



Welcome, to EMT Electric Motor, Drives & Engineering Newsletter

PLEASE PASS ALONG TO YOUR:

PURCHASING

MAINTENANCE

ENGINEERING

PROCUREMENT

EMT Overhaul's the Electric Motors on "The Parkes Dish"

50 Years of The Dish

The Parkes dish is known affectionately as the grand old lady of astronomy. The stately dowager has launched the research careers of three generations of Australian astronomers. October 31, 2011 will mark the 50th anniversary of its inauguration, held on a hot and windy day in 1961. After the Sydney Harbour Bridge and the Opera House, the Parkes telescope is probably the most publicised structure in Australia. Parkes has appeared on the cover of countless books and magazines and most recently starred in the film *The Dish*. Every year around 80,000 curious people turn off the Newell Highway, 25 km north of the Parkes township, to visit the telescope and marvel at the beauty of its structure.

A secret beginning

Plans for the giant telescope can be traced back to 1951. Radio astronomy in Australia had grown out of the secret radar research carried out during World War II by CSIRO's Radiophysics Laboratory in Sydney. After the war other radio astronomy

centres emerged in Britain, the Netherlands and the United States. But by the early 1950s the Sydney group had grown to be the largest, the most diversified and the most successful. For the first time in Australia's history, we led the world in a major new field of science. The telescopes used in the early days of radio astronomy were rough and ready, bits and pieces cannibalised from wartime radar equipment and assembled at one of the CSIRO field stations scattered around Sydney. These makeshift telescopes were used to detect the first radio sources outside our galaxy, to discover the centre of the Milky Way, to unravel the complex radio emission from the Sun, even to bounce radar signals off the Moon.

The most successful scientific instrument in Australia... Parkes is the most successful scientific instrument ever built in Australia. Its first triumph was the discovery of quasars and on several occasions has held the record for the most distant object known in the Universe. The telescope also discovered interstellar magnetic fields that marshal millions of stars into the long spiral arms that form the Milky Way. It has discovered over half the known number of pulsars and has been a major player in the search for extraterrestrial intelligence. The design proved so successful it was copied by telescope builders in several countries, including NASA in its worldwide network of dishes for tracking spacecraft. Parkes has helped NASA on many occasions, most famously during the Apollo moon missions. The film *The Dish* is a reasonable depiction of the role Parkes played during

the Apollo 11 moon landing. Less well known is the crucial role Parkes played in rescuing the mission portrayed in Hollywood's *Apollo 13*. Parkes helped to monitor the feeble radio signals from the stricken spacecraft as the astronauts made their tortuous journey back to Earth. It is unusual for any scientific instrument to last for 50 years. The surface of the dish has been re-laid with new precision panels and the host of instruments that detect, am-



plify, record, process and analyse the stream of radio signals from space have been constantly upgraded. The telescope is now a much more powerful instrument than it was in 1961. **EMT has now overhauled the large DC Motors that run the telescope. EMT is proud to work on such a prestigious iconic Australian structure known the world over. Hi Bill, Please pass on my thanks to your guys for the great job they did on the drive motor overhaul for us recently. We tested the drive motor assembly on our test bench when it came back and all of the readings were exactly to specification. These drive motors are critical pieces of operational infrastructure so we really appreciate the attention to detail. Well done.**

Regards,

CSIRO Astronomy and Space Science

Newsletters written by Bill Jankovic

Did You Know ?

- EMT has Service, Maintenance and Engineering Workshops based at Seven Hills and Brookvale. Call us on (02) 9838 8181 to see how we can help you.



Visit our website at: www.emtmotor.com.au

The Man Who Electrified The World

Today is Part 5 of a story about one of the world's greatest geniuses—Nikola Tesla.

"So favorably impressed was Westinghouse that he decided to act quickly. The story was related to the author by Tesla. "I will give you one million dollars cash for your alternating current patents, plus royalty," Westinghouse blurted at the startled Tesla. This tall, suave gentleman, however, gave no outward sign that he had almost been bowled over by the s u r p r i s e . "If you will make the royalty one dollar per horsepower, I will accept the offer," Tesla replied. "A million cash, a dollar a horsepower royalty," Westinghouse repeated. "That is acceptable," said Tesla. "Sold," said Westinghouse. "You will receive a cheque and a contract in a few days." Here was a case of two great men, each possessed with the power of seeing visions of the future on a gigantic panorama, and each with complete faith in the other, arranging a tremendous transaction with utter disregard of details."

Tesla electrified Niagara Falls!!
 In 1895, the Westinghouse Company and Nikola Tesla built the first hydroelectric alternating current system at Niagara Falls. Tesla was determined that the awesome power of the Falls should be harnessed to the awesome power of poly-phase alternating current . By 1897, the War of the Currents between AC and DC or between Westinghouse and Edison continued unabated. In 1895, Tesla's laboratory in New York City was totally destroyed by fire. Half a lifetime of priceless inventions were destroyed. Tesla usually worked through the night, but that particular night he was not in his shop, and miraculously escaped death. Huge mergers took place between J. P. Morgan and Rockefeller controlled companies like Thomson-Houston and Edison General Electric to form the present day General Electric Company. This new General Electric Company tried to take over Westinghouse and force them to abandon AC. They insisted that Westinghouse STOP paying royalties to Tesla:



Niagra Falls, Ontario, Canada



Tesla Monument at Goat Island, Niagara Falls, New York. A gift of Yugoslavia to the United States in 1976.

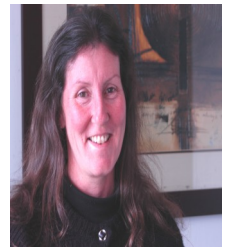
This story continues in our April Newsletter.

Source: © 2008 by Niall Kilkenny

Our People

DIANE CHAPMAN

Diane has been with EMT for over 7 years. She looks after Accounts Receivable, Accounts Payable as well as Office Administration. Customers often comment on Diane's ability to communicate well and provide them with very professional and efficient service.



TED NOWAK

Ted is a Professional Driver and has been with EMT for 3 years. A typical day can involve pick up's and deliveries all over the metropolitan area. His duties include preparing stock for shipping all over Australia. Ted is also a member of our "on site crew" and has a Confined Space Ticket.



WOULD YOU LIKE MORE INFORMATION ?

- Please send me a Product Catalogue CD Rom
- Please send me a Single Phase Motor Catalogue
- Please send me a Three Phase Motor Catalogue
- Please send me a VSD Catalogue

Have you relocated? Please help us keep our records up to date by including your new details.

NEW DETAILS:

Name: _____

Position: _____

Company: _____

Address: _____

Suburb: _____ State: _____ Post Code: _____

Tel: _____ Fax: _____

Email: _____

Photocopy this form and mail or fax to:

EMT Pty. Ltd. 1/114 Station Road, Seven Hills NSW 2147
Tel: (02) 9838 8181 Fax: (02) 9838 8421

OR

EMT Pty. Ltd. 40 Sydenham Road, Brookvale NSW 2100
Tel: (02) 9905 2755 Fax: (02) 9905 7399