



Consultants



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PROFILE OF NORWOOD J. PATTERSON

EDUCATION

Formal engineering studies at Pacific Radio School, San Francisco City College, San Mateo City College, and an alumnus of Stanford University. Received FCC 1st class radiotelephone operator's license at age 15. Started radio career at KSAN, San Francisco, as announcer and engineer. At age 21 was in charge of designing and installing a Million Dollar receiving station South San Francisco under Civil Service for the U. S. Federal Government. On-Going Education: Navigation, Coast Guard; Aircraft pilot AOPA instrument pilot; Writer of technical articles (published in AARL magazine "QST" 1985 with front cover of antenna used in article.)

BUSINESS EXPERIENCE

In 1945 formed his consulting firm, Radio & TV Engineering Co., manufacturing towers, installation of radio towers, and broadcast industry consultation. For several years served as Chief Engineer at KSAN San Francisco, Ca., and consulted with many radio and television properties for obtaining new facilities and improving existing stations: KGDM Stockton; KBLF Red Bluff; KBOX Modesto; KYOS Merced; KVSM San Mateo; KTRB Modesto; KWSN Mt. Shasta; KNPT Newport, Oregon; WAUL Auburn, AL; TV Avalon, CA; KVVV Barstow, KHIZ-TV, and many others throughout the United States. From 1945 to present designed directional antennas, filed FCC applications, installed and/or improved facilities, as a consultant to the broadcast industry. Owned and managed radio and television stations.

Broadcast station corporate officer, President, KSAN San Francisco, KBIF Fresno, KICU-TV Visalia, KTW AM and FM Seattle, KGDP AM and FM, Santa Maria, KWQH San Luis Obispo. Supervised all Directors of engineering, programming, sales and management.

Appeared as an "Expert Witness" before the FCC, before the U. S. Senate Television Hearings July 1956, FCC Hearings from 1943-1999 in Washington, DC, Superior Court of Los Angeles hearings re radio/TV stations, and other court appearances for clients. Owned and operated radio/TV stations throughout his career, as many as 5 radios and 2 TVs together. He began his career with his father, who owned and operated radio stations for over 40 years.

Designed directional antenna systems and phasing equipment, and filed FCC applications as Director of Engineering, installed and supervised directly all operations (as President):

KSAN AM	San Francisco
KARE AM	Atchison, KS
KJAY AM	Topeka, KS
KTW AM/FM	Seattle, WA

KSAN TV	San Francisco
KICU TV	Fresno, Ca.
KPAT FM	Orcutt, Ca.
KGDP FM	Santa Maria, Ca.

	KGDP AM/FM Santa Maria		KBOX FM	Lompoc, Ca.
Designed:	KUIC FM	Vacaville, Ca.	KVVT TV	Barstow, Ca.
	KRQK FM	Lompoc, Ca.	KRPA TV	Catalina, Ca.
	KSMO AM	San Mateo, Ca.		

Assisted other engineers with Directional Antenna Design and Adjustments:

KDON AM	Salinas, Ca.		
KBOX AM	Modesto, Ca.		
KTIM AM	San Rafael, Ca.		
KCCV AM	Independence, MO	KHVN FM	Anchorage, AL

Manufactured radio towers; Made mutual and self impedance measurements; proficient with state-of-the-art test equipment contained in REC Laboratory. Equipment includes but not limited to:

1. Spectrum Analyzers Agilent (HP) 9kHz to 20 GHz
2. Field Intensity Meters Broadcast Band thru Television Bands
3. Signal Generators Audio to 20 GHz.
4. GPS receivers with BOB for Precise site Measurements.
5. Calibrated Test Site.
6. Efficient Screen Room, and many other items for precise testing of electronic equipment.
7. Portable test transmitter, tower and 20 kW generator for portable Field tests for Conductivity.

Type accepted through the FCC and Canada governments transmitters and receivers by measurements performed in Laboratory; consultant to Industry Leaders on engineering matters; partial list:

Harris Canada	SONY	Rockwell	Honeywell
Henry Radio	Honeywell	Metromedia	NovAtel
Kokusai	Ch. 44 R.P.V.	Ch. 64 Barstow	IC Canada
Com Dev.			

