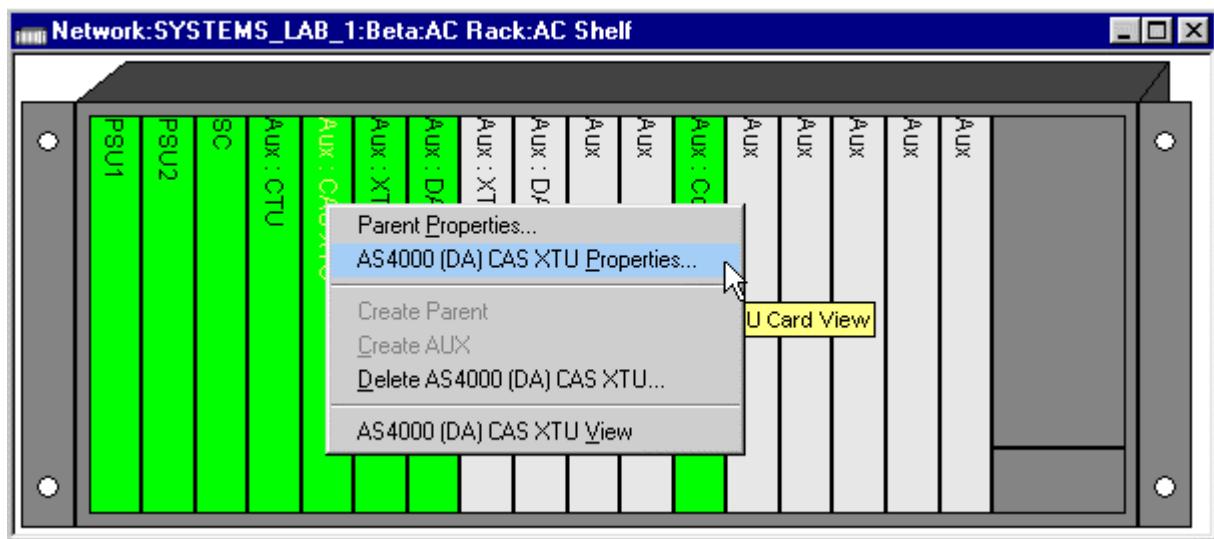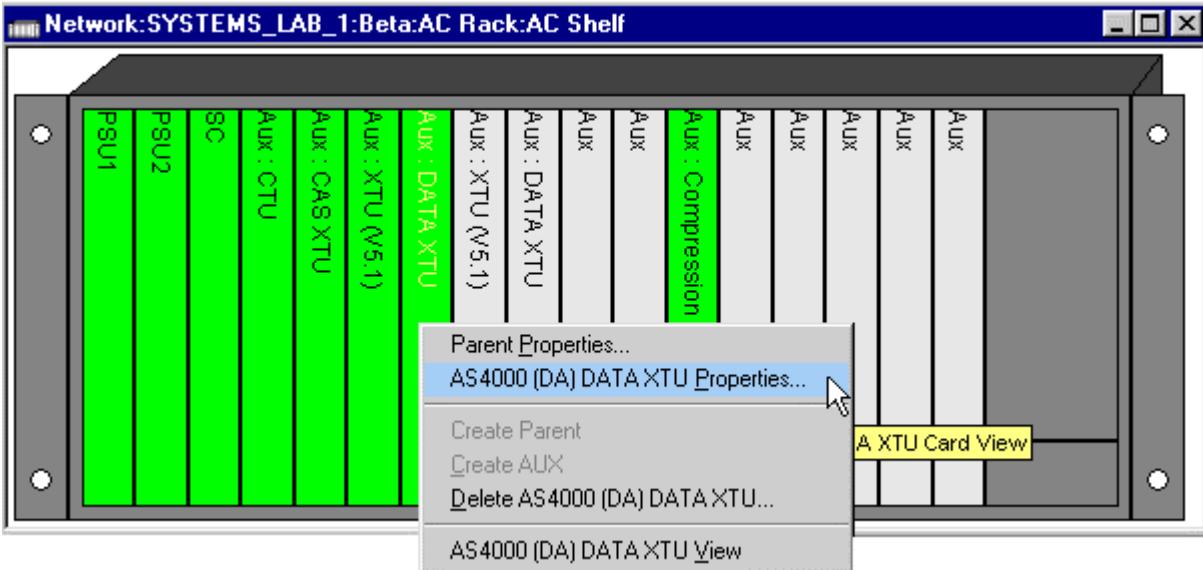
2. With Shelf view displayed. Position mouse over the CAS Card position to insert card, click right mouse button and select Airspan CAS Properties. Click left mouse button in the box alongside each E1 link provisioned to the Switch.. Note: If the box remains unchecked, the card still functions, but the card alarms are not reported by Sitespan.

3. Set the impedance of each link. If special signalling features are required, click the Configure button and enter the parameters. Repeat for other CAS cards.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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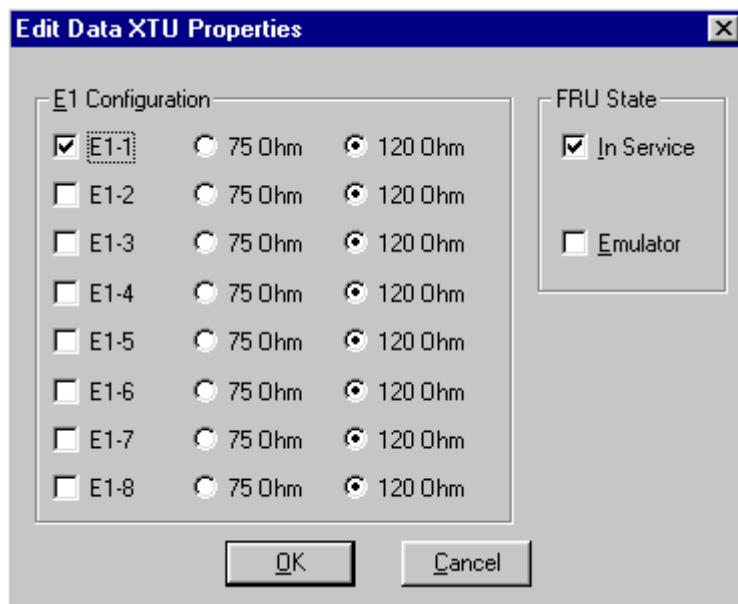
CONFIGURE AS4000 DA ACCESS CONCENTRATOR SHELF DATA CARD

Use this procedure to set the alarm monitoring for Data cards on the AS4000 DA Access Concentrator Shelf. The shelf view, or an object list containing the card should be displayed at the start of this procedure. See GSI-017 Selecting Views.

STEP	PROCEDURE

1. Select the Card to be set, click the right mouse button and select from the drop menu select the *Airspan DA XTU(DATA)View*.

2. With Shelf view displayed. Position mouse over the DATA card, click right mouse button and select Airspan DATA Properties. Click left mouse button in the box alongside each E1 link provisioned to the Switch. Note: If the box remains unchecked, the card still functions, but the card alarms are not reported by Sitespan.

4. Set the impedance of each link. If special signalling features are required, click the Configure button and enter the parameters. Repeat for other DATA cards.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

"

CONFIGURE AS4000 DA ACCESS CONCENTRATOR SHELF XTU V5.1 CARD

Use this procedure to set-up the V5.1 cards on the AS4000 DA Access Concentrator Shelf. The shelf view, or an object list containing the card should be displayed at the start of this procedure. See GSI-017 Selecting Views.

STEP	PROCEDURE

1. Select the Card to be set, click the right mouse button and select from the drop menu select the *Airspan DA (V5.1)Properties*.
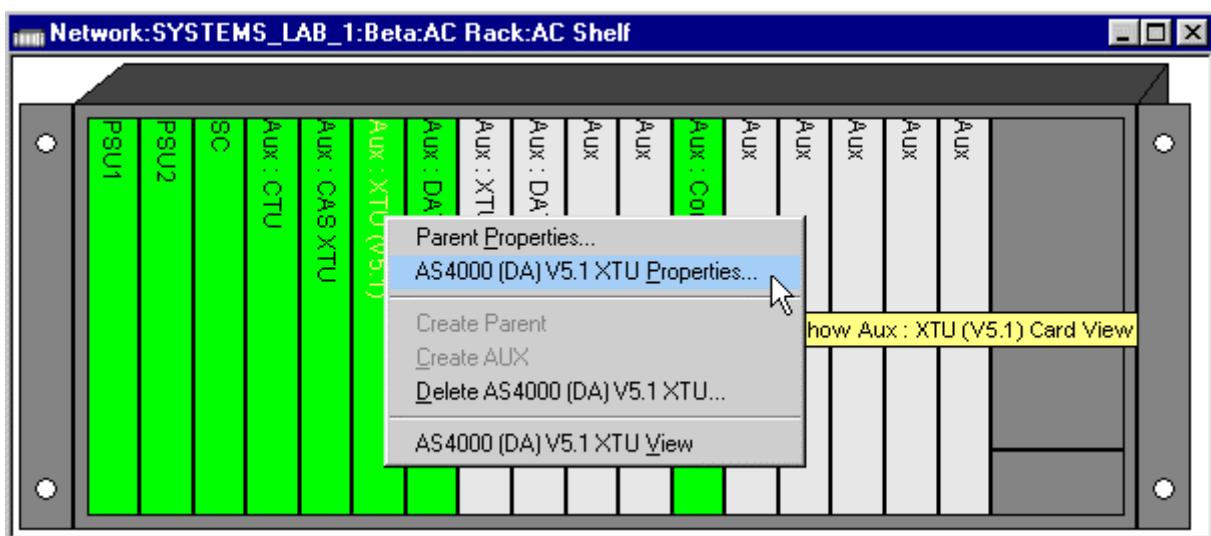
2. With Shelf view displayed. Position mouse over the V5.1 Card, click right mouse button and select Airspan V5.1 Properties. Click left mouse button on the E1 link tab to be provisioned to the Switch.

