



ZR6FD logo

Drukwerk ZS6RH
Papier / Paper ZS6RH

WATTS

08-2013

Year 83 + 8m

Monthly newsletter of the Pretoria Amateur Radio Club
Maandelikse nuusbrieff van die Pretoria Amateur Radio Klub.

✉ PARC, PO Box 73696, Lynnwood Ridge 0040, RSA

web <http://www.parc.org.za> mail: zs6pta@zs6pta.org.za

Bulletins: 145,725 MHz 08:45 Sundays/Sonday
Relays: 1.840, 3.700, 7.066, 10.135, 14.235, 51.400, 438.825, 1297 MHz
Activated frequencies are announced prior to bulletins

Swapshop: 2m and 7.066 MHz Live on-air after bulletins
Bulletin repeats Mondays | herhalings : Maandae 2m 19:45



Collector's item : Transworld Fly-away HF Transceiver 125W. 12V or 230V.



Two of our club members were fortunate to obtain these rather scarce units over the past years.

Most were manufactured in the 1980's and served as portable HF communication for (US) diplomats and other foreign service personnel.

Covering 1,6-30MHz it also had a built-in antenna tuner with coax- or single wire output.

In this issue

- Member news and activities Lede-nuus en Aktiwiteite
- Technical | Solo Botswana DX-pedition | Tegnies
ZS6UT goes green
The world's oldest radio tower
- Page eight -- Bladsy agt
ZS6BTY shows some morse keys

In hierdie uitgawe

Next club events

Fleamarkets at PMC

Sat 10 Aug
08:00

Club AGM

11:00

Club committee meeting

To be announced

Sat 7 Dec

PARC Management team / Bestuurspan Aug. 2012 – Aug. 2013

Committee members

| | | | | | |
|-------------------------------------|--------------------|--------|--|--------------|--------------|
| Chairman, Contests | Pierre Holtzhausen | ZS6PJH | zs6pjh@telkomsa.net | 012-655-0726 | 082-575-5799 |
| Vice Chairman, SARRL liaison | Fritz Sutherland | ZS6SF | fritzs@icon.co.za | 012-811-3875 | 083-304-0028 |
| Secretary, Clubs, Strategy | Jean de Villiers | ZS6ARA | zs6ara@webmail.co.za | 012-663-6554 | 083-627-2506 |
| Treasurer, SARS | Andre van Tonder | ZS6BRC | andre.vtonder@absamail.co.za | 361-3292 | 082-467-0287 |
| Rallies, Social | Johan de Bruyn | ZS6JHB | zs6jhb@gmail.com | 012-803-7385 | 079-333-4107 |
| Webmaster | Graham Reid | ZR6GJR | greid@wol.co.za | | 083-701-0511 |
| RAE, Bulletin co-ordinator | Vincent Harrison | ZS6BTY | zs6bty@telkomsa.net | 012-998-8165 | 083-754-0115 |
| Repeaters, Technical | Craig Symington | ZS6RH | zs6rh@hotmail.co.za | | 081-334-6817 |
| Technical, Kits, PR, youth | Rudi van Dyk | ZS6RVD | vdykr@telkomsa.net | | 082-962-4141 |

Co-opted/Geko-opteer:

| | | | | | |
|------------------------------------|-----------------|--------|--|--------------|--------------|
| Auditor | Tony Crowder | ZS6CRO | tcrowder@telkomsa.net | 011-672-3311 | |
| WATTS newsletter/Kits | Hans Kappetijn | ZS6KR | zs6kr@wbs.co.za | 012-333-2612 | 072-204-3991 |
| Clubhouse | Pieter Fourie | ZS6CN | pieter2@vodamail.co.za | 012-804-7417 | 083-573-7048 |
| Fleamarket | Alméro Dupisani | ZS6LDP | almero.dupisani@up.ac.za | | 083-938-8955 |
| Historian, Archives, Awards | Tjerk Lammers | ZS6P | zs6p@iafrica.com | 012-809-0006 | |

ARE YOU KEEPING A LOG BOOK?

