

Angelo D. Pallotta, ing., P.Eng.

2 Ayton Lane,
Kanata, Ontario, Canada
K2K 2H4

Tel: Home: 613-591-0416
Cell: 613-513-8685

e-mail: angelo@pallottaconsulting.com
web <http://pallottaconsulting.com/>

Born in Montreal the 28th of May 1956

OBJECTIVE

Project Management in a technical environment where I can use my management and interpersonal skills as well as my knowledge in Telecommunications, RF, systems, software and hardware design.

EDUCATION

M.Sc.A (Master Degree in Applied Sciences)	Electrical Engineering,	École Polytechnique de Montréal, 1984
B.Ing (Baccalaureate in Engineering)	Electrical Engineering,	École Polytechnique de Montréal, 1980
D.E.C (Diplome d'Études Collégiales)	Pure and Applied Sciences,	Collège Français, Montréal, 1975

INDUSTRIAL EXPERIENCE

Pallotta Consulting Inc., Kanata (Ontario) and Montréal (Québec) *December 2015 to present*
Consultant, self-employed
Engineering services mainly in the field of Communications, RF Instrumentation. Broadcast transmitters.
Project Management, Customized Training, software development (instrumentation control / testing automation)

Main Projects / Activities:

- Rohde & Schwarz QPS201 Body Scanner *February 2018 to present*
 - Installation, setup and support (Ottawa area) *December 2018 to present*
Physical installation, configuration and start-up. Technical and operation support to customers.
Troubleshooting, software and hardware maintenance.
 - FCC Certification of Rohde & Schwarz QPS201 Body Scanner *September 2018 to present*
Coordination for the certification of the R&S QPS201 Quick Personnel Security Scanner (body scanner) with the FCC (US Federal Communications Commission). Tasks consisted mainly in the preparation of a technical report in support for the Request for Waiver presented to the FCC.
 - Certification of Rohde & Schwarz QPS201 Body Scanner *February 2018 to July 2018*
Coordinated the certification of the R&S QPS201 Quick Personnel Security Scanner (body scanner) with a local test lab and with Innovation, Science and Economic Development Canada (ISED). Tasks included theoretical field strength calculations and preparation of a report presented to ISED to obtain a Special Authorization (QPS201 did not fall under any ISED's standard and violated the Canadian Table of Frequency Allocations and allowed field strengths).

- Cost estimates and technical assistance *May 2018 to present*
Prepare and provide offers to Rohde & Schwarz Canada for project management of various HF, VHF and UHF radio projects.
- ATC Radios Training for Department of National Defence (DND) *October 2017 to March 2018*
Prepared and delivered customized Operation and Maintenance trainings for Rohde & Schwarz Series 4200 Air Traffic Control Radios and Series 4400 Software Defined Radios. Training covered also ancillary equipment and test equipment.
- Subject-Matter Expert for Rohde & Schwarz Canada *July 2017 to August 2017*
Acted as a Subject-Matter Expert (expert witness) on behalf of Rohde & Schwarz Canada in a complaint filed with the Canadian International Trade Tribunal (CITT). Reviewed Tender documents (procurement of Air Traffic Control radios by DND), provided advice and opinion, prepared exhaustive report and appeared at the CITT hearing.
- Project Manager for Rohde & Schwarz Canada *April 2016 to April 2017*
Project: Nav Canada HF Receiver Replacement.
Responsible for the overall project management for the delivery of 68 R&S® EK4100 HF Receivers. Responsible for producing the project management documentation, developing and conducting the acceptance tests, providing the technical training
- Cost estimates and technical assistance *December 2015 to April 2016*
Prepare and provide offer to Rohde & Schwarz Canada for project management of Nav Canada HF Replacement Project. Provided technical assistance to Rohde & Schwarz Canada during meetings and negotiations with Nav Canada.

ROHDE & SCHWARZ (R&S) Canada Inc., Kanata, Ontario, Canada

July 1988 to December 2015

Project Manager, 2000 – 2015

- Responsible for a variety of projects mainly in the field of HF Communications and Broadcast (TV and FM).
Acted as the Technical Authority; developed and provided Technical Training to the customer.
Prepared estimates and proposals

Team Leader, Systems Group, 1994 – 2000

- Responsible for a multi-disciplinary group of engineers, composed of systems, digital, RF, antenna and software engineers.
Main area of activity consisted in the development of computer networks for remote control of instrumentation, Direction Finding (DF) Systems.

