Made in Japan Transistor Radios. The Three Oceans of Toshio Iue

(by Lello Salvatore~ English revison by Bob Davidson**)*

Some time ago, leafing through some issues of "Costruire Diverte" (CD), one of the first Italian magazines for electronic hobbyists[1]to give space to the early Japanese radio receivers, in issue 11 of November 1960[2], I came across in the review of the early models of transistor radios most popular in Italy of the famous Sanyo brand.

In the article, entitled "Questi sono i Sanyo", meaning, "These are the Sanyo", in addition to the brief description of five models, all in pocket format, the 7C-16[3] (Fig.1 and 2- see sides), the 6C-11 and the 6C-17 (Fig.3) suitable for Medium Waves only, as well as the 7S-P5 and 8S-P2designed to receive Short Waves in addition to Medium Waves, the schematic diagrams of each model are shown, albeit in a sparse manner, expressly requested to the magazine by its readers, owners of these radios. The article, despite its brevity, is of great interest, and not only to the Italian vintage radio collector because it allows him, among other things, to date with a good approximation the first radios of this Japanese house sold in Italy and, at that time, distributed by the SIDERNORD firm, via Omboni 5, Milano, exclusive importer for Italy. Even today, after more than half a century, if you go looking in the markets for old stuff or on the internet, in the sites for the sale of used objects, it is not so rare to come across and come into possession of one of the aforementioned radios or even first radios from other famous Japanese brands such as Global, Sony, Standard, Hitachi, National Panasonic and many more.

However, the most experienced transistor radio collectors are aware that as early as 1956 Sanyo had introduced its first all-transistor radio, the 6C-1[4]model, and that others immediately followed this model, also in pocket size. These very first models, produced in the three-year period of 1956-1958, as well as those which arrived immediately after (the models mentioned in the article of "Costruire Diverte")

Fig.3

and other, pocket-sized, portable or tabletop, which followed until the end of the 60s, were marked with an alphanumeric code and an intermediate separator dash.

Reading the abbreviation, itis clear that the first number on the left of the dash indicates the number of transistors used in the electrical circuit and the letter that follows it, for example the “C”, which is a model with only Medium Waves. If, instead of the letter "C", the letter "L" is present, that model includes, in addition to the Medium Waves, also the waweband of Long Waves, while if there is the letter "S", as, for example, in the 8S-P2 model , the radio is an eight transistor set and receives, in addition to Medium Waves, also the Short Waves. Note that in the models where the band of Short Waves is divided into several sub-bands, instead of the letter "S" there is the letter "U" if there are two sub-bands (indicated with SW1 and SW2) or the letter "X" if there are three sub-bands (indicated with SW1, SW2 and SW3) as shown in the 8U-P30 and 8X-P24 models respectively, both visible on the well-known Swiss site of Herr Erb, Radiomuseu.org.

Fig.4

It is also noted that in the 8M-P20 model (Fig.4), the "M" indicates the "old" marine band with which this receiver is equipped, also partly falling within the Short Waves. The number to the right of the central dash most likely indicates the exit progression of a given model while the letter that precedes it presumably refers to the material of which the storage cabinet is made. This can be explained if we consider, for example, the7S-W1[5] model, which, as can be deduced from the abbreviation, is the first model of a Sanyo radio with seven transistors in Medium and Short Waves in which the cabinet is made of wood and here the letter “W” would be (the conditional is a must) just for wood which in English means wood. The same happens for many other models in which the letter "P" appears on the right of the central separator, where this would stand for plastic, that is the plastic of which the cabinet of that set is made. Furthermore, for its early FM (frequency modulated) radio receivers, launched in the early 1960s, suitable forpicking up, in addition to Medium and / or Long Waves, also a portion of the VHF frequency range (also known as the ultra-short wave band), Sanyo, in the acronym of the various models, used the literal succession “AFT” followed by the separator dash and the inevitable progressive number[6].

