



La Nouba The Technical Story

The contract between Cirque du Soleil and Walt Disney World Resort was signed in July of 1996 and the theater was delivered in August of 1998. The set took a crew of 80 people and over four months to install.

The Theater

The 1,671-seat showroom is the first free-standing permanent theatre ever built for Cirque du Soleil. Set Designer Michel Crête of Cirque du Soleil, Michel Aubé of Scéno Plus, Walt Disney Imagineering and the architects of the Rockwell group collaborated on the overall design of the theater. The dynamic white structure was designed to convey elegance and sensuality with the addition of fabric and tension reminiscent of a Big Top. The contrasting black showroom interior transports the audience to another world as soon they enter the theater.

The set is reminiscent of a well-traveled path or trail. The rustic, relief-style finish on the 60-foot rocks was created using wood and bleached velour to cover the steel structures, thus producing a variety of perspectives.

Michel Crête designed the seven cloud-like *Fabulous Figures* that decorate the ceiling of the showroom. They measure 30 feet in length and are constructed of copper tubing and wrapped in mesh.

Two 75-foot towers were constructed from steel planks and positioned on both sides of the stage. Each tower has four levels and is equipped with an external elevator lift, a band platform, speakers and lighting equipment. The towers also provide alternate stage entrances and exits for the performers.

The showroom seats were modeled after old-fashioned auditorium chairs. Constructed out of steel and wood and covered in red velvet, they were designed to create familiar atmosphere for the audience. They were built by American Seating of Grand Rapids, Michigan.

Crête designed a 60x200-foot trellis made of PVC panels and scrim for the back wall to create a versatile backdrop on which various images and shadows could be produced. Visible backstage activity is made obvious to bring the set to life and evoke the audience's imagination.

Automations

Michel Crête's design of the set for *La Nouba* includes five elevator lifts built into the stage floor. Each lift has a 3,000 pound capacity, can move at one foot per second and rise to a maximum height of 16 feet. The center stage lift includes a second axis that is capable of descending 16 feet below the stage as well. The lifts are equipped with many safety interlocks including safety tape switches on the edges that stop the lift automatically if obstructed. The lifts were engineered and installed by Showmotion of Connecticut in collaboration with Disney Ride and Show Engineering.

Westsun Scenic Edge, Inc. of Winnipeg, Canada designed and installed the computer control system that precisely controls 45 motors including the five stage lifts that comprise the automation system for *La Nouba*. Over 300 automated cues in *La Nouba* are controlled using a Windows NT based program called Dynatrac. JR Clancy engineered and installed the 44 line set standard rigging system and 35 of the motorized winches used for flying acrobatic equipment and props.

Two computer-controlled telepheriques (or tracks) installed along the back wall of the stage are capable of moving props, scenery and acrobatic equipment at speeds of up to four feet per second. The largest set piece, the Grand Monument, measures 40x30 feet and is constructed of aluminum covered by a painted scrim.

The retractable power track floors were designed and installed by Cirque du Soleil to create a multi-functional performance area. The four floors retract beneath the stage revealing the power track surface eight inches below the stage. The floors weigh over 10,000 pounds each and are capable of moving up to two feet per second. Outfitted with a tighter trampoline bed and a second generation of springs, the 60-foot power tracks allow the performers to jump higher and faster than ever before. Instead of two overlapping tracks, as in *Alegria*, the trampolines are longer, wider, and woven together as one piece, a Cirque du Soleil first. The entire stage deck is layered with impact resilient Mondo Sport Floor over wood in order to avoid injury.

Acrobatic and Scenic Rigging

The theater's immense height enabled scenic and acrobatic equipment to be stored in the ceiling. For the first time in Cirque du Soleil history, a trapeze net is mechanically lowered from above and secured with no visible stagehands. Designed in-house by Doug Kiddell of Cirque du Soleil, the 25x60 foot net is fully automated by eight motors including two 40 horsepower net tensioning winches capable of tensioning the net to 5,000 lb of force. Additional props and equipment suspended from the ceiling and operated by a motorized counterweight system include two trampolines, nine flying

doors, the *petite fenêtre volante* (or New York window), two pedestal platforms and four trapezes.

Lighting

Lighting designer Luc Lafortune created the dynamic show lighting for *La Nouba*. With the use of gobos (projected patterns) and additional lighting integrated into the set, the result is a dynamic and versatile stage atmosphere. To achieve more interesting projections, stock gobos were trimmed with high-temperature aluminum tape and shutter cuts were used to produce grid shaped patterns of light. A total of 1250 theatrical lighting instruments including six follow spots, 150 color scrollers, and 38 moving lights are capable of delivering over a half-million watts of light on stage. The lighting control system includes over 1000 dimmers utilizing a Strand Light Palette 550-I to control the conventional fixtures and strobe lights and a Flying Pig Systems Whole Hog II for moving lights control in the show. Special effects for *La Nouba* are controlled by a Strand Light Palette 520-I lighting console. Ten stage smoke machines and four hazers are incorporated into the set and mounted in the grid above the stage. A 3,000-gallon tank of liquid nitrogen supplies the burst effects.

Sound

The front-of-house sound booth is equipped with a Cadac F-type console with 72 dual inputs, feeding 10 Level Control System LD-88's creating an integral 80x80 matrix. This provides the ability to automate mixes and dynamic changes, as well as the placement and movement of the sound image throughout the showroom. Additionally, the LCS (Level Control System) provides all equalization and delays, playback, control of all effects and other external devices via MIDI. Seven computers are used in the sound booth to provide Cadac cue control, acoustical analysis and backup. For processing, the system uses three Symetrix voice processors, eight Aphex expander/gates with Aural Exitters, equalizers and compressors. Lexicon gear includes two PCM-81's, two PCM-91's and two 300's controlled by a LARC.

The musicians perform on two tower platforms on both sides of the stage. An additional console manned by a separate engineer is used to provide monitor mixes for each of the eight musicians. The mix stems provided by the outputs of the Crest console are fed to each musician's own Yamaha Pro-Mix enabling them to control their own mixes and recall cues and presets as needed.

The main speaker system is comprised of Meyer cabinets capable of producing 45,000 watts of amplification. Sound co-Designers Jonathan Deans and François Bergeron configured the system with its upper and lower, left and right main clusters including 26 MSL2's, 10 Renkus-Heinz SR61's and 14 EAW AS300E's to provide a wide stereo image and coverage throughout the room. Another system, installed to produce pre-programmed sound effects in the mid-aisle of the theater, consists of 12 Tannoy CMS6TDC8 speakers that can be activated by infrared beams.