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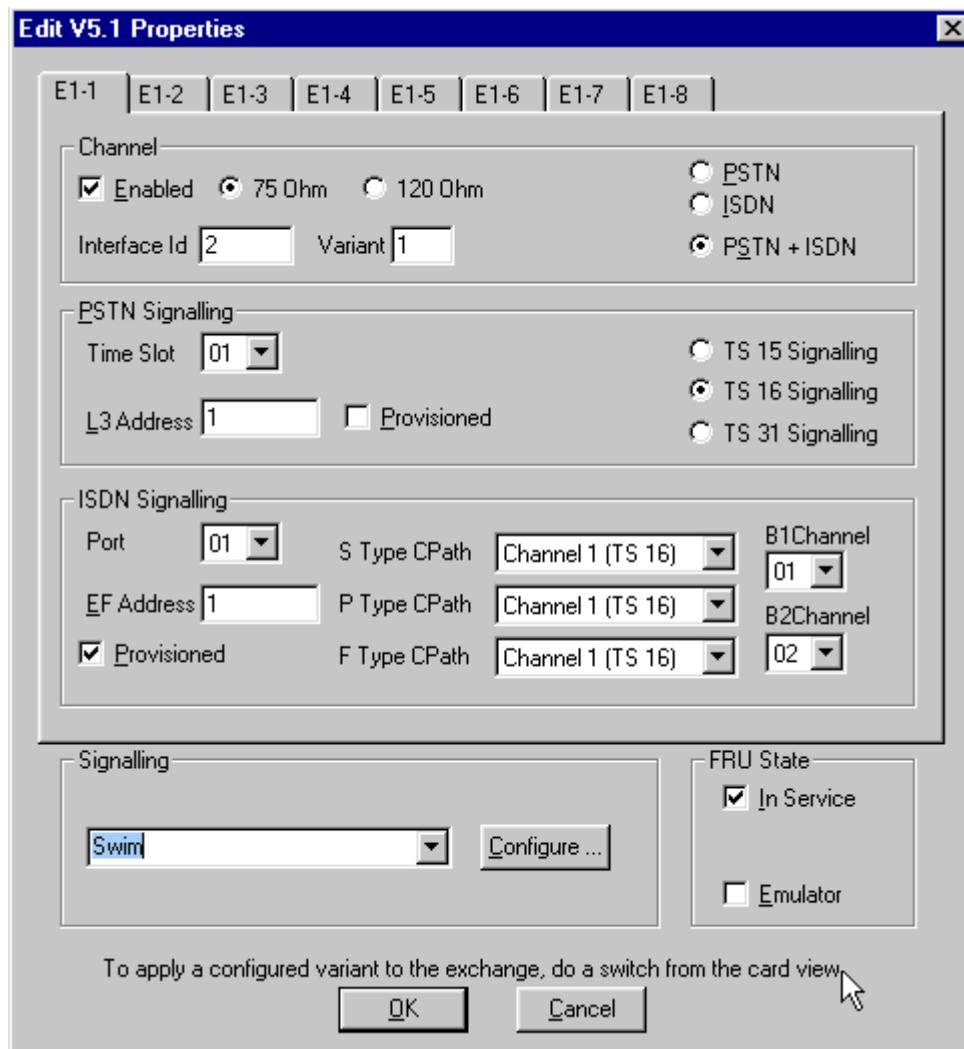
Set the Channel Parameters
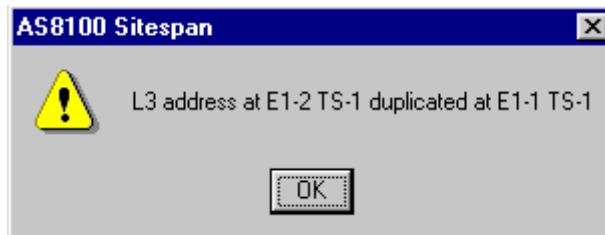
3. Enable Channel by clicking left mouse button in check box, a tick shows that the channel is enabled.

4. Click left mouse button on the radio button to select the impedance (75 or 120 ohm) for each link. Enter a unique Interface ID and Variant Number (these must match those provided at the switch). Select the service type (PSTN, ISDN or Mixed). Note: The display reflects the configuration chosen and requests further information for signalling as appropriate.

Set PSTN Parameters

5. Select the signalling timeslots used to provide signalling back to the switch 15,16, and 31. If 15 or 31 are chosen the timeslots are not available for calls and are not selectable from the timeslot drop list. The timeslots chosen for signalling must match the timeslots chosen at the switch.

6. Each PSTN signalling time slot must be allocated a unique L3 address number (these must also match those provided at the switch). Select each time slot in turn and enter the L3 address number.

7. Provision channel by clicking left mouse button in check box next to the provisioned script, a tick shows that the channel is provisioned.

8. When all parameters have been set for each timeslot click left mouse button on the OK button. If any conflicts occur in the configuration of any of the L3 addresses an error message is displayed. An example of an error message is shown below. If there are multiple conflicts acknowledging a conflict reveals another conflict window. The object model is not changed until the conflicts have been resolved.

9. If special signalling features are required, click the Configure button to access the Global Object Container. Select V5.1 TU signalling. Choose existing pre-defined parameters or create a new object and enter the new parameters (See DLP-115).

10. Repeat for other E1 ports and 5.1 cards.

ISDN

11. Set the Port (Basic Rate Access Circuit) and EF addresses Number (these must match those provided at the switch). The S, P and F type C paths can use the same timeslot Common Channel signalling path as the PSTN or may use a different time slot (these must match those provided at the switch).
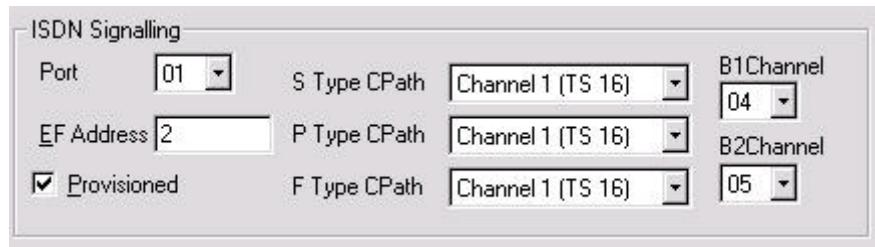
12. When all parameters have been set click left mouse button on the OK button. If any conflicts occur in the configuration of any of the timeslots, ports or EF addresses an error message is displayed. An example of an error message is shown below. If there are

multiple conflicts acknowledging a conflict reveals another conflict window. The object model is not changed until the conflicts have been resolved.
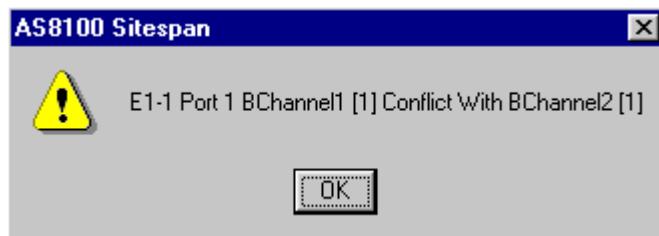
13. After any conflicts are resolved clicking OK allows the object model to be updated but the settings do not take effect until the variant is switched into the current configuration. The switching is done from the Airspan DA (V5.1) View as follows.

14. Place cursor over card and click the right mouse button. From the drop menu select the *Airspan DA (V5.1)View.*
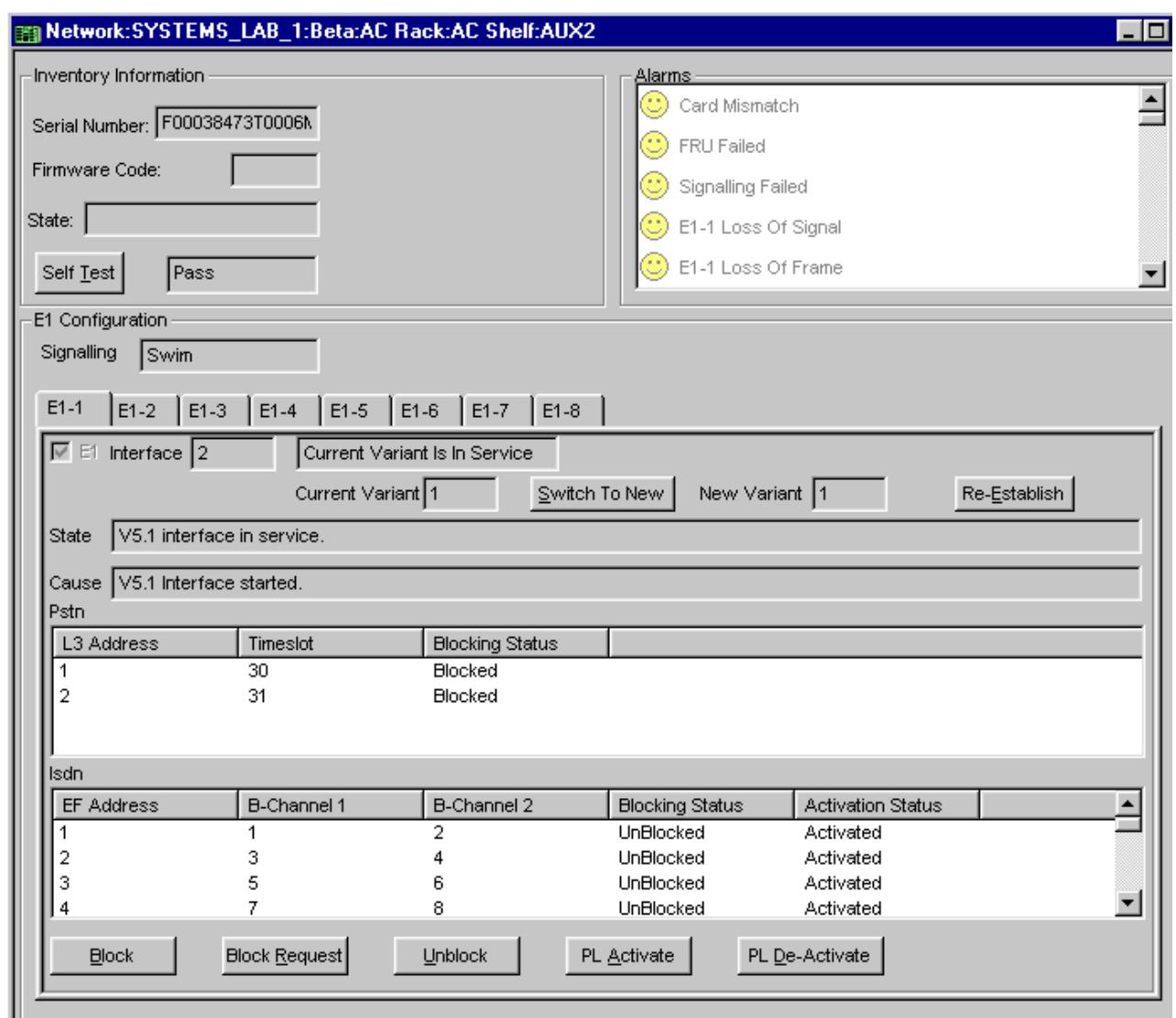
15. In the screen shot above the new variant number appears in the *New Variant* field but the system is currently using variant 0. To switch to the new variant click left mouse button on the *Switch* button and the new variant is adopted.

16. The *Re-Establish* button provides a 150 second break in the E1 link that is used if the E1 link needs to be reset. Use the re-establish in preference to hot plugging the TU card as only the E1 being re-established is effected, all the other E1links on the card are left uninterrupted.

17. The State and Cause fields display system state messages and cause as interpreted by Sitespan

18. The PSTN field shows Addresses, Timeslots, and Blocking status for each L3 address provisioned. Any services not provisioned are not displayed. Timeslots may be forced into a blocked/unblocked state by selecting the Address and click left mouse button on the *Block/Unblock* buttons. The Block Request button does not force the state but informs the switch to block the channel when it becomes free.

19. The ISDN Field shows Addresses, Timeslots, and Blocking status for each L3 address provisioned as well as provision for activating and de-activating the ISDN Channel Any services not provisioned are not displayed. Timeslots may be forced into a blocked/unblocked state by selecting the Address and click left mouse button on the Block/Unblock buttons. The Block Request button does not force the state but informs the switch to block the channel when it becomes free.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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CONFIGURE AS4000 DA ACCESS CONCENTRATOR SHELF COMPRESSION CARD

Use this procedure to set-up compression cards on the AS4000 DA Access Concentrator Shelf. The shelf view, or an object list containing the card should be displayed at the start of this procedure. See GSI-017 Selecting Views.

