

WHICH ALPS?

THE ALPS PRODUCT FAMILY

There are three products in the ALPS family:

ALPS PC

ALPS PC is a DOS-based application that serves one user per database (site). It runs under DOS and uses one PC for each die-pick connection. Each PC running ALPS PC has its own database.

ALPS PC was initially introduced into the market in 1994. It has been widely and successfully used throughout the industry. It is, however, based on the DOS operating system which, apart from being very old technology, does not offer networking, database and other services that we feel are required by a production worthy system.

As a result we stopped development on ALPS PC in 1999 and offered instead a Windows based version (ALPS EL or LT).

ALPS EL

Announced in June 2002, ALPS EL is the newest member of the family. It replaces ALPS PC as the entry-level product in the family. ALPS PC is the DOS-based application introduced in 1995 that served one user and one equipment connect with a single PC and no network connection.

ALPS EL, which runs on Windows NT/2000, offers semiconductor manufacturers and subcontractors the basic facilities needed for inkless die processing on die bonders and sorters: conversion and storage of wafer maps and communication with die pick equipment.

Operator expertise gained using ALPS EL is transferable to ALPS LT should the manufacturer or subcontractor decide to upgrade.

ALPS LT

ALPS LT supports large installations. It runs on a Windows NT/2000 server and workstations and is designed to serve 150-plus equipment connections per database. ALPS LT includes an MSDE database. This is adequate for many installations. For those interested in an enterprise level system should install the Microsoft's SQL Server database which is 100% compatible with MSDE. The fact that ALPS LT has the same graphical user interface as ALPS EL facilitates operator training following an upgrade.

CHOOSING THE RIGHT PRODUCT

The table below summarizes the differences between the ALPS products. Use this table to determine which ALPS is right for you today and to plan for growth tomorrow.

Table 1: Comparing the ALPS Product Features

Feature	ALPS version		
	PC	EL	LT
<i>DOS</i>	✓		
<i>Windows NT or 2000</i>		✓	✓
<i>SQL Server (MSDE) database</i>		✓	✓
<i>Equipment connects per computer</i>	1	8	8
<i>Equipment connects per database</i>	1	150+	150+
<i>Maximum wafers per database</i>	1,000	1M	1M
<i>Maximum devices (dies) per wafer</i>	50k	1M	1M
<i>Die pick equipment connection</i>	✓	✓	✓
<i>Wafer mounter connection</i>			✓
<i>Inspection equipment connection</i>			✓
<i>Lot management</i>	✓	(✓)	✓
<i>Wafer map history</i>	(✓)	(✓)	✓
<i>Wafer map editing</i>	(✓)	(✓)	✓
<i>Wafer map splitting</i>			✓
<i>Process recipe support</i>	✓		✓
<i>Automatic wafer map import</i>	(✓)	(✓)	✓
<i>Automatic wafer map purge</i>			✓
<i>User security</i>	✓		✓
<i>E-mail notification</i>			✓
<i>Windows file sharing support</i>		✓	✓
<i>FTP support</i>			✓
<i>Wafer map export</i>			✓
<i>MES interface</i>			✓
"✓" = Feature			
"(✓)" = Option			

Notes:

1. "✓" indicates that a feature is present in the respective product.
"(✓)" indicates that a feature is available for the respective product as an option, at an additional license fee.
2. ALPS EL and ALPS LT are standard delivered with MSDE, a small-scale version of Microsoft SQL Server. In this configuration, using MSDE, the number of equipment connects per database is limited to 16, and the maximum number of wafer records in the database is in the order of 40,000. MSDE can however be replaced by a higher version of SQL Server (e.g. the Enterprise version) which removes these limitations.
3. Another version of ALPS, called ALPS NT, is available as a special product. ALPS NT has the same features as ALPS LT but uses an Oracle database instead of SQL Server.
4. ALPS PC runs on DOS. This implies that limitations apply that are caused by DOS, which are not found on more modern Windows platforms and may therefore not be expected by the customer. These restrictions include (but are not limited to) length and characters used in file names, no or limited network support, etc.. Please contact us with specific questions regarding functionality supported.

ALPS EL AND LT INSTALLATION EXAMPLES

MINIMUM CONFIGURATION

- ❑ This configuration is the simplest configuration for small installations.
- ❑ ALPS Server and Client are installed on one computer.
- ❑ Maps are imported manually from a shared drive over a Windows compatible network, or from an FTP site (FTP Client software is included with ALPS).
- ❑ Data is stored in an MSDE database on the local drive.
- ❑ Supports up to 8 SECS links.

