

DEC 1977

U.S. POSTAGE PAID
PERMIT no. 320
MENLO PARK, CA. 94025



TO:

Andy Korsak VE3TZK/W6
504 Lakemead Way
Redwood City CA 94062

RETURN REQUESTED:
PAARA P.O. BOX 911
MENLO PARK, CA. 94025

vol. 21
1977

PAARA

Graphs



palo alto
AMATEUR
RADIO ASSN.

MENLO PARK C.D. RADIO CLUB, K6YQT

The prodigal genius! So wrote John J. Oneill in his story of Nikola Tesla. Radio and wireless as we know it today springs from his early experiments and inventions. Born in Smiljan, Serbia on July Tenth 1857. His father was a Greek clergyman and his mother, Georgia Mandic, an inventor. Though his wide range of experiments and discoveries made him one of the worlds outstanding electricians, his invention of the induction motor and the Tesla coil as well as the rotary magnetic field principle won him world wide fame. His education begins with one year of elementary school, four years of the lower Realschule at Gospic, Lika and then to a higher school at Carlstadt, Croatia, from which he graduated in 1873. Four years of specialization at the Polytechnic school at Gratz and finally two years at the University of Prague. While at Gratz he saw the Gramme electrical dynamo armature. Struck with the objections of the use of commutators and brushes he decided to remedy this defect. Tesla arrived in America with only four cents in his pocket. However, America was the land of opportunity. While walking up Broadway he met a group of workmen trying to repair an electric motor. They paid him twenty dollars for repairing it! Like all inventors of his day, Tesla had high hopes of working with Edison. Edison hired him for work in the Orange, New Jersey Laboratory. In 1887 the Tesla Electric Company was formed, but this was short lived. In 1888 Tesla produced alternating current motors. In 1889 his system of electrical conversion and distribution was developed. He noticed the higher the frequency the less iron was needed in the transformers. Application of the theory resulted in the Tesla coil. In 1893 he wrote of a system of wireless transmission and talked of transmitting power through the air. He developed the theory of the magnetic field used in the early transmission of power at Niagara Falls. This was followed by the arc lighting system, dynamos, coils, condensers and other electrical apparatus. In 1895 at Niagara his method of generating alternating current resulted in producing 100,000 horsepower equaling the entire production of the United States. Tesla was a first class mathematician and physicist years ahead of his time. Hertz demonstrated that radio waves could be reflected by means of reflectors. It was Tesla who recognized and pointed out the practical application of this radio echo, that resulted in perfecting RADAR in World War 2.

Edison and Tesla disagreed on the systems of power transmission. Edison favored the DC type. This was so obviously limited in range that

NIKOLA TESLA continued

Tesla put all of his effort in the promotion of the AC type. George Westinghouse, after carefully examining the Tesla system purchased the patents at the unheard of price of one million dollars plus one dollar per horsepower. The first major project was the Worlds Fair in Chicago in 1893, where the amazing electrical displays and lighting were achieved by the Tesla system. On the thirtieth of March, 1895, fire broke out in the Tesla laboratory and totally destroyed the equipment as well as the tokens of the World Fair together with all of his personal papers. The monetary loss was the least of his troubles. The laboratory was owned by the Tesla Electric Company consisting of Tesla and some private investors. Tesla now found himself in financial difficulties. Westinghouse had expanded his company so rapidly that he also was in trouble. Financial interests that had stepped in demanded that the Westinghouse Company be reorganized. The financial advisors also demanded that some of the plans and projects be abandoned. This included the agreement of one dollar per horsepower. With a great deal of embarassment Westinghouse went to Tesla and explained the situation. Tesla promptly tore up the agreement. This gesture cost Tesla about twelve million dollars which he could have used later in his life as he died penniless in New York January 7, 1943.

A partial list of his inventions follows. Direct current control seven patents. Polyphase current, electrical transmission of power 42 patents. Radio telegraphy, radio mechanics, methods of tuning and select detectors etc 17 patents. Steam turbines, pumps, speedometers, airplanes, oscillators and thermomagnetics 17 patents. Tesla was truly the "Prodigal Genius"

...script for code record written January 28, 1962 by Erv Rasmussen

* * * * *

ITEMS FOR SALE

NCX-5 MKII Transceiver with heavy duty homebrew power supply and speaker. Manuals included. Recently realigned. Asking \$325. Call Ed, W6KJI at 366-8187 in Redwood City.

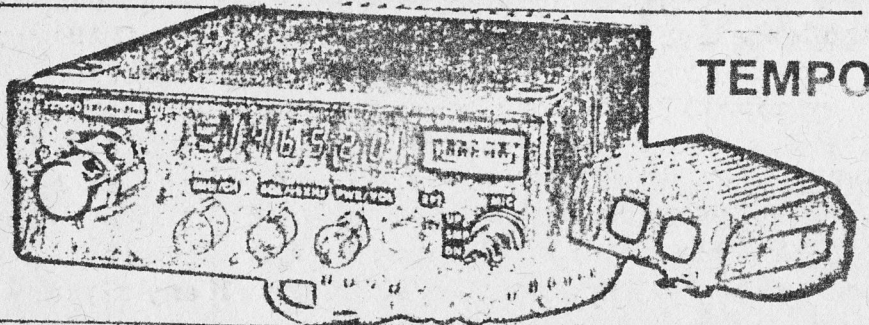
ATTENTION Slow Scan and ATV buffs! For Sale: Solid state Panasonic TV camera with two lenses, model WV033P for 117 vac 60 Hz. Has video and RF outputs (ch 6). Compact size ; works perfectly. Fast lenses for normal (f 1.5) and wide-angle work included, which are alone worth the asking price of the whole TV camera - \$240. Call Rick WA6NCX/1 at (617) 354-8542 or 498-4767 or write 14 Divinity Ave #40, Cambridge, MA 02138.