STEP	PROCEDURE

1. Select the Card to be set, click the right mouse button and select from the drop menu select the *Airspan DA Compression Properties*.
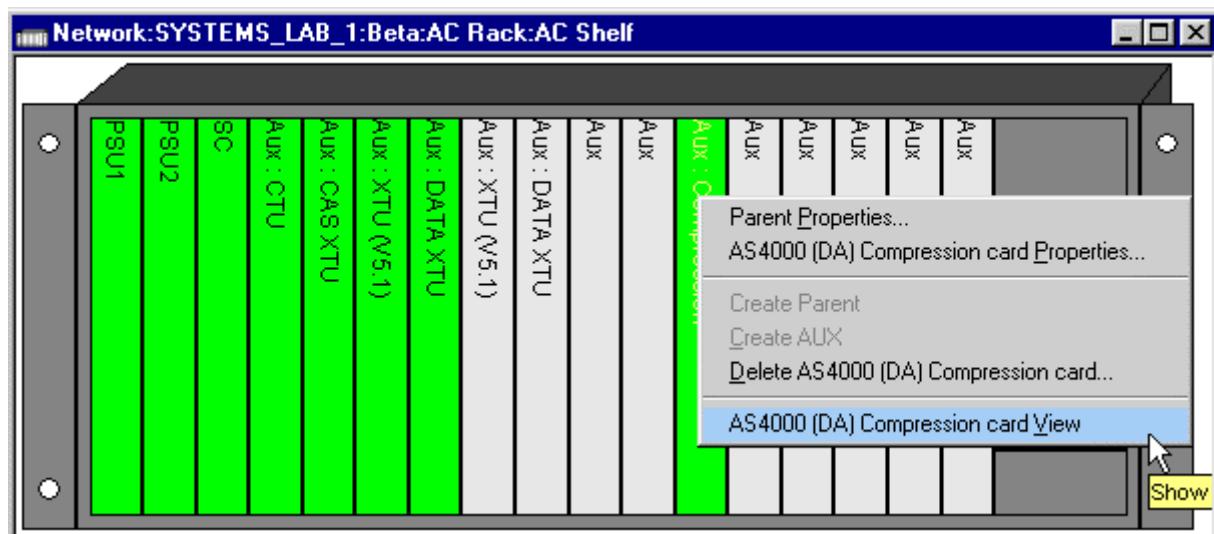
2. In this release of Sitespan the only compression type available is 32K ADPCM.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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CONFIGURE AS4000 DA ACCESS CONCENTRATOR SHELF XTU V5.2 CARD

Use this procedure to set-up V5.2 cards on the AS4000 DA Access Concentrator Shelf. The shelf view, or an object list containing the card should be displayed at the start of this procedure. See GSI-017 Selecting Views.

STEP	PROCEDURE

1. This DLP is reserved for the V5.2 Card.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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CONFIGURING ST GLOBAL OBJECT CONTAINER OPTIONS

Use this procedure to configure Global Object Container options for AS4000 demand assignment systems.

STEP	PROCEDURE

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1. The Global Object Container contains the ST and TU configuration options.
   ST options
   ST Classes:
   ST Signalling
   ST Priority Numbers
   ST Service Types
   TU options
   CAS TU Signalling
   V51 TU Signalling
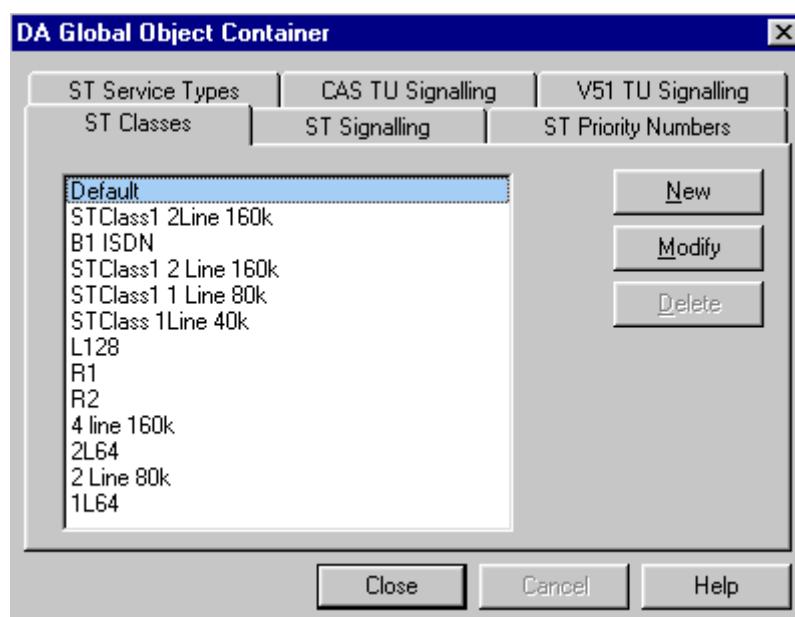
2. Select the required option by clicking the relevant tab at the top of the window.

ST Classes:

1. To create a new ST class click *New*. To modify an existing class, select the class from the list and select *Modify*.

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2. Create a name in the name field (it is suggested the name reflects the service being offered i.e. ST_R2 line @ 64kbit/s) Select the type of ST employed and the number of lines supported by the class.
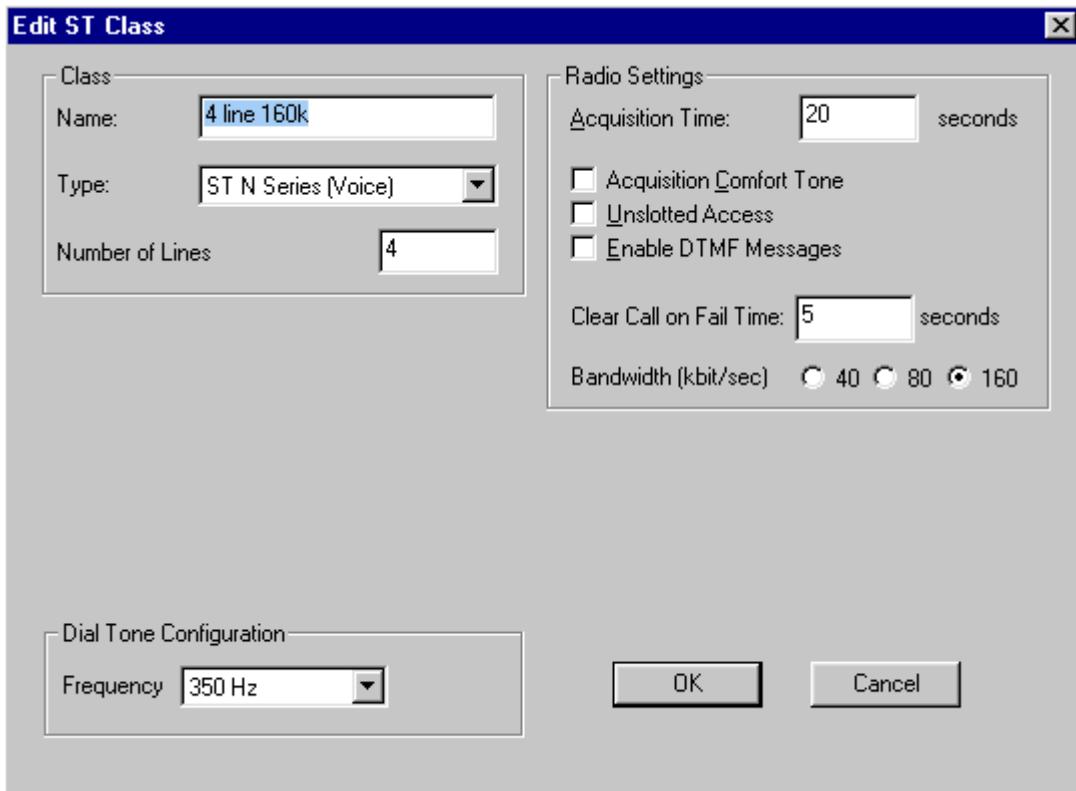
3. Set the acquisition and clear call on fail times. The acquisition time sets the elapsed time before the ST deems it has been unsuccessful and disconnects. The ST attempts to re-acquire choosing a channel from the latest free list. The clear call on fail time sets the time allowed for the system to clear before re-acquiring.

4. Set the bandwidth to agree with the service selected. Failure to do so may result in channels not being supported due to lack of bandwidth. The table below shows the bandwidth required for each service offering.

Rate Allocation	Band Width kHz		
	40	80	160
1*64 kbits/s		♦	
2 *64 kbits/s			♦
1*32 kbits/s	♦		
2*32 kbits/s		♦	
4*32 kbits/s			♦
1*64 kbits/s +2*32 kbits/s			♦

5. The Acquisition Comfort Tone is generated from the ST to give the user an indication that the ST is trying to acquire.
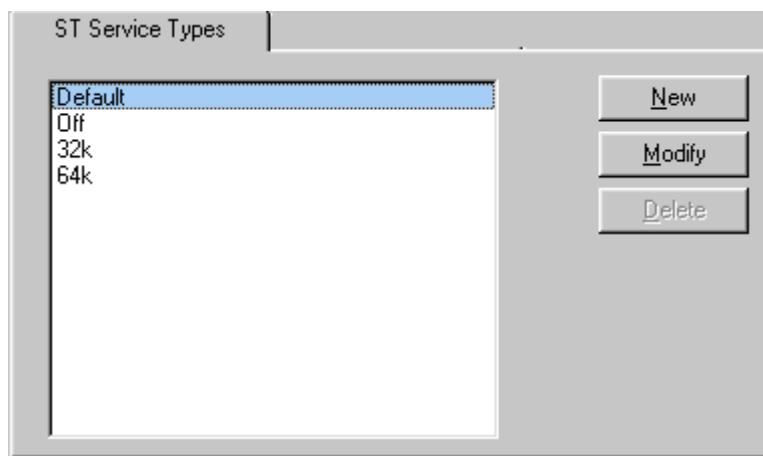
6. Unslotted access may improve acquisition times as the ST attempts to acquire from the stored free list and not wait for the free list to be updated in the next polling cycle. However as there is an increased chance of collision causing the ST to back off and re-acquire, this ultimately would cause longer acquisition times. It is therefore recommended that *Unslotted Access* is only set on lightly loaded systems

7. Enable DTMF Messages. Currently this box should not be checked. Future releases of Sitespan will use this feature for test messages.

ST Signalling

1. To create a new signalling class click <u>New</u>. To modify an existing class, select the class from the list and select <u>Modify</u>.