The Frequency Spectrum Regulations for Amateur Radio require that you keep a logbook for all HF contacts. Section 4 of the regulation states:

- (1) The licensee must keep a log book recording the activities of the amateur radio station used by him or her or any other person under the supervision of the licensee, except when operating a station in the VHF and UHF bands or mobile.
- (2) Details recorded in the log book referred to in sub-regulation (15) must include-
 - (a) the date, time and nature of each transmission: provided that the date with regard to each individual day's operation need to be recorded only once and for the purposes of this paragraph "time of each transmission" shall mean the time that a specific station is called and the time at which the communication with such station is terminated;
 - (b) the full name and address of the person making the transmission: provided that the name of the licensee who regularly uses the amateur radio station need to be recorded only once in the log book with an explicit statement that all transmissions are made by him, except where stated otherwise;
 - (c) the call sign of every station: provided that it need not be recorded repeatedly for calls made to the station during the course of the communication;
 - (d) the transmitter power that is used;
 - (e) the frequency band that is used: provided that it need to be recorded in the log book only once until a change of frequency to another authorized band takes place; and
 - (f) the address from where the transmission takes place: provided that such address needs to be recorded only once, should the place of transmission not change.

The regulations further warns that any person who fails to comply with these regulations is liable on conviction by the Complaints and Compliance Commission to a fine not exceeding R200 000 unless stated otherwise in regulations.

Birthdays Verjaarsdae

Aug



- 01 Sue ZS6SUE
- 02 Marelise, lv van Pierre ZS6PJH
- 03 Paul ZS6BMF
- 06 Estelle, lv van Simon ZS6AST
- 06 Edwin ZR6ESP, son of Molly ZR6MOL and Richard ZS6UK
- 07 "JB" ZR6YV
- 07 Whitey ZS6JJJ
- 08 Ray ZS6ALG
- 08 Marnix ZS6MCM
- 08 Tobie ZS6ZX
- 10 Anne ZR6AUL, daughter of Frances ZR6AUT
- 15 Roger ZS6RJ
- 15 Samantha, daughter of Sue ZS6SUE
- 15 Molly ZR6MOL, sw of Richard ZS6UK

Anniversaries Herdenkings

Aug

- 07 Peggy and Ed ZS6UT ()
- 09 Vlasta and Ivan ZS6CCW (42)
- 18 Zdena and Ivo ZS6AXT (57)
- 20 Bertha en Hans ZS6KR (47)
- 30 Darlington and Hilary ZR6HAP (5)

- 16 Marie, dogter van Poppie ZS6BCP en Hansie ZS6AIK
- 20 Brazz ZR6UV
- 25 Doppies ZS6BAQ
- 26 Sin,ad, daughter of Heather and Vince ZS6BTY
- 28 Jean ZS6ARA
- 30 Jonathan ZR6JON, son of Sue ZS6SUE

Lief en Leed | Joys and Sorrows

Fritz ZS6SF moes 'n probleem laat uitsorteer in die hospitaal
Tjerk ZS6P was ook hospitaal toe met 'dringende probleem
Molly ZR6MOL is again receiving medical attention

Nuwe lede | New Members

'n hartlike welkom aan: | a hearty welcome to:

| | | | |
|------------|---------------|------------|---------------|
| Beneke MJ | ZS6AIT | Marais JA | ZS6JAM |
| Bresler TV | ZS6TVB | Mills CJ | ZS6CJM |
| Fourie AA | ZS6AFT | Smit A | ZS6ARN |
| Van Dyk J | ZS6VDJ | Rogers JDE | ZS6GRJ |

Diary | Dagboek (UTC times)

Aug

- 03 10-10 Int. Summer Contest SSB 00:01-23:59
- 03-04 Hamnet Winter Challenge**
- 04 SARL HF Phone Contest 13:00-16:30**
- 11 WAE DX Contest CW 00:00-23:59
- 16-17 Gauteng Rally
- 18 SARL HF Digital Contest 13:00-16:30**
- 24-25 YO DX HF Contest 12:00-12:00
- 25 SARL CW Contest**



Last call

PARC SUBS / LEDEGELD 30-06-2011

Please remit your subs in
time to our treasurer or
by transfer to:

Betaal asb. u ledegeld
betyds aan ons tesourier
of per oorplasing aan:

Bank : FNB Ordinary members/ gewone lede R150
Branch : 25 20 45 Spouses, pensioners R50
Account : 546 000 426 73

Your call sign must appear as statement text! !