In a nice color advertising brochure produced by Sanyo 1962-1963, published with the prices of the various sets in No. 62 (August-September 2004) of Antique Radio Magazine, among the first if not the first document produced in Italian for this Japanese firm, eighteen models of portable transistor radios are illustrated. In this brochure we find the model 6C-022, shown in Figures 1 and 2, which is also given the name of "Nylon" while of the five models indicated by the CD magazine, we find the 6C-17 (Fig. 3), with the name, “Milano” and the 8S-P2 model called “Clipper”. The 7C-16 model is also missing in this document, but traces of it can be found in an ad (Fig.5) which appeared in the Spanish edition of LIFE magazine dated 7 September 1959, and published in its web profile on Flickr.com by the friend of the Face Book group “Vintage Transistor Radio”, the collector from Mexico City, José Gustavo Sánchez González, to whom my thanks go. In those years Sanyo exported to many countries around the world and among them also to Spain,where since 1961 Luís Aznárez Peris, through his IEASA (Industrial Electrónica Aznárez, SA) in Barcelona, became the exclusive importer of Sanyo for his country, and starting from 1966, at the factory in Tudela (Navarra) he began to churn out the first Sanyo "Made in Spain", as stated

on the new transistor radio site RADIOMATIC.org at the web address: http://radiomatic.hol.es /page/marcas.php#sanyoe

Fig.5 (Sanyo 7C-16 made in Spain)

Although the **6C-1** model, Sanyo's first all-transistor radio (1957), until this date, has not yet been seen the web, not even on the company's website[7], some of its earliest successors can still be admired in one of the more interesting and early sites to appear on the internet dedicated to vintage transistor radios, that of the Canadian collector Alan Kastner, which has existed since 2001. The site has a particular name, that of "RadioWallah" and it may be for this reason that it is not easily easily traceable. Its web address is: http://tabiwallah.com/radiowallah/index.html and you get there by "googling" after having written in the search engine, as I did, suitable English words such as "first sanyo transistor radio". This site focuses on Japanese radios,and while the author was living in Japan (he's still living there),found vintage radios and press news, described with technical detail, and historical radio models (and not just Sanyo!) that are really rare, many of which were destined only for the Japanese market.

Sanyo 6C-5

Fig.6 (Sanyo model 6C-5, front)

Fig.7 (Sanyo model 6C-5, back)

Starting with the 6C-3, which according to Alan was the second model built by Sanyo, sold in stores since July 1957 at a price of ¥ 13,900 (yen) and also exported to Canada, we move on to the 6C-5 model (Fig.6) , the company's first vertical pocket radio; followed by 6C-8 and 6C-9, and arriving at the 6C-10 in April 1958. The presentation of the very first Sanyo radios ends with the 7S-P1 model, the first dual-band set from this company, equipped with a particular antenna for Short Waves in the shape of a "U", marketed shortly before the summer of 1958 began.

Fig.8

Whether you want to get information but also if you simply want to admire all these "transistor pearls", a visit to the Kastner site is a must, it is a "must", as electronic hobbyst said at the end of the 70s, not suspicious times when English in Italy was not so fashionable, but familiar only among those people who studied it at school or hummed the songs of Bob Dylan, the Beatles or the Rolling Stones and like me, they dealt, for profession or pleasure of technical-practical disciplines such as Electronics. Other beautiful images of the very early Sanyo radios can be found on the web in the photo albums, published on Flickr, of the various collectors of these radios, such as the aforementioned Michael Jack or "transistorized_6" which at https://www.flickr.com/photos/2104bouboul/8586631432/in/photolist-BFBtwG-BHUZqx-e5LJnw-e5F5UR-e5F6kz-e5F5Xk-e5LJb1-e5F5TX-e5LJ19-e5LJcW-e5LJmY-e5LJjQ-e5LJ79-9KQXtN-9KQWFY-9KN92k-9KQXbW/ shows us (and it is not to be missed!) also the model 6C-6, not even mentioned on “RadioWallah” but existing and also published on the site of Radiomuseum.org. This too, like the other models, is studied in detail, beautiful and elegant, and on the front side, in the right corner, the graphic symbol of the transistor is engraved and in gold color. The Italian "Transistor Radios Practical Guide for purchaser and seller" (published 1999 by Mosè Edizioni) devotes ten pages to Sanyo radios and they show all the models presented in theCostruire Diverte (C.D.) except the 7C-16 instead of which we see the 6C-022 (very sold at that time, together with the 6C-11, also in Italy!) as well as various other models from the 1960s and later. On page 165 there is also the 6C-10 model (from 1958!) belonging to the friendly collector Beppe Cremonini from Modena. Regarding the model 6C-5, advertised in the magazines of the time with the nickname, "Ruby", it must be said that this radio was launched in September 1957 and was the third transistor radio produced by Sanyo as well beingSanyo’s first vertical shirt pocket radio. With a very eye-catching look, especially due to the beautiful gold-colored tuning dial made with the reverse painting technique, this radio is housed in a thick and sturdy plastic case with pocket-size dimensions of 118 (H) x 72 (W) mm. x 32 (D). Just below the tuning dial scale, graduated in KC (kilocycles), on the left-hand side and in an unusual front position for a pocket radio, there is the ON-OFF / volume adjustment knob and next to it the word "SANYO" in relief . Next to this lettering, the tuning knob protrudes from a slot on the right side. The lower part of the front side features a micro-perforated metal grid bearing a small badge near the lower right corner (also present on the other early models of the company) with the letters "TR" to clearly indicate the neologism "transistor". In the earliest examples of this model, the emblem bears, in small print, instead of the letters "TR" one of the first words "Sanyo" (see the opening figure of this article). On the back (Fig.7), in the central position, there is a reclining metal stand that allows the radio to be in an inclined position. A look inside (Fig.9) reveals the use of a printed circuit board with a high concentration of miniaturized electronic components, in typical Japan style. You immediately notice the six gray SONY oval transistors, the then-innovative (like the printed circuit) plastic tuning capacitor, the oscillator coil (white) placed above the tuning capacitor, the three intermediate frequency transformers on the lower side and to the left of the speaker as well as the two audio transformers at the bottom and right of the speaker. The radio circuit here is the