2. The only fields available for change are the Name and SPM (Subscriber Private Metering) mode.
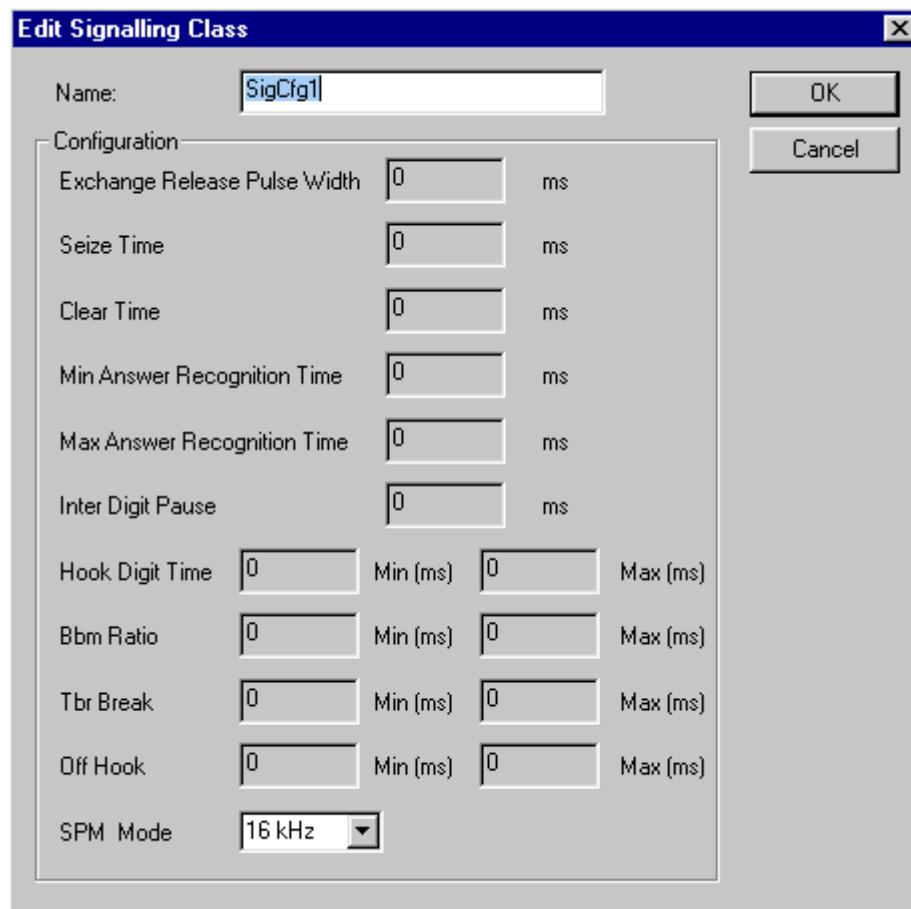
ST Service Types
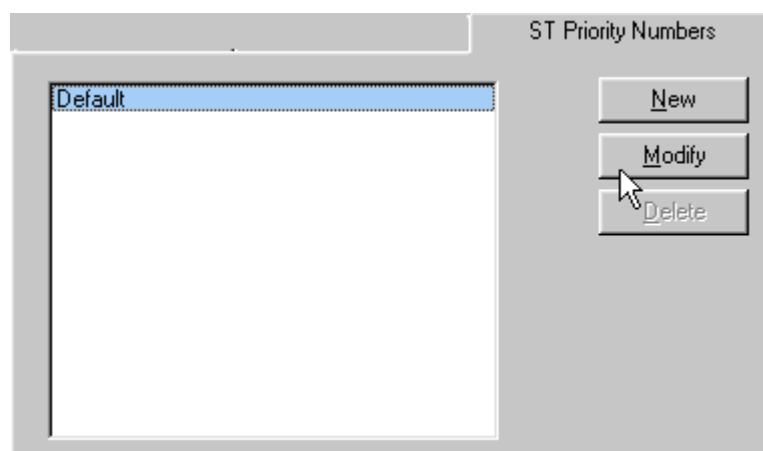
3. To create a new service type click *New*. To modify a new service, select the service from the list and select *Modify*.
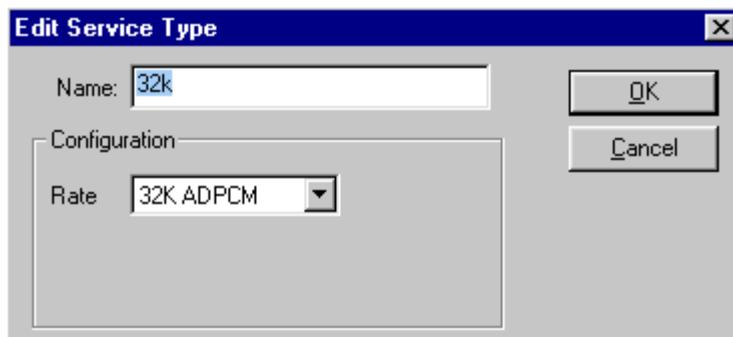
ST Priority Numbers

Priority Numbers are not functional in this release of Sitespan
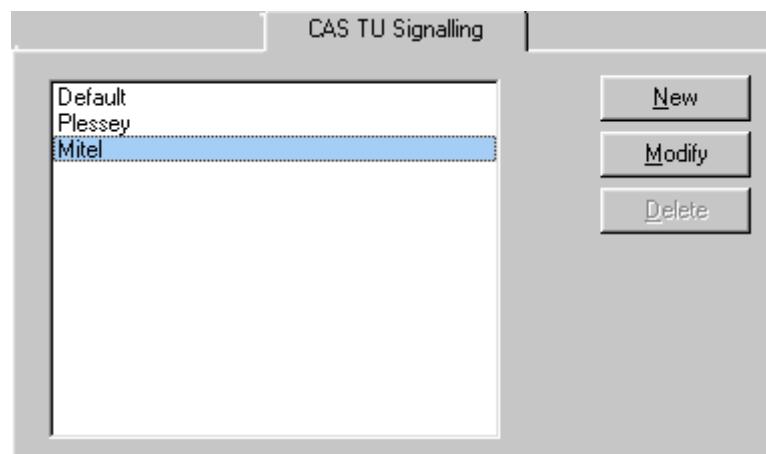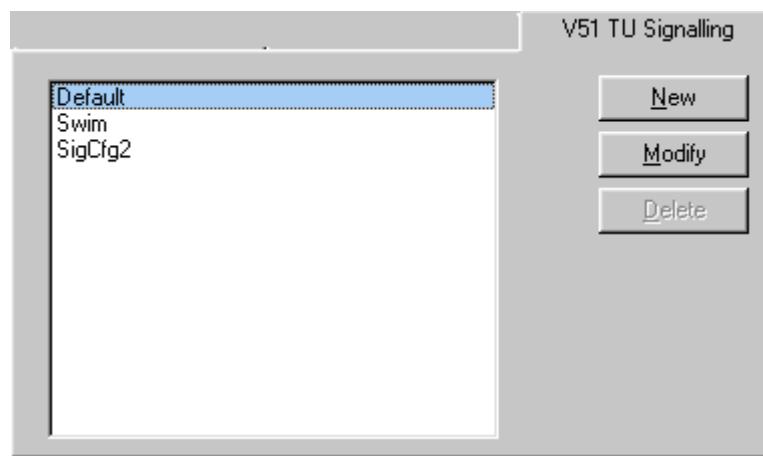
Edit Priority Numbers

Name: Default

Configuration

Mode

Number 1   0

Number 2   0

Number 3   0

Number 4   0

Number 5   0

OK

Cancel

Cas TU Signalling

 Consult the switch user guide and set the values to match the requirements of the connecting switch. The interpretation of incoming patterns can be set by moving the cursor over the relevant *Outgoing Call* or *Incoming Call* field and clicking the left mouse button. The options available are changed with each click.
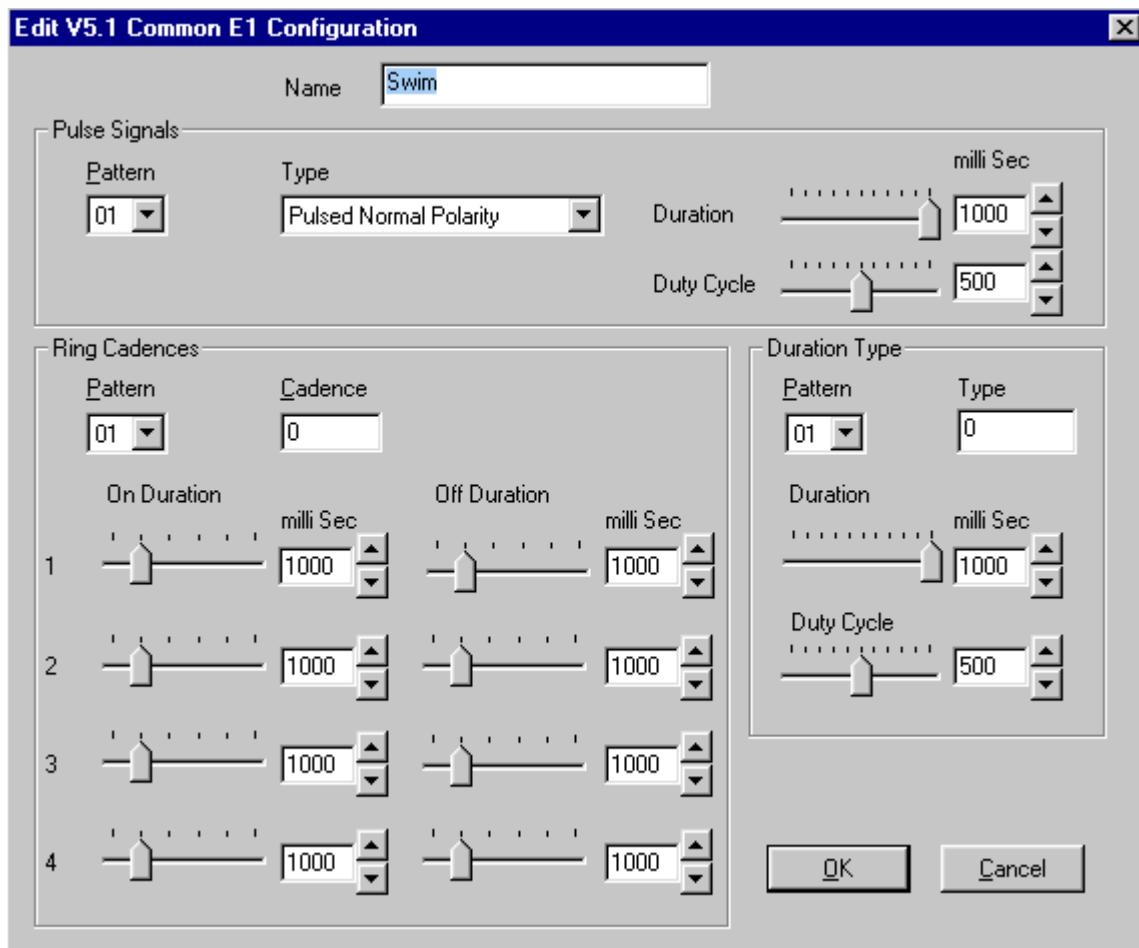
Options available are: Unknown, Meter Pulse, Reverse Seize, Normal Ring, Idle, Seize, Reverse Ring.
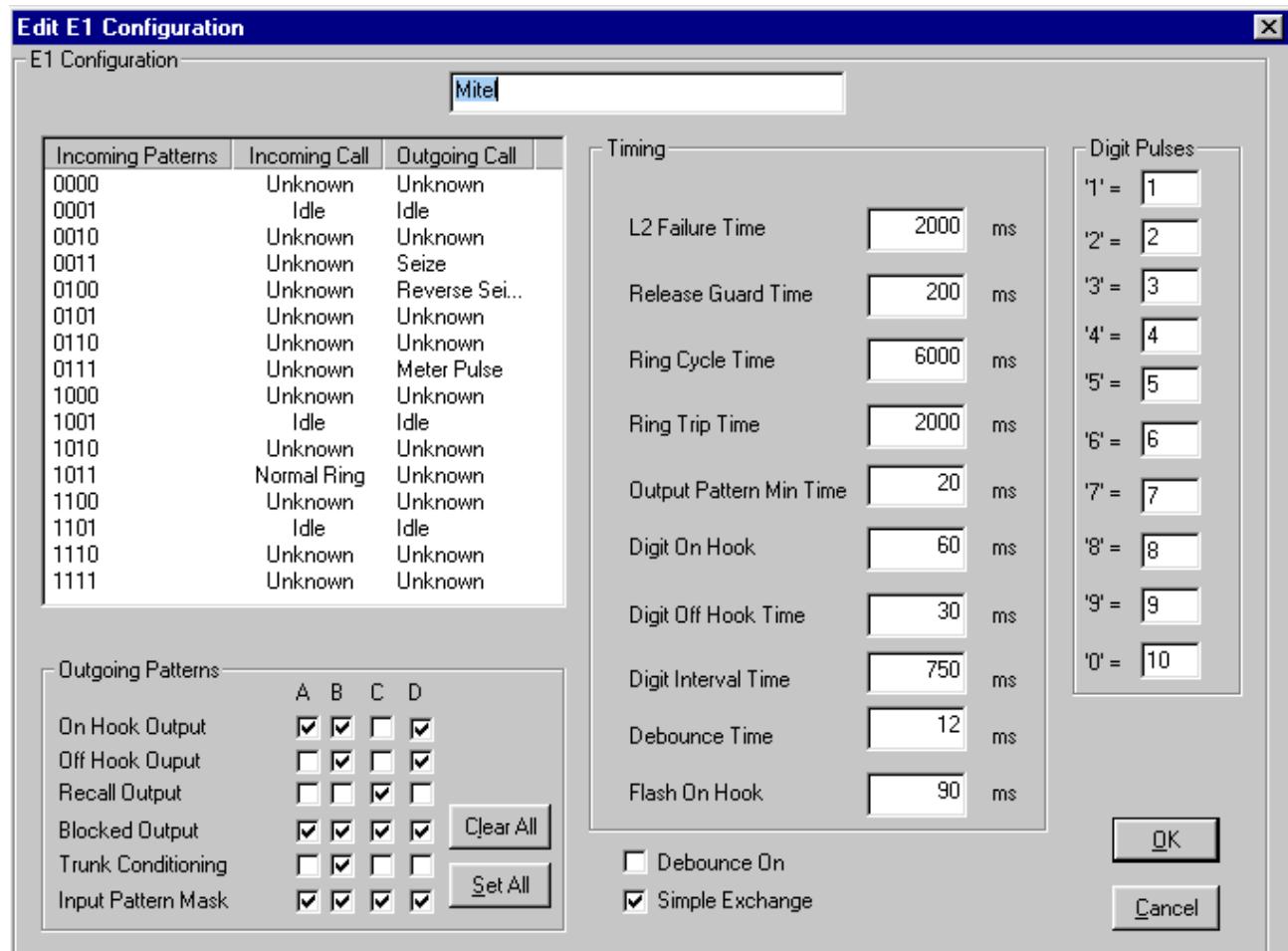
V51 TU Signalling