Negotiated radio station sales:	KSAN TV, 1956 to Metromedia	\$ 1 Million
	KLVB FM, San Luis Obispo	\$.450 Million
	KPAT FM, Santa Maria	\$.900 Million
	KWQH FM, San Luis Obispo	\$ 1.245 Million

PERSONAL

He and wife, Dawn, lived in Santa Ynez Valley for ten years, moved to Santa Maria for KGDP's construction and operations, moved to Los Osos/SLO and established REC Laboratory and executive offices. They have 3 children, one of whom works full time for RRI and POA as chief accountant, G. Dawn Delgatty.

Holds an AOPA membership, commercial pilot-SEL-MEL-INSTRUMENT, FCC 1st Class License, Amateur license advanced rating, member of Society of Broadcast Engineers, NABER Certified Tech, and ARRL 40-yr. Member. Honorable Navy Discharge.

MEMBERSHIPS & ASSOCIATIONS

Grace Bible Church of Arroyo Grande; AOPA member #049667; FAA license #1085025; Commercial Pilot-SEL-MEL-SEA-INSTRUMENT; Elks Charter member #024; FCC license #P1-11-60569 1st class for Life; FCC Amateur W6YRX Advanced Rating; Society of Broadcast Engineers member #8887; NABER certified tech #22437; ARRL 40-year member; Honorable Navy Discharge; National Association of Broadcasters; Society of Motion Picture and Television Engineers, Inc.

Norwood J. Patterson, Owner

08/20/2004

STATEMENT OF JIM PATTERSON
Re
FIELD MEASUREMENTS


I, Jim Patterson, under the direction of Norwood J. Patterson, Engineering Consultant, have made measurements on the following KG6XDP-Lancaster radials:

0°, 40°, 340°

A field intensity meter (FIM) manufactured by Potomac model #41 s/n 882, was used for all measurements, using instructions of Potomac for the FIM 41 mounted on the interior of the loop antenna.

I made these measurements with navigation and reading of GPS. Coordinates were recorded on each radial measured with either a Magellan Model 330 GPS (no s/n), or Trimble GEO3, s/n 0440102475 with BOB s/n# 0340000614.

I, Jim Patterson, do hereby certify that I have prepared the enclosed data and, under penalty of perjury, that data of my own knowledge is correct. As to other information and facts asserted herein, I believe that information also to be true.



Jim Patterson
Date 9/30/04

Jim Patterson field msmt. stmt.-KG6XDP-Lancaster

STATEMENT OF JOHN LIPPINCOTT
re
FIELD MEASUREMENTS

I, John Lippincott, under the direction of Norwood J. Patterson, Engineering Consultant, have made measurements on the following KG6XDP-Lancaster radials:

260°, 280°, 300°, 320°

A field intensity meter (FIM) manufactured by Potomac model #41 s/n 812 was used for all measurements, using instructions of Potomac for the FIM 41 mounted on the interior of the loop antenna.

I made these measurements with navigation and reading of GPS. Coordinates were recorded on each radial measured with either a Magellan Model 330 GPS (no s/n), or Trimble GEO3, s/n 0440102475 with BOB s/n# 0340000614.

I, John Lippincott, do hereby certify that I have prepared the enclosed data and, under penalty of perjury, that data of my own knowledge is correct. As to other information and facts asserted herein, I believe that information also to be true.



John Lippincott

Date 9/30/04

STATEMENT OF PATRICK LUTHER
re
FIELD MEASUREMENTS


I, Patrick Luther, under the direction of Norwood J. Patterson, Engineering Consultant, have made measurements on the following KG6XDP-Lancaster radials:

20°, 60°

A field intensity meter (FIM) manufactured by Potomac model #41 s/n 888, was used for all measurements, using instructions of Potomac for the FIM 41 mounted on the interior of the loop antenna.

GPS navigation and readings were measured at each point. Coordinates were recorded on each radial measured with GPS equipment, Trimble GEO 3 s/n 0440102482 with BOB s/n # 0340000096.

I, Patrick Luther, do hereby certify that I have assisted in preparation of the enclosed data and, under penalty of perjury, that data of my own knowledge is correct. As to other information and facts asserted herein, I believe that information also to be true.



Patrick Luther
Date 10/04/04

Patrick Luther field msmt. stmt. KG6XDP-Lancaster