La Scala acts to create digital archive

ITALY – Milan's Teatro alla Scala, world-renowned shrine of opera and classical music, has decided to set up a computerized digital audio archive and work has begun on digitizing over 5,000 tapes dating back to 1951 (reel-to-reel analogue up to 1990 and digital from then on), containing performances with names like Callas, Pavarotti, Accardo and Pollini.

Funded by a group of international sponsors co-ordinated by the Milan for La Scala Foundation, this delicate work has been entrusted to Milan University's Laboratorio di Informatica Musicale, well-known abroad for its research work in sound digitizing and music/sound software design and directed by Prof Goffredo Haus, also vice-chairmain of IEEE CS Technical Committee on Computer Generated Music.

LIM's work is divided into three stages: digitizing the recordings stored in the theatre's music archive, transferring these to about 10,000 CD-ROMs and storing the digitized recordings in the Archivio Fonico database, a system based on Oracle 8 chosen for its ease of use and multi-platform features.

Many tapes have to be cleaned by hand, and those with softened coatings or moisture damage undergo special heat treatment. Once in suitable condition, their contents are digitized (44.1 kHz/20-bit) in a suite including a Lucid Technology ADA 1000 stereo A/D converter, Pro Tools 888 interface and a Mac with Sound Designer and Pro Tools. An Otari MX55 (with Dolby A unit) and two Revox B77s play the quarter-inch tapes.

The audio files are edited to form digital tracks corresponding to single musical pieces, without any restoration work on the actual sound. These digital tracks are then copied onto two TDK CD-Rs (a copy for the archive, the other in the vaults of the Italian Commercial Bank). About 40 attributes are entered for each piece in an Oracle 8-based data-
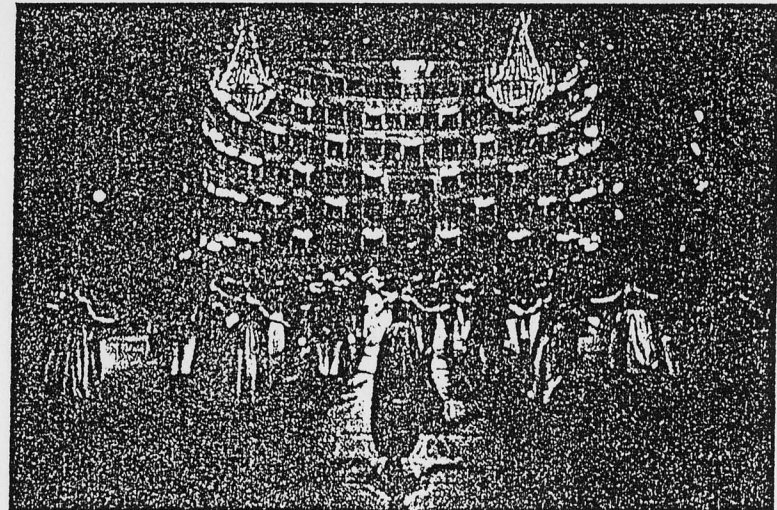
La Scala mounts *I Vespri Siciliani* in 1989   Photo: Lelli & Masotti

base running on a multi-platform (UNIX, NT, Windows95, Mac OS) Hewlett-Packard client/server system controlling access to the database – which will reach several dozen terabytes when complete by the end of 1999.

LIM is also working on software for Oracle to process multimedia items, and the finished database will have advanced search facilities: when a few bars are sung – in tune – the system will call up all similar pieces, display the score and reproduce a digital version.

A client/server interface for internal use and an Internet interface are also being developed.   MIKE CLARK