 Consult the switch user guide and set the values to match the requirements of the connecting switch.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.
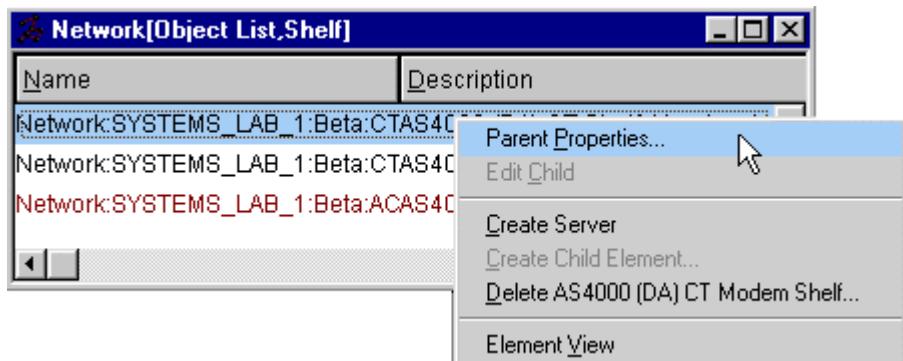
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"
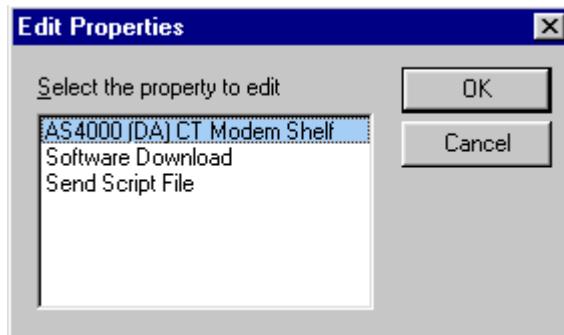
ADJUSTING RF RX GAIN (DA)

STEP	PROCEDURE

1. Using Sitespan highlight the shelf, click right mouse button and select 'Parent Properties'.

2. Select 'Airspan DA CT modem shelf'.

3. '.Adjust the 'Rx Gain' by increasing and decreasing the values using the box arrows.
    (if value is reduced power goes UP) . Adjust the 'Rx Gain' and select 'OK

Note: To start with a new system, set the RX gain to around 2200. For complete process of setting RX sensitivity see 605-0000-477 CT Installation and commissioning
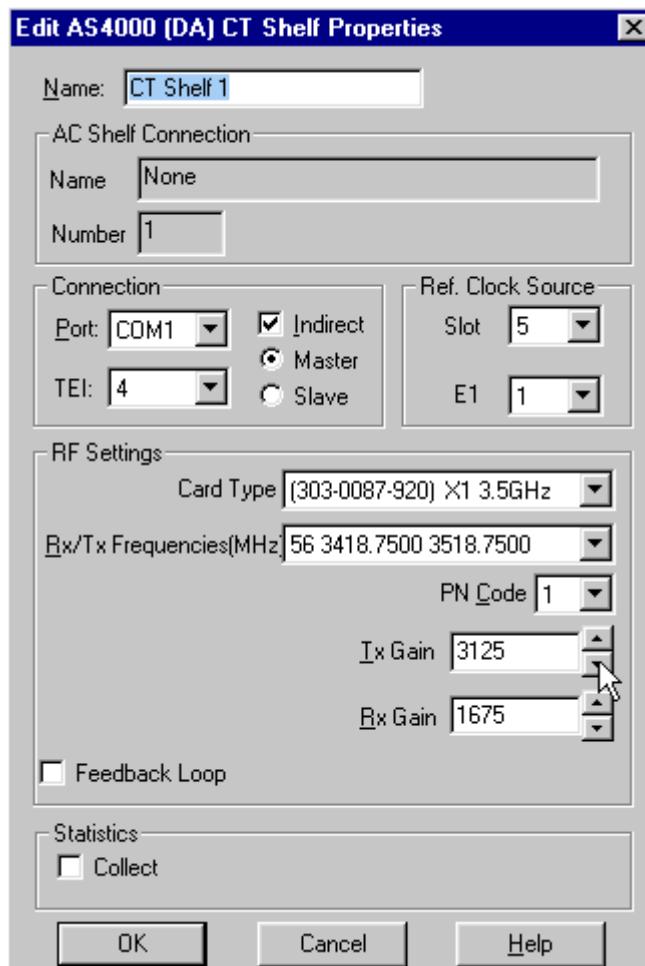
STOP. THIS PROCEDURE HAS BEEN COMPLETED.
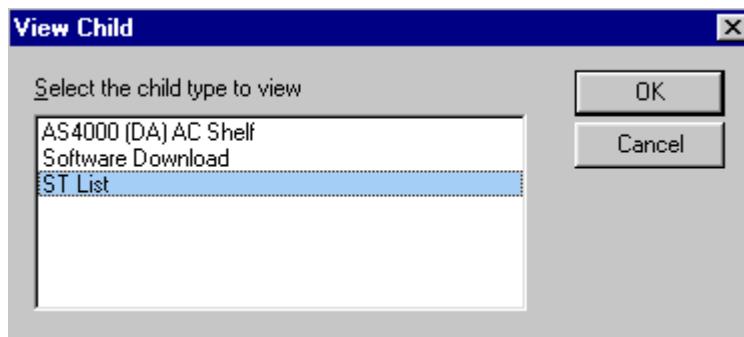
CREATING DEMAND ASSIGNMENT SUBSCRIBER TERMINALS

STEP	PROCEDURE

1. Display the Access Concentrator Shelf. To display a view see DLP-019 or GSI-017. Click the right mouse button and select *Element View* from the menu.
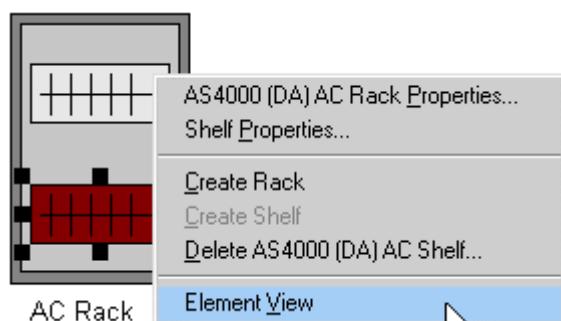
2. To display the ST list select In the *View Child* window select *ST List.*

3. The ST list is displayed with any current subscribers listed or blank if no subscribers have been assigned.

4. To create a new subscriber select *Create ST* from the *Edit* menu

5. The Edit DA State window contains details of the ST configuration.
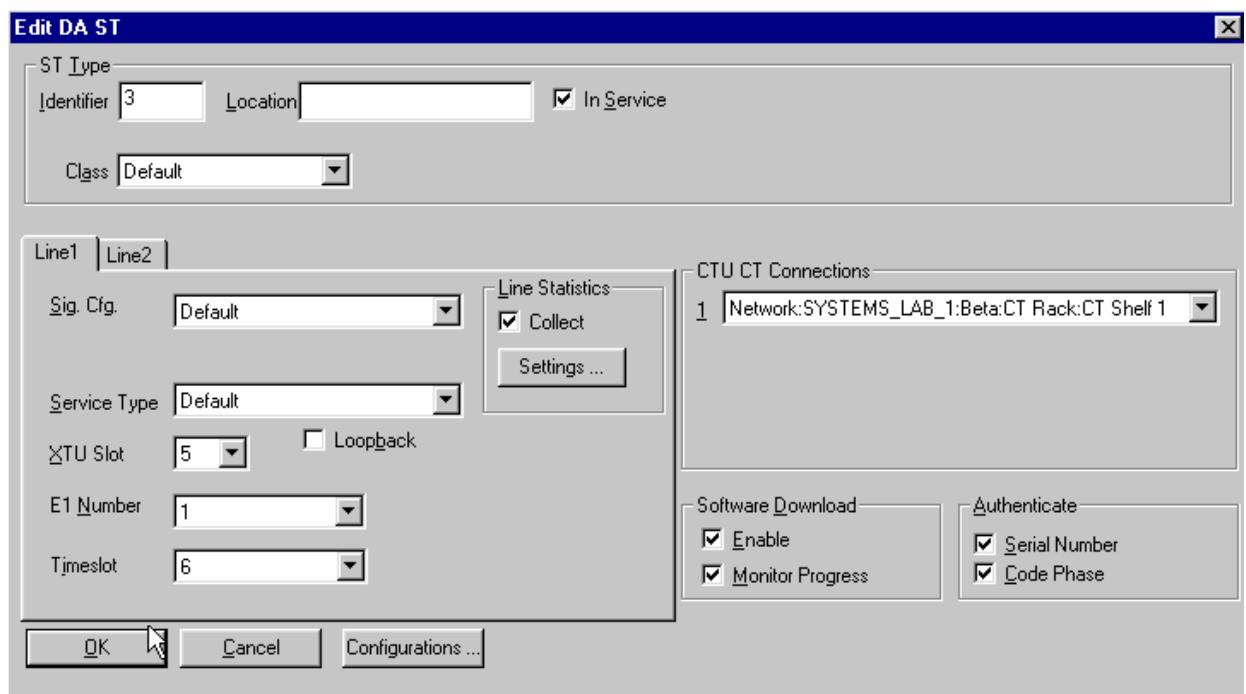
6. Enter information and configuration options into the fields.

ST Type

Identifier: a unique number to identify the ST this is automatically assigned by Sitespan. Alternatively a new number can be assigned manually.
Location: the location of the ST.
Class: select the type of ST being provided. If the type of ST is not listed, it can be created by clicking the *Configurations* button and selecting *ST Classes* (see DLP-115).
In Service: checking the box allows the subscriber to make and receive calls.

Line 1/Line 2

Signalling Configuration (*Sig Cfg*): Select required configuration from the drop menu or create a new one by clicking the configurations button and selecting ST Signalling (see DLP115)

Service Type: Select the required Service Type from the drop menu or create a new one by clicking the configurations button and selecting ST Service Type (see DLP115)

XTU Slot: E1 Number and **Timeslot**: Allocate each Subscriber line an XTU, E1 link and timeslot to provide the backhaul to the switch. . Each subscriber line must have a unique timeslot. If the timeslot has already been allocated the following screen is displayed. Allocate another timeslot.

CTU CT Connections: Drop the menu and select the shelf in the Central Terminal that the ST connects to on acquisition. If the connections are not set then the following message appears when OK is clicked.

Software Download: Checking software download makes the ST available for software download. Progress of the download can be monitored if desired by checking the monitor progress box. On completion of the download the boxes should be reverted to clear.