DAVID SHAVER
K6DTX

SHAVER RADIO

SALES
SERVICE
INSTALLATION

VHF/ONE PLUS



TEMPO

NEW
LOWER
PRICE

ONLY
\$399.00

*We
Measured
42 Watts
Out!*

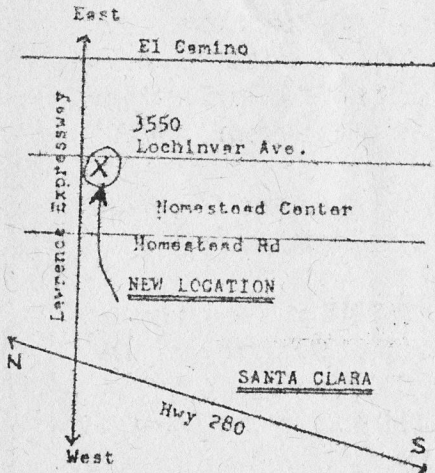
MORE POWER / 25 OR 5* WATTS OUTPUT SELECTABLE

REMOTE TUNING / ON MICROPHONE

**SIDEBAND OPERATION WITH SSB/ONE ADAPTER / MARS
OPERATION CAPABILITY / 5 KHz NUMERICAL LED**

The Tempo VHF/One Plus is a VHF/FM transceiver for dependable communication on the 2 meter amateur band • Full 2 meter coverage, 144 to 148 MHz for both transmit and receive • Full phase lock synthesized (PLL) • Automatic repeater split—selectable up or down • Two built-in programmable channels • All solid state • 800 selectable receive frequencies with simplex and ± 600 KHz transmit frequencies for each receive channel.

*Adjustable internally 3 to 15 watts



**FOR NEW OR USED
AMATEUR RADIO
GEAR... we're specialists**

New Phone 408-247-4220

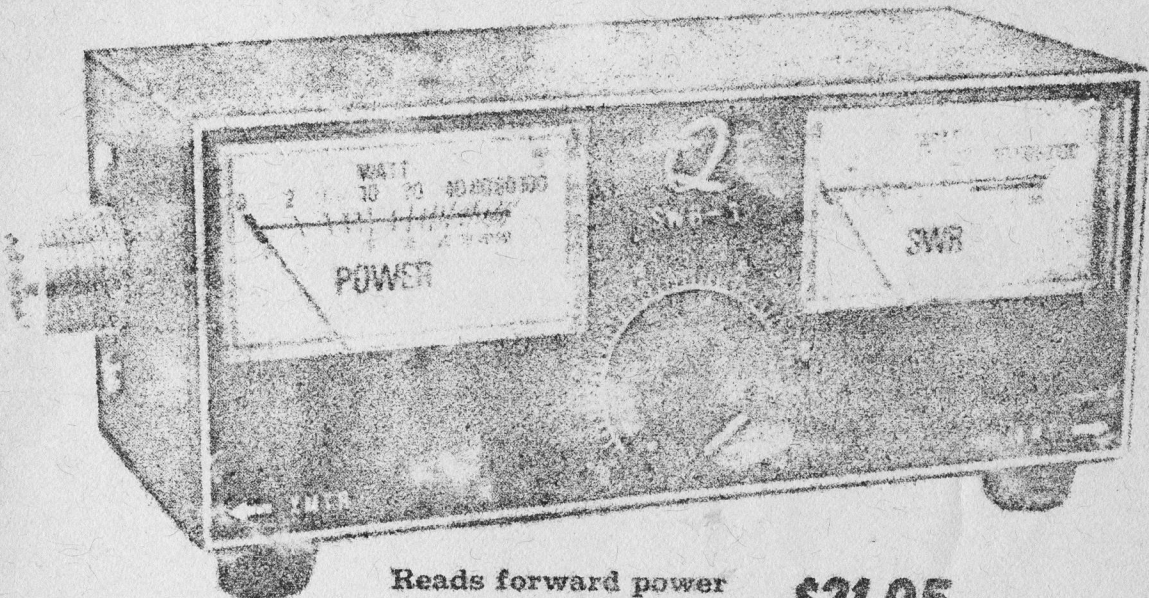
New Hours
10-7 weekdays
9-5 Saturday

Free Coffee
No Hassles!!



- AMECO
- ASTATIC
- AUTEK RESEARCH
- B&W
- CALLHOOK
- CES
- DENTRON
- DRAKE
- HAM KEY
- HUSTLER
- HY-GAIN
- ICOM
- KENWOOD
- KLM
- LARSEN
- MFJ
- NYE
- REGENCY
- TEMPO
- TEN-TEC
- TURNER
- & MANY OTHERS

THE NEW, IMPROVED 'ORIGINAL BRIDGE'!



Reads forward power
and SWR
simultaneously.

Handles full legal limit.

Usable 3 thru 150 Mhz.

Small enough for
mobile use.

\$21.95

(ADD \$1.50 FOR POSTAGE)



40,000 SQ. FT. OF ELECTRONIC PARTS,
COMPONENTS, TUBES AND ACCESSORIES.

- ANTENNAS - NEW SERVICE DEPT
- HAM GEAR - ACOUSTIC SOUND DEMONSTRATION ROOM
- CITIZEN'S BAND - COMPLETE STEREO HI-FI DEPT
- COMMERCIAL AND INDUSTRIAL PARTS SUPPLY
- BANKAMERICARD • FIRST NATIONAL • MASTERCARD

1000 SO. BASCOM AVE.
SAN JOSE, CA 95128
408-958-5900

P.O. BOX 6000, SAN JOSE, CA 95150