

2nd June 2023 RETRO RECEIVER REVIEW #20 - The SONY ICF-5900W

RETRO RECEIVER REVIEW #20



[https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEhzfkeT-AZbrg9SIDA6pPiB3mVw0_pDI8h0h4CWjWz5RMjE8eZaJ6DYA7sROzJExlvleb1CKIdaeJbLFSKTT4s0OAQppR8NZP54FkjrZ_T_kZ40Zs3XfmVPYPYfJuXXsIKuoZm1wuZTBJsT1oaMdc_1KgXAnDUyQ0DI9B39BOoVrcJefiUEQQ38TF908/s1080/5900W.jpg]

SONY ICF-5900W

by **CRAIG SEAGER VK2HBT**

This time around, I thought we might direct our attention to one of the many portable receivers of yesteryear, and it is perhaps appropriate that we choose a manufacturer that continued to produce quality equipment featuring shortwave coverage until long after.

I'm sure our Japanese friends will concur with the submission that Japan is a land of short-lived, but enthusiastically embraced fads. Whether it be karaoke, yo-yos with brains, electronics pets or Pokémon, each craze sweeps the country in such a way that captures the attention of the rest of the world and is usually associated with some pretty smart home-grown technology.

In the mid to late 1970s, shortwave listening (or "BCL") was the flavour of the month, with teenagers (and some older folk!) compiling large QSL collections and forming SWL and DX clubs all over the country. Nowadays, you'd be fairly hard-pressed to find any external broadcasts on shortwave in Japanese, symptomatic of a lack of current interest in the medium, in part due to the many technological advances that have come along and more computer-centric forms of gratification.

There are some very knowledgeable and well-known Japanese Dxers that have remained stalwarts of the craft, but the kids in the high schools are likely to give blank looks if quizzed about BCL or shortwave (there as here, to be fair).

Interestingly, however, Japan's national broadcaster, NHK continues to maintain an extensive foreign broadcast schedule, and the commercial Nihon Shortwave Broadcasters (NSB) flies under the radar of most.



[\[https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEi1EDb4d7Sskr5jXF-sLM61ZKY_IC2RuXS0SR-GurTIVarSi8CaBv6rE91SX37ZPw7jIGFP7q_WAMeUgUO_1PMKPegAwVczyB_RbjZlwDTBlwOJKWgluclh-OfUK9paLPJ1-kiR_V8V72WDJUul1vd9HICq95xVMzyfjn9DaF5z7-2WbOBL-VcT2rV/s1920/5900W%20Top.jpg\]](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEi1EDb4d7Sskr5jXF-sLM61ZKY_IC2RuXS0SR-GurTIVarSi8CaBv6rE91SX37ZPw7jIGFP7q_WAMeUgUO_1PMKPegAwVczyB_RbjZlwDTBlwOJKWgluclh-OfUK9paLPJ1-kiR_V8V72WDJUul1vd9HICq95xVMzyfjn9DaF5z7-2WbOBL-VcT2rV/s1920/5900W%20Top.jpg)