Authenticate: Checking the code phase and Serial number boxes enables authentication of the subscriber. Service is only provided to the subscriber if the Serial Number and Code Phase are as set on installation of the ST

7. To change configuration click the configuration click the Configurations button. SeeDLP115.

8. When all fields are complete click OK to add the subscriber to the ST List

9. To create a subscriber record associated with the ST go to DLP-120

**STOP. THIS PROCEDURE HAS BEEN COMPLETED.**

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DELETING DEMAND ASSIGNMENT SUBSCRIBER TERMINALS
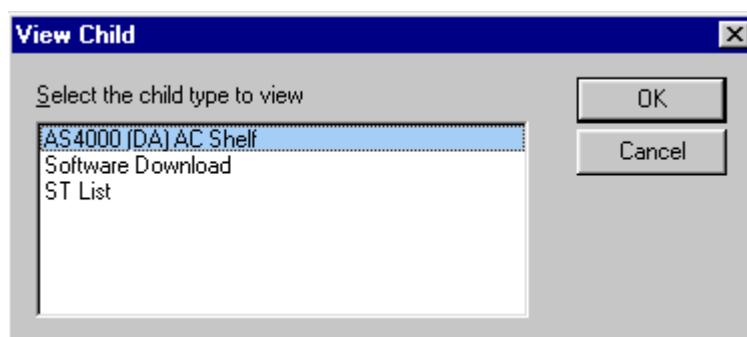
Use this procedure to delete demand assignment subscribers from the AS4000.

STEP	PROCEDURE

1. Display the Access Concentrator Shelf. To display a view see DLP-019 or GSI-017.

2. Click the right mouse button and select Element View from the menu.
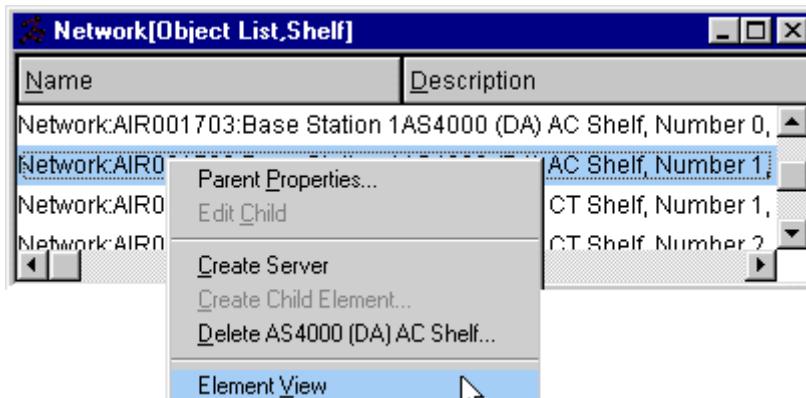
3. To display the ST list select In the View Child window select ST List.

4. The ST list is displayed with any current subscribers. Select the subscriber to be deleted.
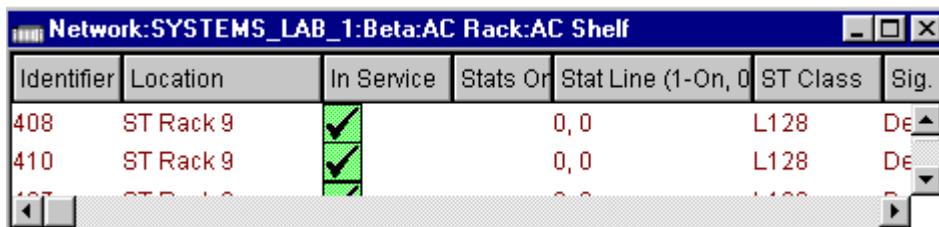
5. Place cursor over the ST and click the right mouse button.Select *Delete AS4000 DA(type)ST* from the *Edit* menu
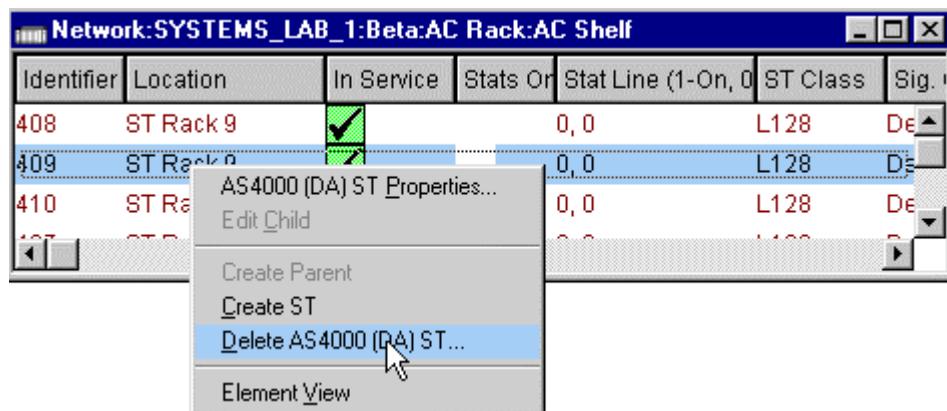
6. Click OK on the delete confirmation window to initiate the deletion.

7. The subscriber is removed from the ST List

8. **Note:** Any subscriber that is associated with the ST is not deleted at the same time. The subscriber record still exists but is not associated with any ST. To delete the subscriber record go to DLP-121

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

SUBSCRIBER TERMINAL VIEWS DEMAND ASSIGNMENT
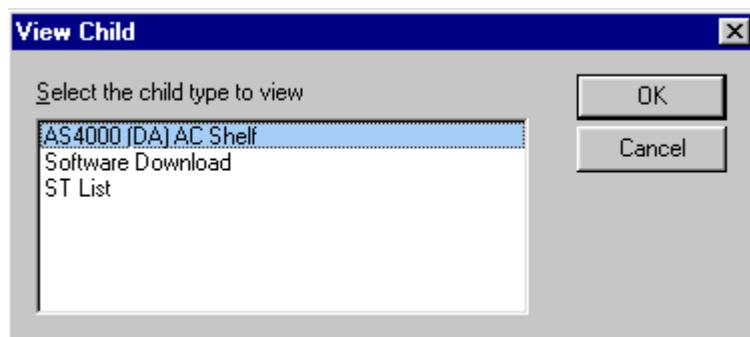
This procedure describes Subscriber Terminal Views for Demand Assignment.

| STEP	PROCEDURE

1. Display the Modem Shelf. To display a view, see DLP-019 or GSI-017.

2. Click the right mouse button and select Element View from the menu.
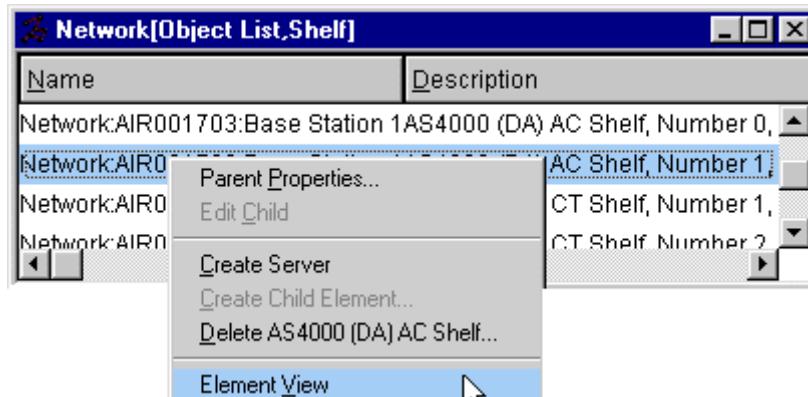
3. To display the ST list select In the View Child window select ST List.

4. From the ST list select the ST to be viewed and either double click the item or select *Element View* from the menu.
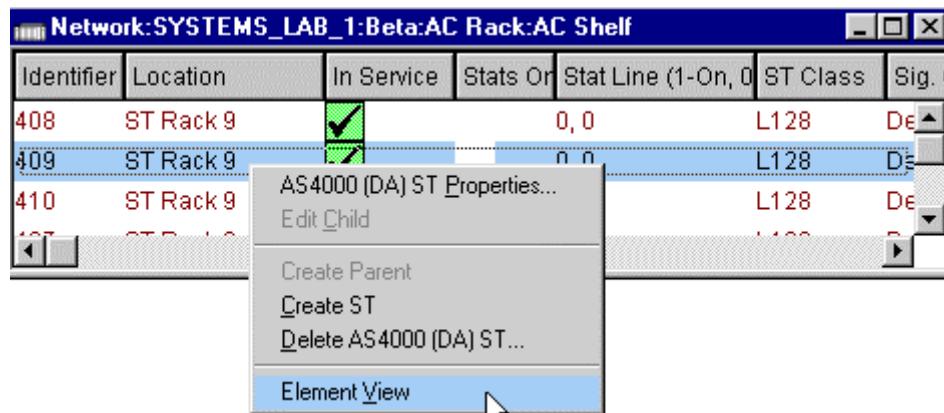
5. The ST View displays the following information:

- ST Identifier.

- Location of ST

- Class: the type of ST that is deployed. E.g. ST-R1

- Serial Number

- Service State

- Inventory Information. The inventory shows both the Current and Other Firmware versions being used. See DLP-019 for other inventory details.

- A Self Test button. For details of use see DLP-016.

- Reset button to reset the card.

- A Net Enter Button.

- Alarms: For interpretation of alarms see Operations and Maintenance Guide

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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CREATING DEMAND ASSIGNMENT SUBSCRIBERS

This procedure adds subscriber details to subscriber terminals created in DLP-117

STEP   **PROCEDURE**

1. Click the 📶 on the *Toolbar* .

2. The *Network Subscriber* object list is displayed. Any existing subscribers are displayed in the list, otherwise it is empty.

3. Click the 📶 on the *Toolbar* . Select the *AS4000 (DA)* subscriber option.
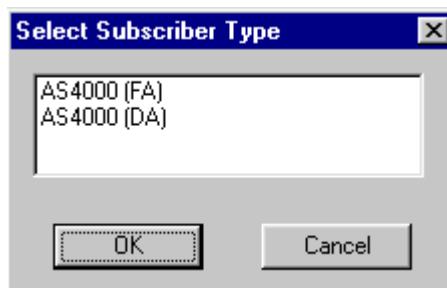
4. Enter the customer information into the fields: *Name, Address, Telephone number* and select *Tariff*

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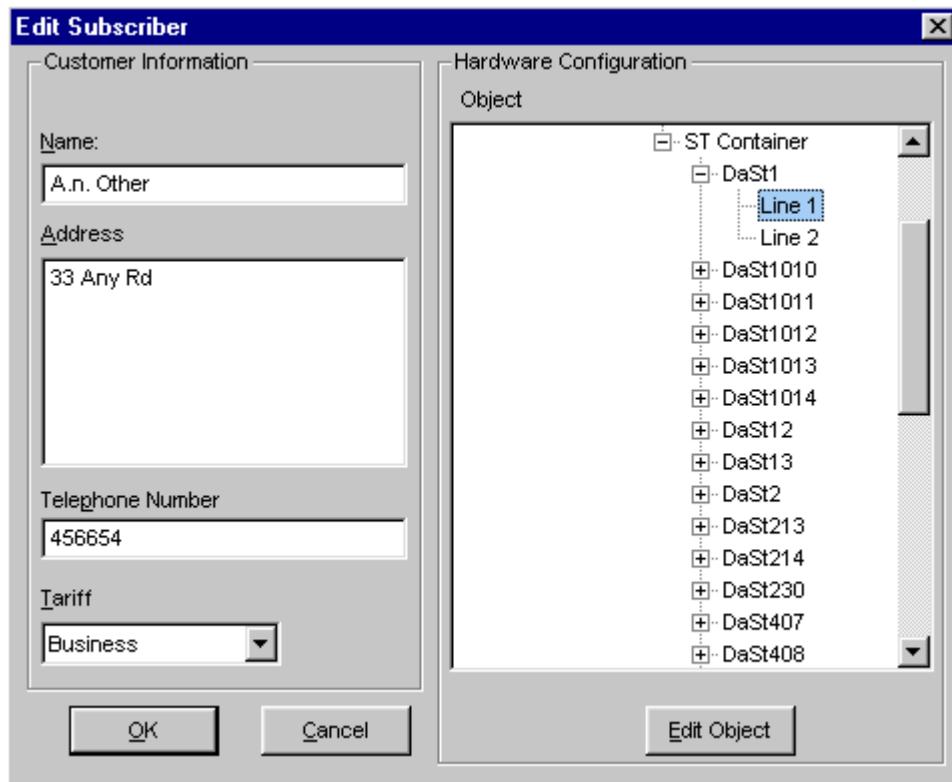
5. The STs already created are shown in the hardware configuration box. Select the ST associated with the subscriber and click left mouse button, this reveals the lines created on the ST, click left mouse button on a line to associate the subscriber with the ST. Until this is done the *OK* and *Edit Object* Buttons are unavailable. If the object is to be edited click left mouse button on the *Edit Object* button and follow the instructions in DLP-117.