Please attend the AGM as a paid-up member!

Snippets | Brokkies

Correspondence received from Roger ZS6RJ:

3DA0ET DX-pedition to Swaziland 18 Nov-27 Nov.

Aims:

1. CQWW CW Contest participation
2. Run 4 operating positions CW, RTTY and SSB
3. Address often neglected digi-modes with a full-time op.
4. Operate 160m-10m

Rigs: 2 X Kenwood TS-590's, 1 X Yaesu FTDX3000D, and 1 or 2 X Elecraft K3's

Linears: 4 X Expert (3 X 1K and 1 X 2K FA's) linear amplifiers, sponsored by Expert Amps USA

Antennas: 3 X K10 Hexagonal Beams, 1 X 75 ft vertical for 160, 80 and 40 meters TX, 1 X 2 element 30 meter wire beam, 1 X 160/80 meter RX antenna with preamp.

QSL Policy / Website / Log: TBA shortly.

We'll be using ClubLog for band-slot chasers and for online log checking. Clublog and LOTW updates daily. QSL bureau and direct.

Team: Team and support folk TBA shortly.

Korrespondensie ontvang van Evert ZS6AQW:

Ek het Watts 7 op die web gelees en dit is, soos gewoonlik, van hoogstaande gehalte. Daar is egter een baie growwe fout. Die 11 dae wat verdwyn het is nie omdat die Juliaanse jaar 11 dae langer was as die Gregoriaanse jaar nie. Dit was 11 dae wat oor eeue opgebou het as gevolg van 'n baie klein jaarlikse verskil (te doen met skrikkeljare). Ek heg 'n foto aan van Bill ZS6KO (SS) en Clive ZS6AVP (SS) vir u argief.

73, Evert ZS6AQW

A Solo A2 DXpedition

Roger ZS6RJ

I recently had to travel alone up to Botswana to install an antenna I'd repaired along with a new homebrew mast and tilting base system in preparation for a multi-op dxpedition that'll be happening in September. So I figured while I was doing that I might as well make a bit of a one-man dxpedition out of the occasion and have some fun. Herewith the salient points:

I operated just over 4 days during the period 16-20 June, made 6 700 QSO's with around 75% of that on CW, 15% RTTY and 5% phone. Being a CW nut I had originally planned to go all out on CW, but A2 is badly needed around the world on RTTY which is generally an afterthought on big DXpeditions, and I can see why – it's boring, hi (only my opinion!)

Anyway, after being held up at the border for over three hours due to their payment system being offline for 3rd party vehicle insurance, I finally arrived in grid square KG47AC and used the last of the daylight to get the repaired antenna up. I now had at my disposal a Tennadyne T6 up at around 40 feet, a Cushcraft R7 vertical, a Butternut HF2V and a long 80/160 metre dipole. Add to that an Expert 2K-FA linear, Kenwood's superb TS-590S receiver capability and a Begali key and it was a pretty sweet setup for being alone in the middle of nowhere in a relatively rare prefix for a few days. This was my "calm before the storm" guy-alone-thing break – my wife Gerda and I are expecting our first baby in mid-August, hi.

Operating conditions saw JA dominating at this time of year into Southern Africa, of course, which made it tricky to pull VK and NA (LP)through at times. The band condx that week were pretty poor, but ironically this sometimes helps in DXpeditions as it thins the pileup out a bit and lets you maintain a very fast QSO pace, especially on CW. 40 and 80 Metres into the US and Canada at night was superb, with over a thousand 40 metre QSO's alone being made in the early evenings and mornings. From around 2200 at night until 0300 (local time) not a whole lot was happening on any band, which gave some opportunity to sleep when you would normally sleep – rare when doing a real dxped effort. I had numerous power cuts especially in the colder evenings which necessitated switching to generator. Botswana is renovating their aging power plant, and is currently reliant on additional bought-in electricity from South Africa, which often doesn't happen due to ZS's own power issues right now. I used a satellite link to upload my log to ClubLog and LoTW twice a day – in a vain effort to cut down on those insurance dupes and to minimize the pain of the QSL card chore later on. Later on, when looking at the dupe statistics, and judging the initial inflow of cards compared to previous ops where I haven't performed regular online uploads, the numbers would seem to suggest that the regular 6 hourly satellite upload effort has had little effect on reducing dupes or incoming card requests, which is interesting.