Senior Systems Engineer, 1988 – 1994

- Responsible for the Systems aspects of various Direction Finding (DF) Systems

Project Management:

Communications Projects

HF Communications

R&S® XK516 / FK516 Airborne HF Transceivers, May 2015 – November 2015

Brief involvement in a project between R&S and Honeywell that has been active for nearly 20 years. The radios (and antenna tuning units) are designed and manufactured by Rohde & Schwarz and marketed through Honeywell.

Acted mainly as liaison between the parent company (R&S in Germany) and the customer (Honeywell, mainly in USA and Europe).

Coordinated and facilitated the procurement of new units, repairs of defective ones, resolution of technical problems. Intervened in the resolution of administrative and logistical problems.

R&S® EK4100 HF Receivers and R&S® XK4115 Transceivers for the Canadian Coast Guard, 2011 - 2015

Responsible for the budget (\$5M), schedule, progress reports, progress review meetings, coordination of all aspects of the project (112 receivers and 11 transceivers)

Provided technical assistance on the installation, configuration, operation and remote control of the radios.

Created the various technical documents (in English and French) required by the CCG: Maintenance Plan, Drawings and Technical Data, Equipment Manual. Customized the standard Operator's Manual to the customer's requirements and translated the technical keywords to French (general translation was outsourced). Developed and provided training (in English and French) for the Operators as well as for Technical personnel (configuration and maintenance of the radios).

Developed Test Procedures and conducted Site Acceptance Tests.

R&S® EK895 HF Receivers

In addition of the role of Project Manager, acted as Technical liaison with customer and provided customized Training (Operator's, Maintenance) on various projects for Nav Canada and Canadian Coast Guard.

Canadian Coast Guard, Arctic Region, 2005- 2006

Project consisted of a little over 50 receivers to be deployed in sometimes unmanned locations.

Developed test plan and performed tests for intermittent problems that were not being acknowledged by the designers (keypad would lockup shortly after power-on, receiver would sometimes be insensitive at power-on). Extensive observations, testing and documentation of the problem allowed designer to narrow down on the root cause of the problem and correct it.

Helped resolve a deficiency in the syllabic squelch operation. The difficulty with syllabic squelch is that there is no objective (quantitative) method of measuring its performance. Ultimately convinced the designers to implement a different syllabic squelch algorithm; To attenuate the customer's concerns, had the designer implement a "correlation" threshold adjustment so the operator could adapt the syllabic squelch algorithm to the various levels of HF noise present in the environment (unlike "normal" signal level based squelch, syllabic squelch is normally not "user" adjustable; either ON or OFF).

Nav Canada, 2002 – 2003

Developed and conducted site acceptance tests as per customer requirements.

Identified and documented a radio spurious problem and coordinated its resolution with the designers.

Canadian Coast Guard, NFLD Region, 2002-2004

Resolved various data communication related problems involving the radio and the customer's systems.

Broadcast, 2002 – 2004, 2006-2015

Managed various projects for R&S TV transmitters (analog and digital) as well as FM broadcast transmitters.

Responsible for obtaining Certification from Industry Canada for analog transmitters (supervised testing, prepared Engineering Brief, submitted application, etc).

Transmitters size ranged from 100W to 40 kW, air-cooled, liquid-cooled.

Customers consisted of the main Canadian broadcasters: CBC, CTV, TVA, Rogers, CTS, Corus, CHCH.

40 kW analog TV transmitter (CN tower), 5 kW analog TV transmitter; for CBC, 2002-2003

This was the first broadcast transmitter project for R&S in Canada. It was also the first delivery of a 40 kW NH7000 series analog TV transmitter by R&S. Established good relationship with the design and manufacturing teams, earned their trust and ensured the success of the project.

Solved an intermittent problem from a vague customer's complaint (transmitter sometimes did not restart following a power failure) which the designers could not reproduce and claimed it was impossible the problem could actually occur. Based on information provided by customer, technical documentation, schematics and testing on site, determined that problem was present only following brownouts; provided clear method of reproducing the problem which allowed the designers to quickly find the root cause and provide a fix.

1st CBC digital TV transmitter, combiner, CN tower, 2004

Successfully managed a relatively high risk project for the design, production, installation and testing of a combiner to inject in the same antenna the newly acquired R&S® NV7170 2.5 kW and R&S® SV7200E 200 W digital (ATSC) TV transmitters with CBC's existing 40 kW analog TV transmitter and another broadcaster's 30 kW analog TV transmitter.

Responsible for Broadcast project, 2007-2015

In addition to Project Management, responsible for technical accuracy and completeness of broadcast quotes and proposals. Projects typically consisted of transmitters provided by parent company while mask filters, directional couplers, transmission lines, AC power transformers, etc were procured from third parties. Tasked with ensuring the profitability of broadcast transmitter projects by accurately identifying costs, hedging for currency exchange fluctuations, negotiating margins with parent company and, in collaboration with the Sales Manager, determine the sale price that will win the project. Lowered costs by sourcing some components locally.