6. Click OK to create the subscriber.

The Network Subscriber object list is displayed. The new subscriber is displayed in the list.

Name	>Phone Number	Active	Address	Tariff	Mci	Intr	Modem Shel
A. N Other	456654	✓	33 Any Road	Business			Network:S

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

# DELETING DEMAND ASSIGNMENT SUBSCRIBERS
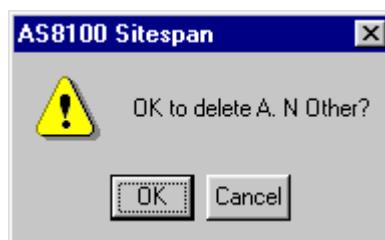
This procedure deletes details to subscribers created in DLP-117

STEP	PROCEDURE

1. Click the [icon] on the *Toolbar* .

2. The *Network Subscriber* object list is displayed. Existing subscribers are displayed in the list.

3. Select the subscriber to be deleted. Click the right mouse button and select *Delete Subscriber*.
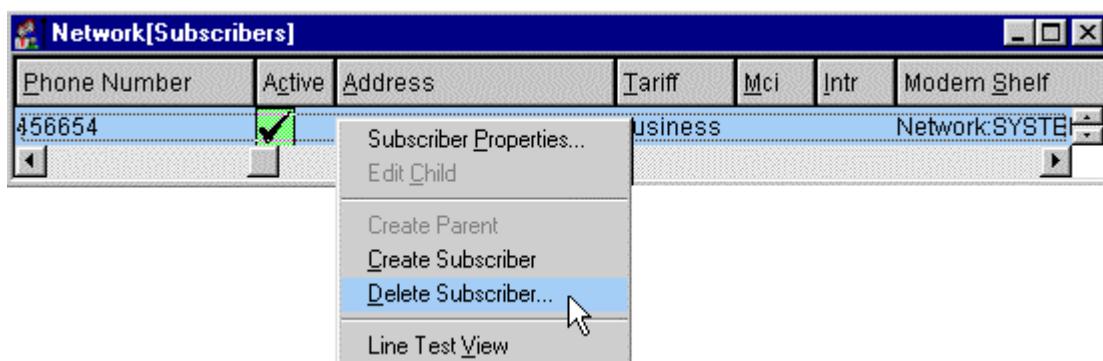
4. Click left mouse button on *OK* in the confirmation window.

5. The *Network Subscriber* object list is displayed. The deleted subscriber is removed.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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SUBSCRIBER LINE TESTS

Use this procedure to test DA subscriber lines

STEP	PROCEDURE

1. Click the 🛉🏛 on the *Toolbar* .

2. The *Network Subscriber* object list is displayed. Existing subscribers are displayed in the list.

3. The *Network Subscriber* object list is displayed. Select the subscriber to be tested and Click the right mouse button and select *Line Test View.*

4. The widow displayed shows the ST that is selected for testing and the current reservation status.

5. Select the reservation option
   Force reserves the line busy or not.
   Camp waits until line is free before busying the line
   Abort on Busy only reserves the line if it is free otherwise the line is not reserved.

6. Click left mouse button on the *Reserve* button to initiate reservation.
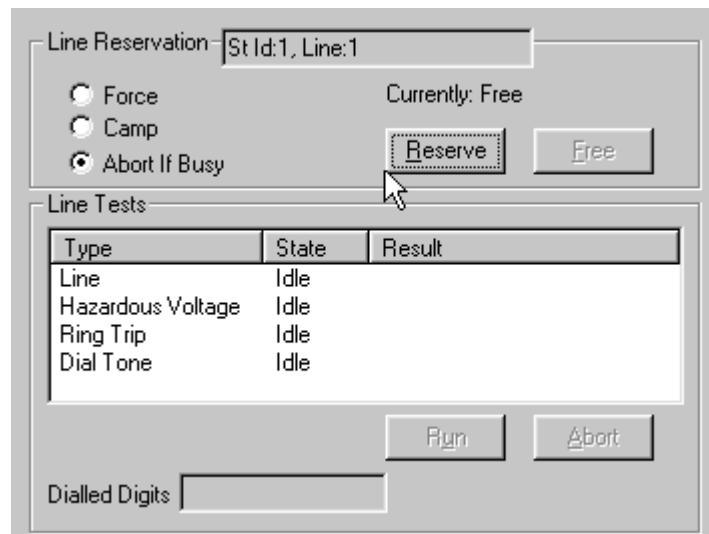
7. When the line has been reserved the current status is updated. Select the tests required and click left mouse button on the *Run* button.
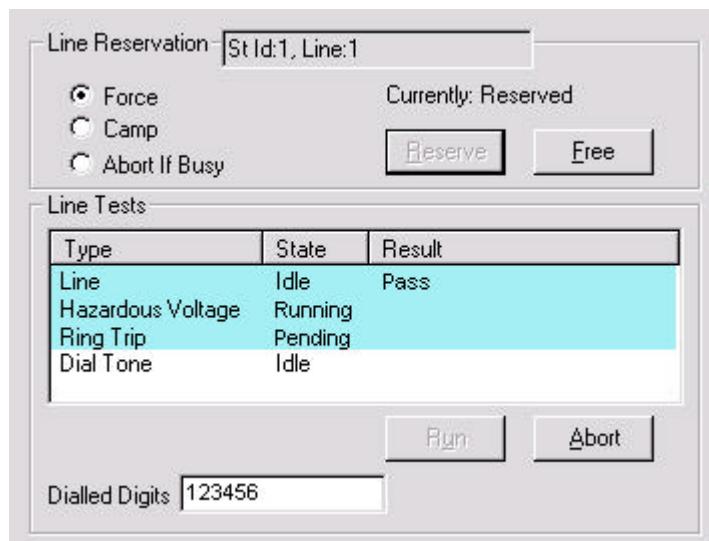
8. The progress of the test is displayed in the line test box. The results are displayed as *Pass*, *Fail* or *Inconclusive*. Digits dialled by the customer are displayed in the dialled Digits BoxTo stop testing at any stage click left mouse button on the *Abort* button

9. On the completion of tests click left mouse button on the *Free* button to release the line.

STOP. THIS PROCEDURE HAS BEEN COMPLETED.

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MONITORING DA PERFORMANCE STATISTICS
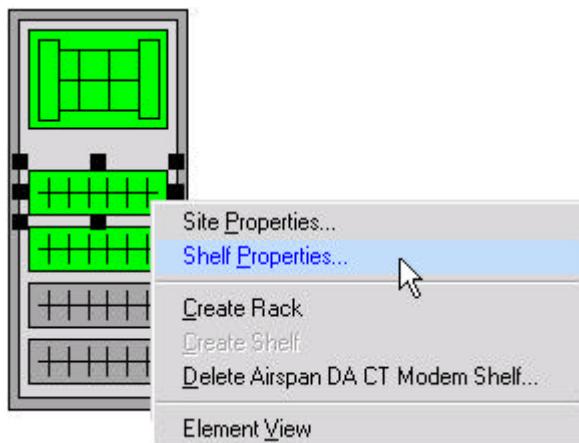
This procedure outlines the process for collecting DA Performance Statistics
AS8100 Sitespan is able to monitor

- RF related statistics – per CT shelf.
- Call traffic statistics – per CT shelf.
- Call traffic statistics – per ST Line.
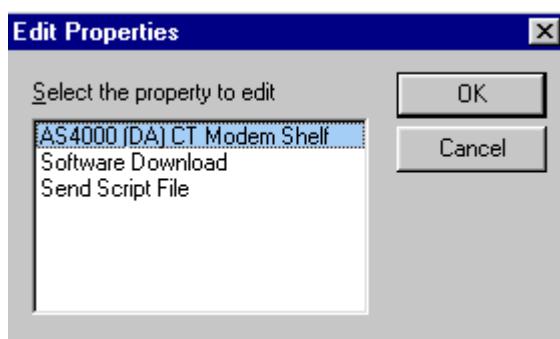
STEP   **PROCEDURE**

Collect Central Terminal Shelf RF and Call Statistics

1. Either select the shelf from Site View or select the shelf on an Object List. Click the right mouse button and select *Shelf Properties.*

2. Select *Airspan DA CT Modem Shelf* and click OK.

3. In the *Airspan DA CT Shelf Properties* window click the mouse on the *Statistics* check box. The Statistics parameters are displayed

   - specify the poll period; default 15 minutes, minimum 15 minutes, maximum 1440 minutes).

- specify the total duration of interest (collection period); default 1 day, minimum 1 day, maximum 32000 days).
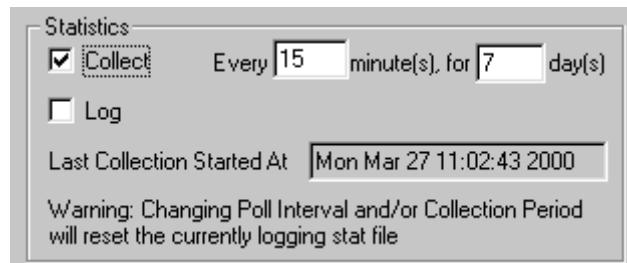
4. Click the mouse on the *Log* check box. The directory for the file is displayed. Each CT shelf statistical data will be logged and stored in *C:\Sitespan\Statistics\ctstats* directory. The maximum number of entries in a file will be 32000 records, with wraparound; the actual file size may be less than this. The number of records is based on the combination of polling duration and retrieval period. Each time statistics are enabled, these files are recreated, and any data that has been logged by a previous statistics enable is lost.

5. To generate a historical log of the statistics per report type that does not wrap around click the file option. In the file save window create the directory and file name for this log. The user will be prompted for the filename (40 chars maximum, including the path). This file is a text-based, and the format of each record will be tab-separated values, to allow easy import to other programs (e.g. MS Excel). Unlike the internal Sitespan statistics data files, these log files are NOT reset each time statistics are enabled. This file will continue to grow without limit. If this option is selected, it is the user's responsibility to arrange archiving / removal of this file at periodic intervals.When the log file is removed, the next received statistical data will result in a new log file being created automatically (provided the logging option is enabled).

