Stewart-Warner
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FOUR DECADES OF RADIO, TELEVISION AND ELECTRONICS

Next to the affection and familiarity displayed by the public in the 1920's and 1930's for ALEMITE, the words "Stewart-Warner" became synonymous with quality and performance in radio sets.

While Stewart-Warner, U.S.A. had entered the radio field in 1925, it was in 1929 that the Belleville plant added this line of products to the manufacturing facilities. A new addition, which became known as the "Radio Wing" was constructed that year. It was a two-storey facility, the upper floor was laid out with two production assembly lines, used for installing components into the "chassis" of a radio set. On this floor, all testing, inspection, and even the final assembly into cabinets was performed here. Originally, the first models of 1929 were housed in metal cabinets, with a lid. This was a steel stamping, approximately 30 inches long, by 18 inches wide by 18 inches high. It was the renowned 950 series.

Very rapidly, Stewart-Warner radios gained a favourable reputation in Canada for endurance and reliability. Dealers and distributors were quickly signed up. At that time, such dealerships were exclusive, so a company could plan production and ensure adequate customer servicing. The facilities of the metal-fabricating and processing end of the business used for the Alemite line soon proved a perfect adjunct for the radio line in order to produce components for this growing business.

In 1930, Stewart-Warner Canada departed on an unique plan. The 950 series of the 1929-30 season was a take-off of the U.S. design but, of course, including the metal cabinet design, but modified particularly in the chassis makeup to Canadian standards, which were always more strict, more government-controlled, and required different components for the harsher and more critical Canadian public and for the distance between transmitting stations. While the 950 series received wide acclaim in Canada, the new R-100 series of the fall of 1930, became a "darling" in innovation. A basic U.S. chassis design, altered again to suit Canadian standards, but it was contained in a line of Gibbard Furniture cabinets (Gibbards is one of Canada's oldest and finest furniture makers. The most popular of these cabinets was the "Moderne" model, which received acceptance with Canadians. It was "moderne" in name, but "modern" in design -- a true console with aesthetic leg and cross-bar configuration. Soon radio sets by the carload were trekking to Western Canada, and going by the truckload to Toronto, Montreal, and Ottawa.

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By 1932, the radio line was extended so that there were many models and variations of chassis and cabinets to suit various price and preference levels.

During 1933, the line included many battery sets, along with the highly-successful "converters" which permitted a battery-operated set to convert the DC (direct current) power of the batteries into AC (alternating current), permitting better reception, longer battery life and more power output between battery charges. These battery sets permitted many houses in Western Canada and Northern Ontario to enjoy radio reception, where no hydro lines existed. A familiar sight in the C.N.R. yards at Belleville, in those days, was a box car with a big banner on it stating that it contained Stewart-Warner radios and to where it was destined. An adroit way of advertising! In the 30's long-distance trucking had not developed to the state in which it operates now; large quantities of radios were sent via carload on the railroad to an area distributing point, and then re-dispatched from there to the small cities and towns.

At about this same time, in 1932 - 33, Stewart-Warner started to make its own electro-dynamic speakers for A.C. operated radios and magnetic types for battery-operated types, which principle lasted until the advent of W.W.II. After the war, speaker design, manufacture and testing became highly soph-isticated, so that special companies were set up to just do this work exclusively.

During these same two years, Stewart-Warner developed, designed and produced a wind-operated generator device for charging batteries which ran radio sets and operated from wind when placed on the roof of a house. Many of the purchasers of battery-operated sets were in remote areas, and could not easily and quickly reach stores for recharging their batteries or buying new ones. This charger-generator, known as "Wincharger" also permitted the use of some electric light bulbs and small electrical appliances.

The period of 1934-39 was one of continued growth in the radio business. From 1934 onward, the entire line of sets was of

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unique Canadian design and manufacture. Although special breakthroughs of circuitry, developed in the labs at Chicago were employed, some deluxe models were copies, as designed in the U.S.; because of limited volume.

During this period, Stewart-Warner Canada employed a large staff of engineers and sales people at Belleville. Many new innovations and trends were developed at the Belleville Plant, such as portable sets which were engineered and built here for a very discriminating and changing buying public. By 1932 there was a growing interest in short-wave reception. This created a demand for "short-wave converters" that could be wired into or attached to existing sets to bring in the short-wave bands. Stewart-Warner was in the forefront of this "demand" and quickly produced converters in large quantities. At the same time, the Company developed all-wave console sets, and mantle types, which had the short-wave band indications on one dial and achieved by "switching" from one band to another. A very famous byword at this time was the Stewart-Warner "Magic Dial" radios.