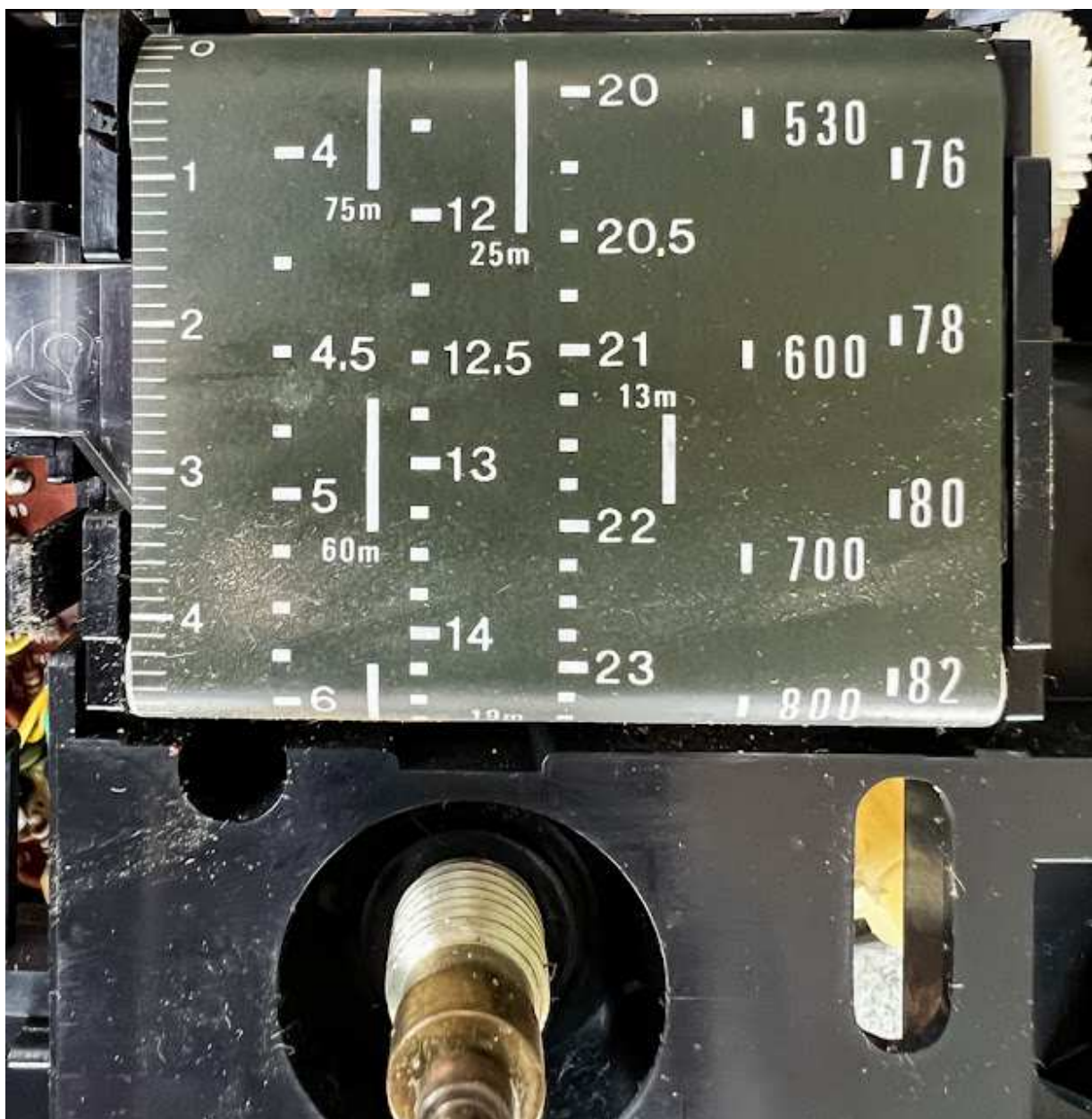
A top-down view of the ICF-5900W.

Rightly or wrongly, it has been said that the Japanese SWL "craze" rode on the back of Sony's widely available ICF-5900W, and its stablemate, the 5800. In truth, the "ICF-5900W" model number was only used for examples destined for the export market, and in Japan itself the receiver was marketed as the "Skysensor 5900". There was even a Skysensor club in operation, for aficionados of the series.

The domestic version catered for the differing FM range used in Japan.

“Iconic” is a word that is often bandied around loosely, but in the shortwave portable world of the '70s, the 5900 epitomised such sentiment. Or maybe it's our memory of the many 5900's that contemporaries owned during the era. It was after all a mass-market receiver within its genre and didn't pretend to assume the premium feel of some other Sony gear.

Having a vaguely “military” look about it, the 5900 was released in the mid-1970s, with the marketing hype concentrating on its double conversion design – something not taken for granted at the time on a portable. It covered shortwave in 3 bands: 3.9-10, 11.6-20 and 20-28 MHz, in addition to AM and FM broadcast. The coverage gap from 10-11.6 MHz is associated with the 1st I.F. and is a design characteristic later seen on other Sony radios, such as the desktop 6700W.