typical one of a superheterodyne powered by a standard 9 volt battery (type BL-006P) which tunes the radio signals on the Medium Wave range, from 540 to 1600 kc / s, converts them to the intermediate frequency (IF) of 455 kc / s

and the audio signal (the information) is revealed through a germanium diode. Also for the audio section the circuit configuration is that commonly found in pocket radios of the time, a push-pull circuit made with a driver transistor and two other matched pair transistors coupled with the two audio transformers (one as driver or interstage and the other at the output): all to obtain a power amplification in class B which is the one that then guarantees the best output yield in a pocket radio receiver.

Fig.9 (Sanyo model 6C-5, inside view)

The 6C-5 is a truly rare model, extremely difficult to find, and I would say that's because it was not much exported. Of the two examples shown on "RadioWallah", one is certainly among the very first, given its low serial number of 0115, while the serial number of Michael Jack's example (also on Flickr) seems quite high at 92392. The one shown in the photos is the sample number 1572, purchased in the United States in 2007, fourteen years ago (when 1 € was exchanged for about 1.50 US dollars!) and belonging to the collection of my radio friend from Ercolano (NA) Antonio De Fazio Mazzei to whom my thanks go for the photos he sent me.

How can we not agree with Mister Kastner when he states that the 6C-5 is a beautiful set that emanates quality from every angle and testifies to Sanyo's commitment to building quality radios?

The founder of Sanyo

As always, behind every enterprise, every company there is a man (or a woman), and behind Sanyo there is Toshio Iue, a man of humble origins who thanks to his strength and determination managed to build a greatcompany and became

Fig.10

famous all over the world.

Toshio Iue was born on December 28, 1902 in a small village on the island of Awaji located in the Inland Sea of Japan (Seto Sea), off the Osaka Bay. The eldest son of eight children (of which five were daughters), he lost his father when he was still thirteen and left high school and started working with his uncle as an apprentice sailor. It was a brief experience due to a fire in which he was involved while on board a ship and from which he narrowly escaped. He then went to work in the small company of his brother-in-law **Konosuke Matsushita** in Osaka where they produced electrical items (plugs, sockets and insulating plates for fans). In his work, the young Iue always proved capable and diligent and for this reason he carried out duties of a higher level. Feeling part of a technical company and realizing that his future would require knowledge in that field, after work Iue attended evening classes at the Nishinoda Technical High School in Osaka where, studying hard for two years, he learned the basics of electricity and acquired the experience and technical skills required for appliances and machines. In a short time he also became an expert salesman, managing to convince wholesalers and retailers of the quality and affordability of the electrical products built in Osaka by Matsushita, at a time when most electrical equipment in Japan was built in Tokyo.

Fig.11 (Toshio Iue)

After two years of military service in an artillery department in China, Iue returned to Japan and married. Unfortunately his bride died shortly after the wedding, and the young man, to get rid of that state of depression and on the advice of his sister Mumeno (wife of Matsushita), in October 1927 married Matsushita's sister who thus became his brother-in-law for the second time. Ready to start a family, Iue once again immersed himself in work.