There developed in the mid-thirties a penchant for trying to tune in far-away places such as Australia or Europe, and this helped to create the market for the all-band radios. Besides, the clarity of short-wave was much better than the regular AM bands because the latter were subject to interference from many sources, such as automobiles, appliances and other radio sets. The new trends of the mid and late thirties never seemed to end. The phonograph had become redundant with the advance of radio. In 1930 and again in 1935-39 in new form, it played an important role, "joined" in a radio console model so that a customer could have a "combination" set and switch to records if and when desired. As the war clouds seemed to get closer, the phono. record became more and more popular, especially in places where armed-forces personnel gathered, as did the combination radio/phonographs. These devices, by channelling the record sound through the radio circuitry, permitted clearer sound with tone and volume control, not previously achieved in phonographs. In addition, the quality of records was improving.

As early as 1932, Stewart-Warner Canada had experimented with a car radio. The antenna of this prototype was mounted under the running board (remember those!) to try to get the signal pick-up as far away from the engine (with its spark plug interference) as possible. From this early model, no great production developed, although a line of Stewart-Warner car radios was built

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and marketed. The experience gained, and the continuous engineering on noise suppression in automobiles for good radio reception resulted in a breakthrough, just before the war interrupted domestic radio production. This became the foundation for a great production feat of the late 40's and early 50's.

The wide and varied experience of engineering and production techniques made possible the considerable war production of radio and electronic devices for all branches of the armed forces, in the period 1941 - 1946. Bear in mind, however, that the radio production lines had permitted almost a stable workforce in the 1930's, a time of deep depression, with very few layoffs. While this business was not as profitable as the Alemite line, it did help with overheads and maintaining skilled workers, many of whom advanced to foremen and technicians when the number of employees had to be doubled, then trebled and quadrupled before the war was over.

In 1941, Mr. C.D. Howe, Minister of Munitions and Supply issued a "stop" order-in-council on all commercial radios and ancillary equipment; all radio manufacturers were directed to get into immediate war material. In the war years, Stewart-Warner Canada threw its considerable experience and resources into radio/electronic war production units. One of the first projects was taking over a large Asdic unit production, utilizing and modifying tooling which another company had unsuccessfully tried to use to turn out production runs of the much-needed gear for the Navy. Stewart-Warner Canada had units flowing to the needed areas within three months. Many top-secret development followed with production of transponders for the Air Force and field sets for the Army, radio and communication equipment for aircraft and further Asdics for the Navy. At the same time, the plant facilities were being strained in making other war models for the forces of the electromechanical sophisticated types.

By the end of 1946, all war production at Belleville was wound up and rapid changeover made in order to manufacture radios for civilian needs. In the latter part of that year, Stewart-Warner Canada set-up a satellite assembly operation at Tweed where over a hundred employees worked. Over the next two years, they turned out and sold over 30,000 of the excellent mantel-type mini-set known as the "Baby Grand". This set had a plastic cabinet, rounded at the corners, of pleasing design and

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exceptional tone and quite a reserve of volume. It had the feature of being portable, with its built-in aerial; it became a by-word in the radio field.

In 1947 General Motors of Canada put out tender requests for car radios for automobiles made in Canada. Stewart-Warner Canada successfully bid and secured the business for all Chevrolets while another firm built the radios for Buicks and Pontiacs. The big volume at that time was on the Chevrolet line. By 1950, nearly every second car was being purchased either with a radio in it, or one bought and installed later. Stewart-Warner Canada build the Chevrolet radios until 1952, producing several thousand each year. These were made to exacting specifications laid down by G.M.'s engineering. In that year, General Motors themselves set up a plant in St. Catharines to make all radios for cars sold in Canada.

In 1947 Stewart-Warner had engineered and made prototypes of a 10" T.V. set. Stewart-Warner Canada had access to these U.S. designs and redesigned the unit for a Canadian 12 1/2" console model. These were produced later that year in the Belleville Plant. These Canadian-made sets were some of the first, if not the first, T.V.'s made in Canada. In the course of the next nine years, Stewart-Warner Canada designed special Canadian models, but also used and redesigned some very advanced Stewart-Warner U.S.-lab models. One of the purely Canadian sets was a 17" upright portable unit made particularly for portability and lower cost to the consumer. Black-and-white televisions of that day, in console cabinet style, cost nearly as much as coloured televisions do now. One of the most unique and presentable models was a 19" console, the cabinet of which had full-length closing front doors.

In 1955, Stewart-Warner U.S.A. had decided, for economic reasons, to go out of the radio and television business. Merchandising was then costly, there were no exclusive dealers any longer, and competition became particularly keen, with a large number of companies which had gone into the trade -- most producing companies were selling merchandise at a loss. Dealers often had two, three and four lines of sets in their stores at the same time; Service was minimal; warehousing costs had escalated; the cost of tooling new models each year was prohibitive. Stewart-Warner Canada continued until 1956 and then brought to a close the most interesting phase of Belleville's operation.