[<https://blogger.googleusercontent.com/img/b/R29vZ2xl>

[/AVvXsEhVsQ2QHeDBjWTuCa1itET6eUbjDqVfSWDhrLaZVLcG0b6EpFnaYDeV1zHin-V32ToaOeYZ4NTex9wRLF-wwF8VwnOJJmi_VTitqd2OADmQWLfPcWS7_29roiMMQIE9JSPtZ968WBZGphxBV2FI8qyzNPq9UhGSt5EIFBKqgVeXfspEC-G6VNQWL/s1080/5900W%20tensioned%20tuning%20scale.jpg](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEhVsQ2QHeDBjWTuCa1itET6eUbjDqVfSWDhrLaZVLcG0b6EpFnaYDeV1zHin-V32ToaOeYZ4NTex9wRLF-wwF8VwnOJJmi_VTitqd2OADmQWLfPcWS7_29roiMMQIE9JSPtZ968WBZGphxBV2FI8qyzNPq9UhGSt5EIFBKqgVeXfspEC-G6VNQWL/s1080/5900W%20tensioned%20tuning%20scale.jpg)

A close-up of the 5900W tensioned tuning scale.

You will also note the absence of the 120 and 90-metre tropical bands, something of a drawback for many buyers, but a characteristic it shared with one of its main competitors, National's RF-2200 (aka DR22).

The set is powered by 3 x 1.5V dry cells, and there is no AC input for some versions – though an outboard converter option was available at extra cost. The supply voltage is said to be critical, particularly on initial production runs. A distinct advantage over earlier Sony models was a move towards more accurate frequency readout, albeit clumsily implemented. Using the separate bandspread dial and 250 kHz crystal calibrator, with effort it is possible to discriminate down to ± 5 kHz, which was pretty good for the era, remembering that the direct competition was receivers such as the Barlow-Wadley XCR30, and the aforementioned DR22, both of which had their own share of tuning “fussiness” – good as they were otherwise.

Audio from the ICF-5900W should, on straight specifications, have been excellent, however in effect had a somewhat muffled quality despite the presence of separate bass and treble controls. SSB and CW were also problematic, not only being difficult to resolve initially, but also in need of constant tweaking due to a degree of inherent drift. Sensitivity was very good, and in fact, anecdotal evidence suggests that it compared with some of the more fancied desktop sets of the time, without significant overloading problems. A single-step attenuator (“DX/Local”) is on hand in such an eventuality.

A look at the circuitry reveals only one IC, utilised for the IF amplifier. It's a Sony CX075 (equivalent to NTE 1301), and still available if you search diligently enough. Most of the transistor complement are NPN types, such as 2SC668, 2SC710 and 2SC930. There were some bad batches of the latter, in particular, in the 70s - some of which wound up in Sony radios, and haven't stood the test of time. The three filters are ceramic types, as one would expect at the price point.