At the age of 33 Iue was appointed Managing Director, but he also held other positions (as president, vice president, managing director, etc.) at the Matsushita subsidiaries which he often visited bringing new sales strategies, as he did in 1936 in the Hamamatsu branch where he managed to boost the sales of dry electric batteries in that reality thus surpassing those of all other manufacturers and leading Matsushita to dominatethe dry battery market in Japan.

Toshio Iue was not only Konosuke Matsushita's right hand manfor many years, but often, due to the poor health of his brother-in law, he had to replace him in the management of the company as well as in traveling between the various subsidiaries of the same, at home and abroad. However, Iue's dream was to set up his own business and open his own company, and it was only after the great disaster of the Second World War that he was able to make it happen. After the surrender of Japan was announced to its people by Emperor Hirohito on August 15, 1945, the General Headquarters of Allied Forces (GHQ) decided that companies that had supported Japan's military effort in war production should be penalized. For Matsushita, who was one of them, the penalty involved the removal of a senior executive. Thinking about the future of the company, Iue resigned allowing Matsushita to remain in charge of his company. After leaving Matsushita, one day Iue was summoned to the Sumimoto Bank of Osaka (today, Sumitomo Mitsui Banking Corporation) where the director, instead of demanding from him the payment of the debt following the abrupt devaluation of his shares, offered him the financial assistance to start a new business: the bank, knowing the talent of Toshio Iue when he worked in Matsushita, believed that the entrepreneurial attitudes and skills of this man deserved the investment.

Thanks also to his brother-in-law Matsushita who gave him an empty factory in Houjo, Hyogo prefecture, Iue after starting to produce table lamps for the military camps of the Allied Occupation Forces and battery-powered emergency lamps for domestic use, in July 1947 the mass production of dynamo-powered bicycle lights (lights that lit up while pedaling, Fig. 10) could begin. Thus was estabilished the SANYO Electric Works, which Iue called Sanyo with ambition, the dream, of being able to sell its products all over the world. In fact, in the Japanese language, Sanyo has the generic meaning of "three oceans" with reference to the Pacific, Atlantic and Indian Oceans: in other words, to the whole world. In an era when the main means of transport was the bicycle, the success in the sales of its headlights was not long in coming. Iue, once again, was doing well and in a short time managed to oust other producers from the market, to conquer 60% of the Japanese market and, from 1949 to sell also on foreign markets, in particular in those of the South-East of Asia where its bicycle lights with dynamo and bulb attached became particularly popular.
In April 1950, Toshio Iue, after paying off his unsecured loans, founded SANYO Electric Co. Ltd., appointing himself as president. The capital was raised, and the new company, based in the city of Moriguchi, in the prefecture of Osaka, took control of all the activity related to bicycle lights. The company went public in 1954.

Under the guidance of Iue, the 50s and 60s were decades of great growth for Sanyo, a company that, thanks to the remarkable entrepreneurial skills of its founder, managed to establish itself at home and also abroad, with the aim, the dream, of opening one hundred factories around the world. In those years, both in Japan and in other more developed Western nations, the demand for electrical appliances for the home (household appliances) began to grow rapidly, and Iue, who knew how to anticipate the needs of the people, immediately began to produce these appliances by lending a lot of attention, as he had already done for bicycle lights, to their build quality and often launching innovative products.

Here, for obvious reasons of space and in order not to go beyond the transistor radio topic, I limit myself to remembering that the production of electronic consumer goods of this company was vast and extremely varied: a chronological list of Sanyo production was available until February 2017 on the web pages of the Panasonic Corporation (see Note 4), the company that took over it completely in April 2011 and where Iue originally worked, side by side with his brother-in-law Matsushita.

With regard to transistor radios, it must be said that with them Sanyo (but also many other well-known Japanese companies of the time), thanks to the quality and low price of its (their) sets, made entry and great gains in the thriving market of theUnited States, where this new kind of radio was becoming very popular. It was 1958 when Iue made his first trip to America to visit the Channel Master Corporation and then continued his trip in Europe in search of new markets. With Channel Master, a US company that built antennas and had many sales channels, Iue concluded an agreement for the export to that country of its transistor radios which were thus sold, exclusively in the United States, under the Channel Master brand. Usually the very first Channel Master models (not only of radios but also of other transistorized sets) are indicated with a four-digit number whose two initial digits are 65 and the two following, starting from "00" (double zero) have a progressive temporal succession. On the very clear vintage schematic diagrams "Photofact Transistor Radio Series" of the American publisher Howard W. Sams, the Channel Master radio models from number 6500 to well over 6562 are listed but there is no shortage of models starting with 64 ... and 62 ... , released (by golly!) later. It is curious to note how very similar, if not identical, the sets produced by Sanyo in Japan were marked with completely different model codes when they were sold by Channel Master Corp. on the US market! Thus, just to name a few, the Sanyo 7C-16 model (different essentially