Transition to Digital TV, 2010-2011

Successfully managed much higher than normal volume of activity due to the transition to digital TV in Canada (2011-08-31). Main challenge was to coordinate the large number of commissionings (approx 55 transmitters in approx. 25 sites) to be performed over 1 month period.

EMI Chamber for susceptibility measurements, 2011 - 2013

Project Management for the construction of an anechoic chamber for the performance of high frequency radiated field immunity tests for the “Centre de recherche industrielle du Québec” (CRIQ). This is a turn-key system where R&S provided the chamber, amplifiers, RF instruments, antennas and software to operate the chamber. The chamber is used for tests from 9 kHz to 3 GHz following the EN 61000-4-3, 2004/104/EC and GR1089-CORE standards.

Worked with the customer between 2005 and 2010 for the definition of their requirements and trade-offs with respect to size of chamber/equipment and cost.

Participated in the preparation of the proposal (reply to RFP) for the contractual, technical and financial sections.

Assisted in the resolution of technical issues and negotiated a settlement with the customer for some minor specifications variances.

Relocation of the R&S Canadian facility, 2006

Responsible for the coordination of all the activities associated with moving the R&S facility in Kanata, Ontario (10,000 sq.ft, approx. 25 persons), to a new location. Main challenge was to specify and ensure that the ISO 17025 Calibration and Service lab would be built to meet our specifications. Other challenge was to minimize the disruption of normal activities, especially critical for the service lab. Achieved within schedule and budget.

Service/Calibration lab, 1999 - 2002

Oversee engineering activities associated with the ISO-17025 accreditation of the Calibration lab of Rohde & Schwarz Canada; This includes the development of Lab and Calibration procedures, Measurement Uncertainty calculations, etc.

Oversee the development of control software to automate the calibration of instruments, to improve reliability and repeatability of measurements, reduce the cost of the calibration process.

Develop specifications, select contractors and oversee the construction of the calibration lab

Main achievements:

Met budgets and exceeded expectations for the expansion of our service lab. My diversified range of knowledge and skills resulted in the implementation of high performance, cost effective solution and yet avoided the cost of an external consultant.

Established good credibility with NRC allowing our company to sail to a smooth ISO-17025 accreditation. Ease in learning concepts in new fields (metrology) and technical rigor were essential skills in this achievement.

Networks of Communications Direction Finding (DF) Systems, 1988-1993

Developed various Emitter Location systems for military and civilian customers.

Networks of R&S® PA1100 Communications Direction Finding (DF) Systems,

Tasks included System Design, design of network configuration, protocol and operation, design of user's interface, management of software development, overall project management

The system consisted of 4 DF systems networked over a military radio link. A Central Station controls the DF systems and automatically calculates the position of the detected emitters from the bearings provided by the Doppler DF systems. The system operation is provided through a PC compatible computer (one at each station; any station can configure itself as the Central Station). Since a single half-duplex radio channel is available for the operation, a time shared network has been implemented. Time synchronization (0.1 second) is achieved by normal message exchange over the data link.

Main achievement:

Development of a time shared network using the military modem imposed by the customer; this modem introduced a variable latency of several seconds on each transmission.

Networks of R&S® PA025 Communications Direction Finding (DF) Systems,

Tasks included System Design, design of network configuration, protocol and operation, design of custom hardware (audio amplifier, watchdog, etc), management of software development, overall project management

Project performed for the Department of Communication of Canada (DOC) (now Industry Canada). The system consisted of a variable number of DF systems (1 to 32) networked via normal telephone lines. The system is controlled by PC computers (one at each remote station and one at the Central Station). The position of the detected emitters are automatically calculated and displayed to the operator.

Software Development:

Automated RF Monitoring using an R&S® EM100 receiver, 2014

System Design and Software Development (C/C++).

The system monitors a space for the presence of signals above user specified thresholds. The scanned frequency range is divided in segments and the user defines the threshold at the start and end of each segment; the program interpolates the threshold within the frequency segment. There is no limit on the number of frequency segments that can be defined by the user. Once the threshold is exceeded, an email notification is sent to a user specified email address (mechanisms are in place to prevent successive notifications in short periods of time).

The system is built around the R&S® EM100 PSCAN fast scanning mode. It can scan its whole frequency range of 7.5 GHz in 7 seconds (using a resolution bandwidth of 12.5 kHz).

The use of an RF switch is optional. The number of antennas monitored by an RF switch is only limited by the RF switch itself.