[\https://blogger.googleusercontent.com/img/b/R29vZ2xl

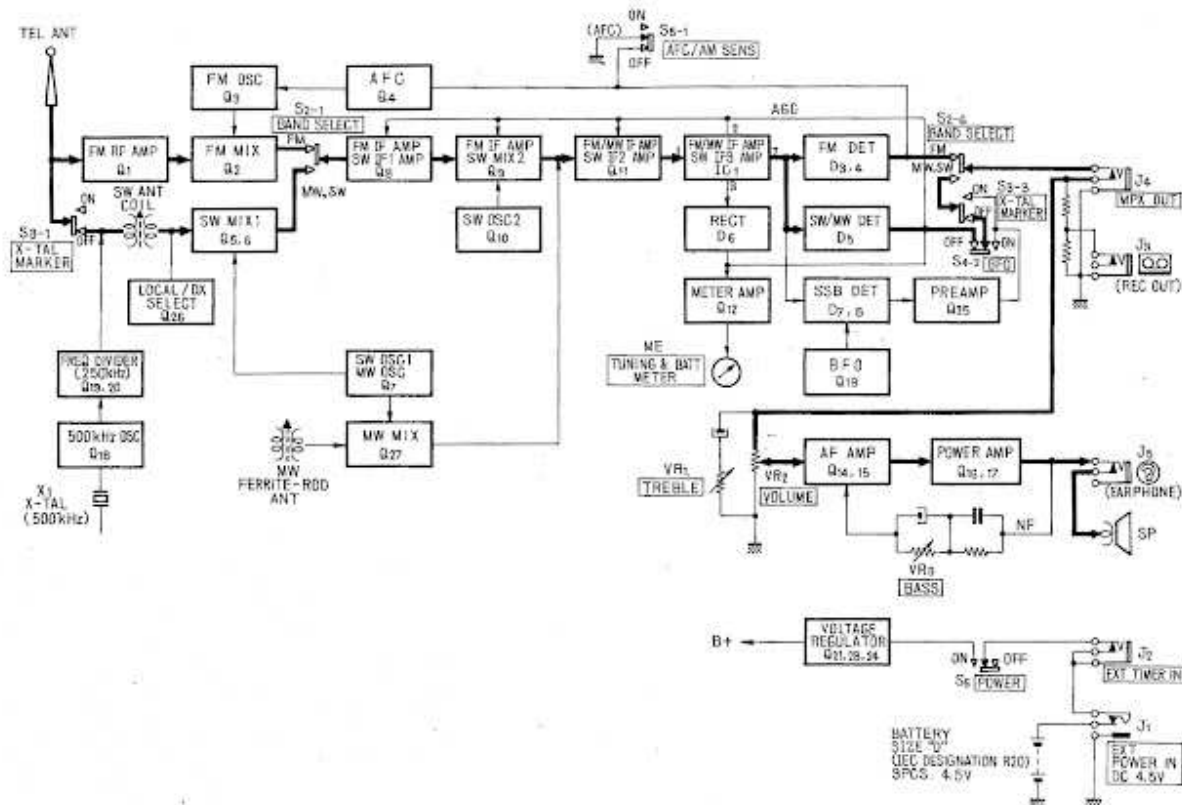
[/AVvXsEhLxiKvWjrTyAlwjFjkvuls2T1oY4vjIWmpWwCTxXxLI0UbCFVWfaJPh_HRaT1by44YdNns5tzgKwiOYpi5EgdB7dzArDFbrlufPhwzBMnrMyBfyqJp0VRdxz7zZtVfER8HKxpEGfSeSaykYD68wuAqtIVkVjDK7hCgh3cbfo0rfyrw2tuOTz_tsCZw/s1440/5900W%20circuit%20board%20including%20Murata%20455%20kHz%20filter.jpg\]](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEhLxiKvWjrTyAlwjFjkvuls2T1oY4vjIWmpWwCTxXxLI0UbCFVWfaJPh_HRaT1by44YdNns5tzgKwiOYpi5EgdB7dzArDFbrlufPhwzBMnrMyBfyqJp0VRdxz7zZtVfER8HKxpEGfSeSaykYD68wuAqtIVkVjDK7hCgh3cbfo0rfyrw2tuOTz_tsCZw/s1440/5900W%20circuit%20board%20including%20Murata%20455%20kHz%20filter.jpg)

A look at part of the 5900W circuit board, including the Murata 455 kHz filter (upper right in photo),

There is only one selectivity position, which could be described as adequate, but nonetheless a popular target for those with modification bravado.

The front panel is also populated with a combined battery/signal strength meter, rotary volume control, BFO and AFC switches.

Portables, by their very nature, don't tend to age as well as base units. When assessing second-hand examples, pay particular attention to worn tuning mechanisms and broken rod antennas. Battery covers also seem to go walkabout over the years (why, oh why?!), and general bumps and nicks will often be in evidence. 40-50 years ago, these receivers weren't considered very serviceable, with solid-state componentry starting to become more compact. It's probably a walk in the park, though, compared with today's tiny surface mount technology.



https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEjKhOenF50Exoh1uedOh-LvKeV6kNidq8nQoGeARP2N7jt3mYywWbjex-LRYn4-6GoMYHJMOZrjb1udHMRYo6tzDDJE6zUSwJ2ZJWaKQ1Qext0Lq7FJPV6AOanh_11ytSWtJQbp2BmYwXwyhh2aGP3w3cHFJ-UU1NpRNorLgil6r-hkUHqFHLyx4W/s1510/ICF-5900W%20Block%20Diagram.jpg
 Click to enlarge the diagram.