Fig.12 (Leather case for Sanyo mod. 6C-5)

due to its power supply with two 1.5 volt penlite batteries type) became, under the Channel Master name, the 6516 model (also with7 transistors but powered with a standard 9 volt battery), while the Channel Master model 6509 corresponded to the international version of the Sanyo model 6C-022. Figure 13 shows one of my favorite Channel Master radios, the model 6503, also from my collection and found years ago, to my amazement, on a desk in the *"Flohmarkt"* (flea market) which it takes place every 25 April in the country of Caldaro (Kaltern in German language) on the wine road (BZ, Italy), near the namesake lake. Toshio Iue died at the age of 66 on July 16, 1969, the day the Americans launched Apollo 11, the spaceship that took the first men to the moon. Thirteen thousand people were present at his funeral, which was held on July 19 near the central office of his big company, together with his family, friends and his many employees and collaborators. Remembering Toshio Iue, his brother-in-law, Konosuke Matsushita[8], founder of Matsushita Electric later said: -

Fig.13 (Channel Master Mod. 6503)

"I lived with Toshio longer than anyone else. When he was 14 he left school and came to work for me at Matsushita Electric. He was just a small boy then but he had a strong spirit and I could already see the beginnings of a great businessman. As Matsushita grew, he often took control and oversaw operations due to my ill health. Everything Matsushita is today is the result of Toshio's hardwork when he was with the company."

(The End)

Notes, biblio- and sitegraphy

The story of Toshio Iue (surname) is the summary of my English translation of the history of this company and its founder published and visible until February 2017 on the Panasonic website at http://panasonic.net/sanyo /corporate/story/01_1.html
Everything else is the synthesis of my knowledge and research on the subject.

Thankswords and Notes

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[1] *In those early Sixties, the term "arranger" was recurring in some Italian radio, electronics and hobby magazines such as* ***Sistema "a"*** *and* ***Sistema Pratico*** *to indicate do-it-yoursfelf enthusiasts, especially as a hobby.*

[2] *Available and downloadablefor free, along with many other, mostly Italian vintage electronic magazines, directly on the INTRONI.it website, at the web address: http://www.introni.it/pdf/Costruire%20diverte%201960_11.pdf. A heartfelt thanks to the contributors of this site!*

[3] *Figure 1 and 2 show, in two different colors, the* ***6C-022*** *model with six transistors Medium Wave only, powered by a 9 volt battery, smaller but similar in appearance to the 7C-16, equipped with 7 transistors and powered at 3 volts with 2 penlite batteries of 1.5 volts each*

[4] *As reported in the timeline of Sanyo products (timeline), in the space reserved (certainly until February 2017) to the history of this important brand, on the Panasonic website at the web page http://panasonic.net/sanyo/corporate/profile /history/history01.html*

[5] *This radio, dating back to 1958, at the time (2017) the Italian version of this article was published, it could be seen on the Flickr photography site (then a Yahoo company)on the account of one of the world's biggest collectors of transistor radios, the Canadian Michael Jack, formerly at the web address https://www.flickr.com/photos/transistor_radios/9735109451/in/album-72157604003277212/*

[6] *In addition to what has been said so far, it should be added that already for some radio models contemporary to those seen as well as for the other new ones that followed, Sanyo used different alphanumeric groups whose meaning it would be nice to extrapolate. Therefore, you will encounter radio sets indicated with the group of letters TH or with the letters RP, always followed, after the separator dash, by a number. As an example, the TH-600 and RP-1160 models are mentioned, both illustrated in the Italian Transistor Radios Guide for seller and purchaser (copyright 1999) as well as on Radiomuseum.org.*

[7] *Although absent from the Panasonic website, which until the beginning of the year 2017 dedicated a special space to the glorious Sanyo, a miniature of Sanyo's first transistor radio is visible on a Japanese website at http: //www5b.biglobe .ne.jp / ~ AA676 / radio / RADIOLIST.htm*

[8] *The small company founded by Konosuke Matsushita on March 7, 1918 was the Matsushita Electric Housewares Manufacturing Works, which would later become (in 1955) the Panasonic corporation, one of the electronics giants in Japan and in the world.*