Each instance of the monitoring software can control a single EM100 receiver and a single RF switch. However, there is no limit on the number of instances of the monitoring software that can run on a single computer.

The computer communicates with a the EM100 receiver(s) and the RF switch(es) via a standard Ethernet network.

API for R&S® XT4400 transceiver, 2004

Developed a custom software device driver (Application Programming Interface) (C/C++) for the R&S® XT4400 VHF/UHF transceiver for a customer.

Also assisted the customer with some intermodulation and propagation calculations.

Coverage System, 2003

Developed (system concept and design, software development, project management) a system for measuring the geographical coverage of a mobile radio system. System consisted of a R&S® EB200 receiver, R&S® HE500 omni antenna, GPS receiver and laptop. The user would drive around (any legal speed) while the receiver measured the level over a list of user defined frequencies; received signal level and position would be recorded. Data would be post-processed and displayed on a map using Microsoft Streets & Trips program.

Developed and provided training for the operators (Fisheries and Oceans).

Integrated Spectrum Observation Centre, 1993-1998

PC's networked over a LAN and telephone lines. Unattended stations contain various spectrum monitoring instruments (controlled over GPIB and RS-232 interfaces) that can be shared by several remote users. The operating systems used are OS/2 and Windows NT (multi-tasking, multi-thread) and the language used is 'C/C++'. Programs are based on a Client/Server model and use a Graphical User Interface (GUI).

Main achievement:

Developed a data exchange architecture optimized for this particular application that provides a high reliability and minimum reaction time (real time operation). This aspect resulted in greater customer satisfaction and extended the original 1 year pilot project into a 5 years program.

Development of a PC based DF system, 1988-1993

An IBM compatible PC provides the user's interface as well as the control for the receiver, the antenna and all the processing. A flux gate compass is also integrated to the system. System can be controlled from computer keyboard or remotely via a modem.

Main achievement:

Developed DF algorithms that provide exceptional bearing accuracy even under interference conditions. Algorithm detects interference conditions, attempts to correct the measured bearing accordingly and calculates a confidence factor. Innovative display provides immediate subjective perception of signal (bearing) quality.

Systems Engineering, 1988 - 1994

System Engineer for the R&S® PA2000 Communications Direction Finding System. This is one of the first (if not the first) DF system capable of detecting frequency hopping radios.

Developed and provided an Operator's and Maintenance course for the PA2000 military DF system. Course was provided in French.

Performed a number of mathematical analyses to assess performance of DF systems; Exhaustive analysis on Performance of the R&S® PA2000 (probability of intercept of Hopper transmitters), Effect Of noise on RMS bearing fluctuation, probabilistic analyses, RF signal propagation, ...

Conducted a feasibility study and conceptual design for a portable Direction Finding system for Search and Rescue tasks

Developed various high performance DF algorithms: to use various antennas with less than ideal characteristics, for use where large reflections and re-radiations exist (HF band on ships), to minimize the effect of multipath and interfering signals

Application Engineering, 2010 - 2015

Assisted sales personnel with demonstrations and technical aspects of various R&S Radio Monitoring and Radio Location products (including Interference Hunting):

R&S® PR100 fast scanning (FFT) monitoring receiver

R&S® HE300 directional antennas for interference location

R&S® DDF007 Mobile Locator for interference signals (portable, vehicle mounted system for efficiently locating interferers)

Training:

Developed and provided training for various Rohde & Schwarz instruments and radios; Among which:

- V/UHF receivers / transmitters / transceivers
 - R&S® Series 4200 Air Traffic Control Radios (2018)
 - R&S® Series 4400 Software Defined Radios (2018)
- HF receivers / transceivers
 - R&S® XK4115 HF Transceivers (2015)
 - R&S® EK4100 VLF-HF Receivers (2013-2014, 2016)
 - R&S® EK895 VLF-HF receivers (2003-2006)
- Spectrum Analyzer (R&S® FSH, R&S® FSP) (2002, 2005, 2006)
- Network Analyzer (R&S® ZVL) (2008)
 - General features of network analyzer with emphasis on measurement of filter characteristics (frequency responses, impedance matching) and filter tuning
- Microwave Signal Generator (R&S® SMR), Canadian Coast Guard (2007, 2008)
 - General operation of the signal generator with emphasis on testing and calibration of a ship's radar
- Modulation Analyzer (R&S® FMAV), Cuba (Havana) airport technicians (2009)
 - General operation of signal generator, spectrum analyzer, audio analyzer and Modulation Analyzer, with emphasis on testing and maintenance of ILS navigation systems
- R&S® TS-EMF isotropic antenna (for Safety Code 6 measurements) (2008, 2009)
 - Developed spreadsheets to simplify the calculation of the percentage of permissible radiation exposure
- EMI Receivers (R&S® ESS, R&S® ESCI) (2006, 2007)
- R&S® ESMC-C2, (2000)
 - Custom version of the R&S® ESMC receiver for DND. Developed and provided operational and maintenance training.
- R&S® PA2000 Communications Direction Finding System (1989)
 - Developed and provided an Operator's and Maintenance course for the French military