Collect Subscriber Terminal Call Statistics

1. Select the ST from the ST Object List. Click the right mouse button and select *AS4000 ST Properties.*
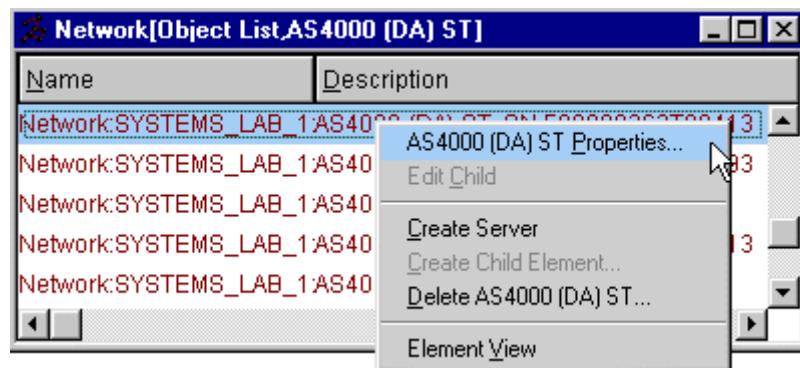
2. Click the mouse on the *Collect* check box.
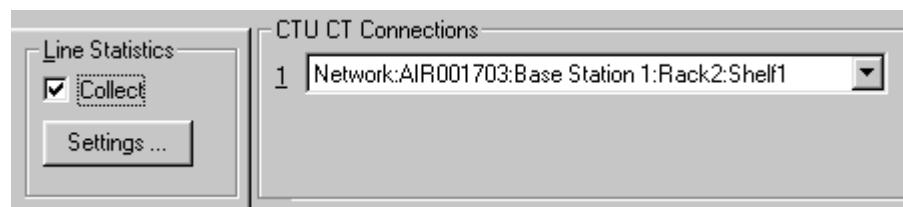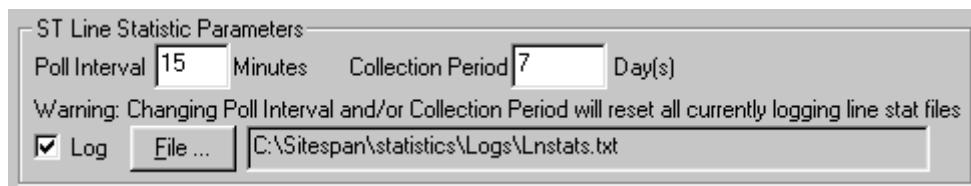
3. If a CTU CT connection has not been allocated the following message is displayed
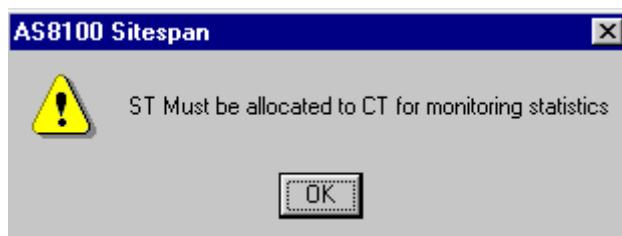
4. In the *Airspan DA AC Shelf Properties t*he Statistics parameters are displayed
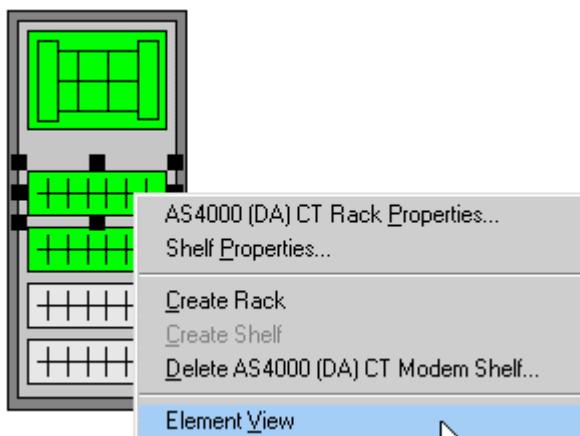
- specify the poll period; default 15 minutes, minimum 15 minutes, maximum 1440 minutes).
- specify the total duration of interest (collection period); default 1 day, minimum 1 day, maximum 32000 days).
- Click the mouse on the *Log* check box. The directory for the file is displayed. Each ST shelf statistical data will be logged and stored in *C:\Sitespan\Statistics\Ststats* directory. The maximum number of entries in a file will be 32000 records, with wraparound; the actual file size may be less than this. The number of records is based on the combination of polling duration and retrieval period. Each time statistics are enabled, these files are recreated, and any data that has been logged by a previous statistics enable is lost. A maximum of 50 ST's may be monitored at any one time.

5. To generate a historical log of the statistics per report type that does not wrap around click the file option. In the file save window create the directory and file name for this log. The user will be prompted for the filename (40 chars maximum, including the path). This file is a text-based, and the format of each record will be tab-separated values, to allow easy import to other programs (e.g. MS Excel). Unlike the internal Sitespan statistics data files, these log files are NOT reset each time statistics are enabled. This file will continue to grow without limit. If this option is selected, it is the user's responsibility to arrange archiving / removal of this file at periodic intervals. When the log file is removed, the next received statistical data will result in a new log file being created automatically (provided the logging option is enabled).

Displaying RF statistics files

1. Either select the shelf from Site View or select the shelf on an Object List. Click the right mouse button and select *Element View.*

2. Select *RF Statistics* and click OK.

The following RF Statistics are displayed:

| Statistic	Description
Radio usage	
%Average radio usage	Average usage of the total radio traffic bandwidth. (100% usage occurs when all 13 traffic RWs are fully utilised.)
% Minimum radio usage	Minimum usage of the total radio traffic bandwidth.
%Maximum radio usage	Maximum usage of the total radio traffic bandwidth.
Call Collisions	
Uplink Attempts by ST at 160K	Total number of radio acquisition attempts at 160K
Uplink Fail at 160K	Total number of call collisions at 160K
Uplink Attempts by ST at 80K	Total number of radio acquisition attempts at 80K
Uplink Fail at 80K	Total number of collisions at 80K
Uplink Attempts by ST at 40K	Total number of radio acquisition attempts at 40K
Uplink Fail at 40K	Total number of collisions at 40K

Note: The radio usage figures give an indication of the overall usage of the system.
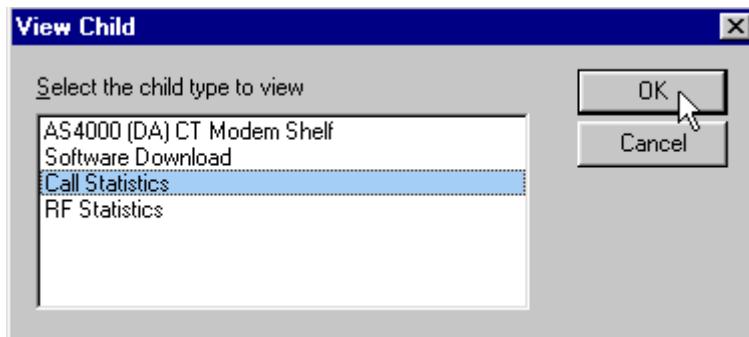
Note: A call collision occurs if two STs simultaneously attempt to acquire the same RW segment. This can happen when both STs are making outgoing calls, or one ST is making an outgoing call and the other is invited to receive an incoming call. If excessive collisions appear at a particular bandwidth, it suggests that the free list at that bandwidth on the CT is misconfigured.

Displaying CT Call statistics files

1. Either select the shelf from Site View or select the shelf on an Object List. Click the right mouse button and select *Element View.*

2. Select *Call Statistics* and click OK.

The following Call statistics are displayed:

Statistic	Description
Inc. Attempts	Total Number of incoming call attempts. (Collisions are not included in this figure).
Inc. Fail (N/R)	Number of incoming calls that fail to acquire radio (after retries).
Inc. Fail (R/D)	Number of incoming calls that fail due to radio drop.
Inc. Fail (Other)	Number of incoming calls that fail due to other reasons.
Inc. Success	Number of incoming calls the reached the "connected state" and were cleared down normally.
Out. Attempts	Total Number of outgoing call attempts. (Collisions are not included in this figure).
Out. Fail (N/R)	Number of outgoing calls that fail to acquire radio (after retries).
Out. Fail (R/D)	Number of outgoing calls that fail due to radio drop.
Out. Fail (Other)	Number of outgoing calls that fail due to other reasons.
Out. Success.	Number of outgoing calls that reached the "connected state" and were cleared down normally.
Call Hold (Secs).	This represents the call hold duration in seconds.
Bumped	This represents the number of calls that were in the "connected" state and then were cleared by the system (not the users) because an RW was taken out of service.

Displaying ST Call statistics files

1. Either select the shelf from Site View or select the shelf on an Object List. Click the right mouse button and select *Element View.*
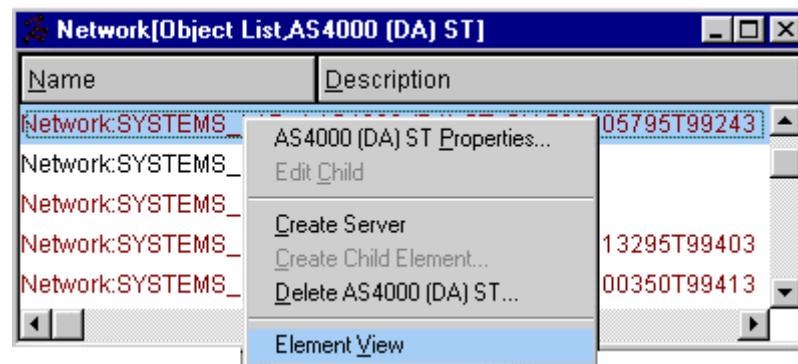

3. Select *ST Call Statistics* and click OK.

The following Call statistics are displayed:

Statistic	Description
Inc. Attempts	Total Number of incoming call attempts. (Collisions are not included in this figure).
Inc. Fail (N/R)	Number of incoming calls that fail to acquire radio (after retries).
Inc. Fail (R/D)	Number of incoming calls that fail due to radio drop.
Inc. Fail (Other)	Number of incoming calls that fail due to other reasons.
Inc. Success	Number of incoming calls the reached the "connected state" and were cleared down normally.
Out. Attempts	Total Number of outgoing call attempts. (Collisions are not included in this figure).
Out. Fail (N/R)	Number of outgoing calls that fail to acquire radio (after retries).
Out. Fail (R/D)	Number of outgoing calls that fail due to radio drop.
Out. Fail (Other)	Number of outgoing calls that fail due to other reasons.
Out. Success.	Number of outgoing calls that reached the "connected state" and were cleared down normally.
Call Hold (Secs).	This represents the call hold duration in seconds.
Bumped	This represents the number of calls that were in the "connected" state and then were cleared by the system (not the users) because an RW was taken out of service.

Importing Statistics Data into a Database or Spreadsheet

1. To view statistical records in a database or spreadsheet, first locate the statistics file in C:\Sitespan\Statistics\… or in the location defined when the log was set-up. The file is a .txt file and the records are Tab delimited. . The import wizard on the spreadsheet or database sets the records into the appropriate fields.

Printing Statistics

1. Display the Statistics list as described above

2. From the file menu select print. Set parameters in the print window and click OK.

ISSUE CONTROL LIST

ISSUE		PURPOSE	PAGES AFFECTED
0.0	January 1998	AS8100 Sitespan 2.5	All
1.0	August 1998	AS8100 Sitespan 2.5 upgraded to 2.6	All
2.0	February 1999	AS8100 Sitespan 3.0	All: Re-organisation of DLP numbering
3.0	October 1999	Updated to AS8100 Sitespan 3.4	All: Re-organisation of DLP numbering
4.0	November 1999	Updated to AS8100 Sitespan 3.6	All
5.0	April 2000	Updated to AS8100 Sitespan 3.7	All

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User Response Form

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Document Rating	Excellent	Good	Average	Below Average	Poor
Accuracy / Completeness	❑	❑	❑	❑	❑
Clarity / Organisation	❑	❑	❑	❑	❑
Figures	❑	❑	❑	❑	❑
Table of Contents/Index	❑	❑	❑	❑	❑

The nature of this response is   Addition ❑   Deletion ❑ Correction ❑

Please enter details of response below (include precise reference to Section, Page, Paragraph)

Please complete the following for acknowledgement/response:
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Glossary of Terms