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However, the evolutionary experiences, engineering and production know-how provided for an engineering staff and "reserved" production facilities for several projects of the joint U.S./ Canada defence requirements. Stewart-Warner Canada provided Ottawa with many prototypes, technical assistance and designs as well as limited-run production models in the electronic field, starting with the Korean war and progressing to the "alert" condition of the mid and late 1950's.

In 1959, by a joint engineering effort between the Chicago and Canadian Division, in their special electronics plant at Chicago, Stewart-Warner Canada came up with a design of coder for military aircraft for IFF (identification, friend or foe). The DND (Defence Department) contract created a two-year program of tooling, production redesigning, parts assurance qualification, production of assembling, miniature inserting, wiring, soldering, testing, and life-testing. This "tried" the resources of the Company, but was concluded satisfactorily to all concerned. Immediately following the completion of this contract, the Air Force issued a specification for a test unit to check out and trouble-shoot the coders, while they were in the aircraft, for time-saving and operational needs. This was designed, proved and accepted in 1961, and the limited production contract completed in 1962.

From 1956 to 1966, Stewart-Warner Canada engaged, as far as electronics were concerned, in special domestic applications. One of these products, the pioneer models of which were imported from the U.S. plant, was "on-the-car" wheel balancers. In the late 50's, the third generation of these fantastic units was produced in Belleville, the model 7057. These balancers permitted the balancing of wheels, at high speed, right on the automobile, both statically and dynamically. From this was developed the technique "balancing" and detecting other deficiencies in the car's system such as loose bearings or undesirable brake conditions, etc. Eventually, some seven models were produced, including the last one which had a solid-state amplifier and strobe unit. One model, with a 7 1/2 H.P. Electric motor could accurately rebalance truck wheels.

In 1966, Stewart-Warner tendered on and received a contract to build, erect, supply and operate a complex electronic information display system, spread over 2 1/2 miles of islands in the St. Lawrence River for Expo '67. All the past experience, engineering, financial reliability and reputation for reliability helped

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to secure this contract although the tender submission was not the lowest. This turned out to be one of the few high-tech. electronic devices or systems of the day used at Expo 67 which was "on stream" weeks before the Exposition started and which continued trouble-free day in and day out until the end of the exposition, 180 days later. This whole system was modified and used for years afterwards by the City of Montreal for its continuing "Terre des Hommes" and "La Ronde" on the islands. Part of the system was moved, re-engineered and adapted to Jarry Park, the first baseball stadium for the Montreal Expos. The Expo 67 had a 80% Canadian content; all of the large printed circuit boards were made in Canada, with inserting and assembly done at Belleville. The superstructure was made and installed by a firm in Montreal; all chassis metalwork was tooled, produced and finished in Belleville.

Since 1970, Belleville has not engaged in electronic work except for the wheel balancers and the 1976 - 1979 project of the giant scoreboard at Exhibition stadium in Toronto. There is, however, a separate and extensive electronics plant in Chicago, who are up-to-date on various fields of electronic research and development and whose designs are available if a viable need arises, as has happened many times in the past. This U.S. division has developed a complete, reliable and futuristic large information display system in colour. The scoreboard built at Exhibition Place, Toronto, was engineered, built, installed and operated by Stewart-Warner Canada, combining skills available at Chicago and Belleville, but managed and sub-contracted by personnel from the Belleville Plant. All superstructures, electrical wiring, concrete abutments and control equipment was "customized" in Canada, with a Canadian content of over 75%. With the completion of this project, Stewart-Warner Canada decided to discontinue electronic activity at the Belleville Plant, and to concentrate on the manufacturing of its two main product lines, Alemite and Bassick (casters, furniture hardware and special handling devices) and to add to the lines for merchandising the Stewart-Warner instrument line, which had been sold directly from Chicago to Canadian customers. These decisions were based on a need for marketing and warehousing approaches with a fully-computerized all-Canada inventory control, with factory servicing to instantaneous communications direct to the plant. This system is now in place, functioning adroitly, and proving highly successful.

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What of the future? Who knows? Perhaps the flexible Belleville facilities will play an important part in the next generation of "scoreboards" or huge electronic information display systems, -- perhaps at the astrodome in Toronto. When that edifice is built, as it will be, and when the need will be there, as it will, Stewart-Warner Canada will be ready!

The one hundred or so (at any one time) employees who were actively engaged in all facets of the radio-television-electronics adventures have left their heritage to those who labour now, and say "Keep an eye on the future, as eagerly as ever".