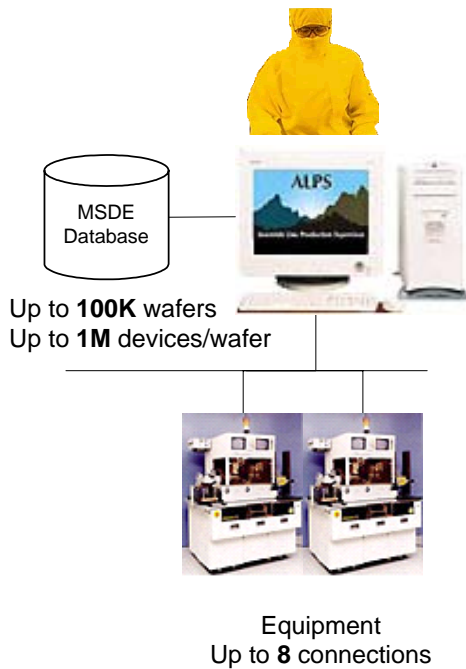


Figure 1: ALPS Minimum Configuration

TYPICAL CONFIGURATION

- ❑ This configuration is typical for medium size installations.
- ❑ ALPS Server and Clients are installed on separate computers.
- ❑ Maps are imported from a shared drive over a Windows compatible network, or from an FTP site (FTP Client software is included with ALPS).
- ❑ Data is stored on the ALPS server in an MSDE database.
- ❑ The ALPS server provides centralized license management.
- ❑ Supports up to 8 SECS links per computer and up to 16 SECS and GUI links altogether.
- ❑ ALPS LT includes ALPS Sort and ALPS Purge which are installed on the ALPS server providing automated import and purge. The entire system can run unattended. Only simple and safe production procedures can be done on the ALPS client.

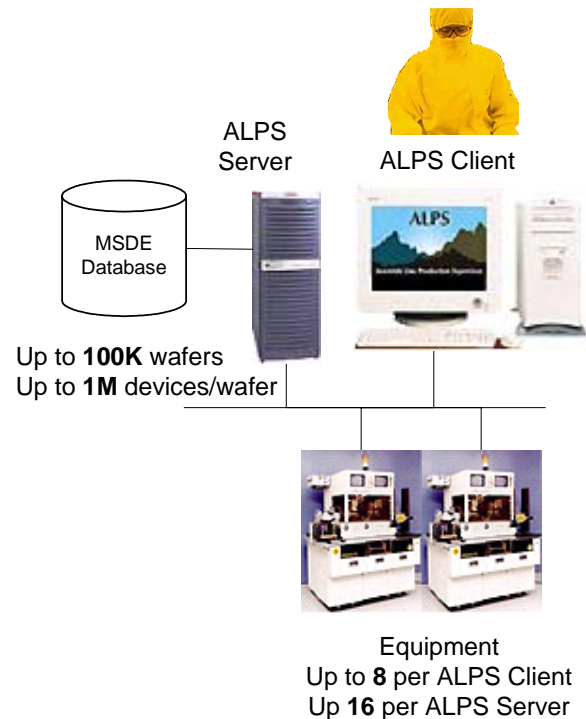


Figure 2: ALPS Typical Configuration

ENTERPRISE CONFIGURATION

- ❑ This configuration is appropriate for large enterprise wide installations.
- ❑ ALPS Server and Clients are installed on separate computers.
- ❑ Maps are imported from a shared drive over a Windows compatible network, or from an FTP site (FTP Client software is included with ALPS).
- ❑ Data is stored on the ALPS server or another server in a SQL Server database.
- ❑ The ALPS server provides centralized license management.
- ❑ Supports up to 8 SECS links per computer and up to 150+ SECS and GUI links per database.
- ❑ ALPS LT includes ALPS Sort and ALPS Purge which are installed on the ALPS server providing automated import and purge. The entire system can run unattended. Only simple and safe production procedures can be done on the ALPS client.

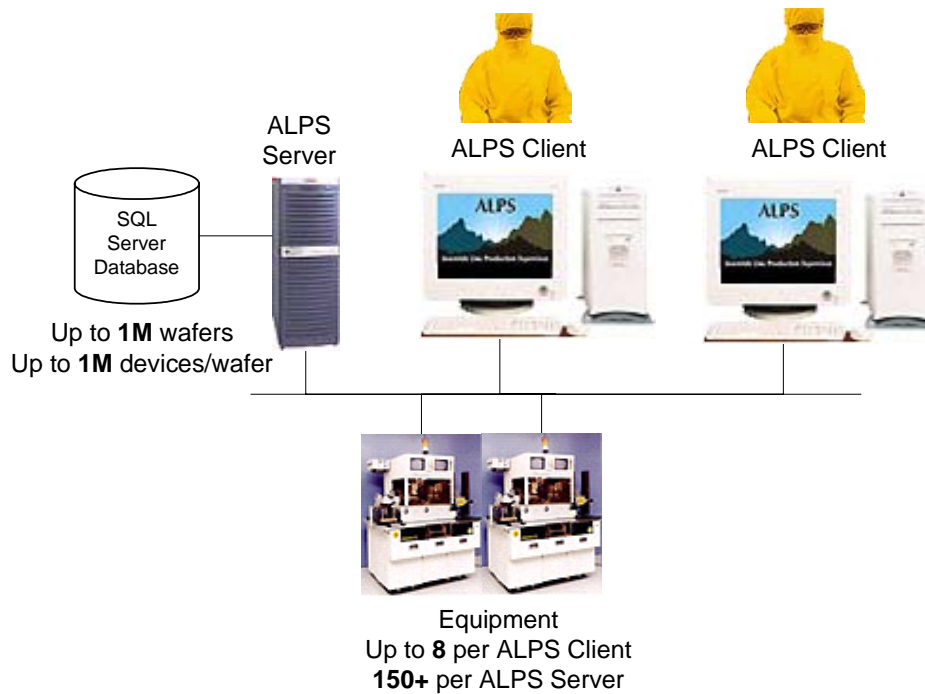


Figure 3: ALPS Enterprise Configuration