Other activities

- Industrial Security and Controlled Goods:
 - Company Security Officer (Industrial Security Program)
Company Security Officer (CSO) 2014-2015
Applied for security clearances (new and upgrades) for some R&S Canada employees
 - Alternate Company Security Officer (ACSO) 2010-2014
 - Controlled Goods Program
Designated Official, 2014-2015
Updated company's Security Plan to reflect changes resulting from the new office facility
Prepared for and successfully passed the Compliance Inspection
Applied for export permits for some radios manufactured by R&S
- Information Technology (IT)
 - Responsible for establishing and maintaining the wireless guest LAN in R&S Canada facility
 - Responsible for the local IT systems (phone system, alarm/monitoring system, access control system, etc.)
 - Occasionally assists with IT activities on the corporate LAN

PARAMAX Electronics Inc., Montreal, Quebec, Canada

August 1984 to July 1988

Systems Engineer, Combat System Design Section

Responsibilities included the integration of an Electronic Warfare (EW) suite consisting of the following:

- Communications band ESM system
- Radar band ESM system (CANEWS Direction Finding System)
- Passive ECM system (Chaff and IR flare decoy)
- Active ECM system (RAMSES jammer)

to the Canadian Patrol Frigate (CPF) Command and Control System.

Tasks included:

- Analysis of the individual systems capabilities and interface requirements
- Definition of the interrelation with other ship's sensors and weapons
- Preparation and coordination (of multi-disciplinary teams of about 15 persons) for Preliminary Design Reviews (PDR) presented to the Canadian Navy

Other assignments included:

- Preparation of a feasibility study for the integration of Electronic Warfare (EW) payloads in the Canadair CL-227 Remotely Piloted Vehicle (RPV); Definition of an integration concept of an EW RPV with the Canadian Patrol Frigate (CPF) and its Command and Control System.
- Integration of a Torpedo Launching system and an Acoustic Warfare Counter-Measures system to the ship's Command and Control System.
- Teaching of a "Radar Systems Engineering Principles" course to engineers of Paramax. Also preparation of a graduate level version to be given at Concordia University (Montreal).
- Various assignments requiring mathematical modeling, calculations and computer simulations.

TEACHING EXPERIENCE

Algonquin College (Ottawa), 2001 (part-time)

Courses given: Telecom II

CEGEP of St-Laurent (St-Laurent, Qué), 1984 (one semester, full time), 1984 to 1987 (part-time)

Courses given: Audio Systems Direct Current Circuits Introduction to Electronic Projects Power Electronics
Logic Circuits Switching Electronics Alternative Current Circuits

Montreal University (École Polytechnique de Montréal), 1980 to 1988 (part-time)

Courses given: Logic Systems Communication Electronics Systems, Signals and Simulation
Electronics I Switching Electronics

COMPUTER SKILLS

Computer literate and possess particular ease at learning new software packages and tools.

Familiar with most popular software packages.

Worked extensively and have in depth knowledge of the following:

Off-the shelf packages: Word, Excel, Power Point, Microsoft Project, Lotus Notes, Word Perfect, Project Scheduler

Software development: Microsoft Visual Studio, C/C++ languages, LabVIEW

Interfaces: Operational and programming knowledge of RS-232, GPIB (IEEE-488), Ethernet (TCP, UDP)

Most recent experience is on PC's; Worked also on mini-computers and main-frames.

CONTINUING EDUCATION

1986	Introduction to Electronic Warfare	(Paramax)
1986	Introduction to Radar Systems	(Paramax)
1991	Project Management	(Learning Tree International)
1995	ISO 9000 Standard	(Collège de l'Outaouais)
2000	Uncertainty calculations	(Quamatec)
2004	Microsoft Project software	

PROFESSIONAL ASSOCIATIONS

Member of "Professional Engineers, Ontario" (1993 to present)

Member of "Ordre des Ingénieurs du Québec" (1980 to 1995, April 2016 to present)

LANGUAGES

English, French and Italian, spoken and written

PERSONAL INTERESTS

Sports: non-contact hockey

Others: photography, woodworking.

REFERENCES

Available upon request