A service manual in pdf format can be found from various internet sources, including:

<https://www.audioservicemanuals.com/s/sony/sony-icf/12870710-sony-icf-5900-w-service-manual>
<https://www.audioservicemanuals.com/s/sony/sony-icf/12870710-sony-icf-5900-w-service-manual>

I'm currently working on an example that has lost audio through the speaker, though dulcet tones are still in evidence through the earphone jack. Despite ageing eyes, and diminishing patience with such things, I don't anticipate the repair will be insurmountable. The urgency isn't there, however, given a fully working set is sitting on an adjacent shelf. It should be noted that, somewhat unusually, the speakers themselves failed in some of these earlier Sonys.

Lots of ICF-5900W's were sold, until the model was discontinued, around 1980. As one might expect, the market position of direct readout analogue portables was quickly usurped by new offerings with digital display, including Sony's own ICF-2001 and a brief but full-on assault by National Panasonic. But that doesn't mean that the newcomers were all fundamentally better receivers, as we have seen in some other "Retro Reviews"!



[[https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEh-fHUOAYUoDiUQTC0SYjw3MIPspvad_ic3uTKCbERQAysaviBq4ZDxRC0y27YjFWaVO1LKgLNxgH3lgf7RQOjlfVo1DElJfVblkyh0eG9cmCYfQf00Lk4PLp8W2MhhhYqk0YFqRTzFqtoL926JVpHpYFLv0TSjsPy39bdf1iTnTpO6NKHjJhf4YS/s1627/From%20the%20family%20album%20\(front%20to%20rear\)-%20ICF%205500,%205600,%205800,%205900.jpg](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEh-fHUOAYUoDiUQTC0SYjw3MIPspvad_ic3uTKCbERQAysaviBq4ZDxRC0y27YjFWaVO1LKgLNxgH3lgf7RQOjlfVo1DElJfVblkyh0eG9cmCYfQf00Lk4PLp8W2MhhhYqk0YFqRTzFqtoL926JVpHpYFLv0TSjsPy39bdf1iTnTpO6NKHjJhf4YS/s1627/From%20the%20family%20album%20(front%20to%20rear)-%20ICF%205500,%205600,%205800,%205900.jpg)]
From the family album (front to rear) - ICF-5500, ICF-5600, ICF-5800, ICF-5900

Other Sony Radios of the Era include the ICF-5500, 5600 and 5800 (all pictured above). The 5600 appears to have been for Japan only, and hence holds pride of place in the author's Sony collection. Why no 5700? I have no idea! Maybe a reader with more developed Googling skills can turn one up.



[<https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEisgMeS9t198I3VltBw4G7Lp-taYriNa0wP33HqEhzvkWIR7sQVDYOco6->

[FeEw7DEGRAFzO8J7G1cRqjrrKfuiFPTYRbD5aeMQrOYJB5a4QJgKQ7lcVgZOhsY1R1VUNEZLetQHVIByjb2OWk4MrRUV6wfzZ37Yduh2BDaguuOvMxVOxMmowakR5AF1h/s1082/Expensive%20import%20-%20the%20Skysensor%205600.jpg](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEisgMeS9t198I3VltBw4G7Lp-taYriNa0wP33HqEhzvkWIR7sQVDYOco6-FeEw7DEGRAFzO8J7G1cRqjrrKfuiFPTYRbD5aeMQrOYJB5a4QJgKQ7lcVgZOhsY1R1VUNEZLetQHVIByjb2OWk4MrRUV6wfzZ37Yduh2BDaguuOvMxVOxMmowakR5AF1h/s1082/Expensive%20import%20-%20the%20Skysensor%205600.jpg)]

A closer look at the Skysensor 5600 - the expensive import that holds pride of place in the author's collection.

Incidentally, the 5500 and 5800 were also known in some markets as “Captain 55” and “Captain 77”, I imagine to emphasise their travel portable credentials, and included the lower shortwave bands (1.6-4.5 MHz) in order to capture marine band activity.

5900's still command good prices on internet auction sites. There are so many folk who remember them with fondness and are prepared to overlook what they don't have compared to today's radios. Who needs DSP, AI, shirt-pocket compactness and digital readout to 10 Hz, when one can enjoy something uncomplicated, honest and unpretentious from a halcyon era?