Here's the more fun highlights of the trip:

The Tennadyne T6 log periodic had fallen over in a wind storm. It's now back up, but minus one half of the front element, and has two other badly bent ones. Despite this, I was surprised to discover the SWR was still fine on all the bands and its war-wounds seem to have little or no effect on its performance. I have a new-found respect for these tough antennas. Spares are on the way in from the US and I'll get this repaired on a future trip in any event.



I had a nice long QSO with 7P8CC, OM Gerry, the Irish Ambassador to Lesotho. We'd met each other in person during last year's 7P8D dxpedition. The uproar from EU calling us after we signed off was very amusing. Man, they didn't know who to call for: A25 or 7P8, hi. Also had a nice QSO with ZS8Z.

I put up a new tilting mast system with an R7 on top of it quite high above the ground. Next day I went to check the steel guy ropes to see if they'd stretched while settling and maybe needed adjustment. Returned to the ops room and discovered my shirt and hands were extremely sticky and beyond socially acceptable stinky-levels... went back out, found the spoor and discovered the resident leopard in the area had come along and scent marked the R7 tipper system in the night. Clearly he considered this to be on his turf. Which resulted in me thinking twice about adjusting the low band antennas alone in the middle of the night, and having to shower multiple times in an effort to remove the cat pee...

Was operating with the door to the outside bushveld bush open one evening, when I saw movement out of the corner of my eye. Turned out to be a scorpion coming in for the heat. Now I know why Expert linears come with carry-bags. Unzip the top and they make perfect receptacles to throw over scorpions. Left it under there for a few 80 metre QSO's, peeked under the corner and discovered it had climbed up inside the bag. That allowed me to flip it over, carry it outside and abandon the linear bag to its fate in the bush for the night. The scorpion had climbed out and vanished by the next morning.

On the first night of operating 80 metres, I had some RF get into the logging computer's USB port system and lock it up, just as I got into a clear patch and was pulling through US stations. Being a prepared boytjie, I grabbed my pen and paper, only to discover the pen wouldn't write. Resorted to rushing outside, grabbing some soil from the ground in a coffee mug, mixing some water into that and writing the call signs/time with my finger in mud on the big glass sliding door next to me, until the prop went and I could get some ferrites onto the USB cables and reboot.

DXpeditions in Africa are always exciting – operating's only ever half the story. Imagine how boring the 3Y0X Peter 1 Island dxpedition must have been without wildlife, scorpions and cat pee!

The attached photos from clockwise: (a) The battle-scarred T6 logP innie bos (b) Operating position complete with my wife's stolen sewing machine pedal under the camping table (so much more comfortable than the tiny Heil footswitch, hi) (c) Washing (thanks to the stinky leopard pee) drying on a lowered dipole (d) Eish – the first of the dreaded QSL cards – only one day's worth, just four days after arriving home. Time to get a QSL manager!

73, Roger

From Ed ZS6UT: Hi Guys,

Now running a 2.4kva PureSine-wave Inverter to two 160w Solar panels and 800 Ah battery back-up for my station. It handles the linear amplifier as well with ease. I am ready for the power shedding scenario!



Inverter

4
batteries

The World's Oldest Radio Tower

From <http://mt-shortwave.blogspot.com/2012/12/the-worlds-oldest-radio-tower.html> and **World Radio Dec. 1923**

The Story of Eiffel Tower Radio

It was back in the year 1882 that two draft engineers working in a construction company with Gustave Eiffel began the development of a concept for the erection of a steel tower in the city of Paris, France. Two years later, the first tentative draft was completed, and the engineers shared the concept drawings with the owner of their company, Gustave Eiffel.

Soon afterwards, a total of 50 engineers and draughtsmen prepared a total of 5,300 drawings and plans for the entire project, and these were submitted to the organizers of the 1889 Paris World's Fair as their entry for a fair icon. On June 12, 1886, the plans for the Eiffel Tower were granted equal First Prize in the competition; and six months later, the city authorities gave approval for construction to begin.

It should be stated that the other equal first prize winner for the 1889 World's Fair in Paris was a huge single storey building, the "Galerie des Machines", which itself was considerably larger than the Eiffel Tower, extending more than one-fourth mile along the ground.



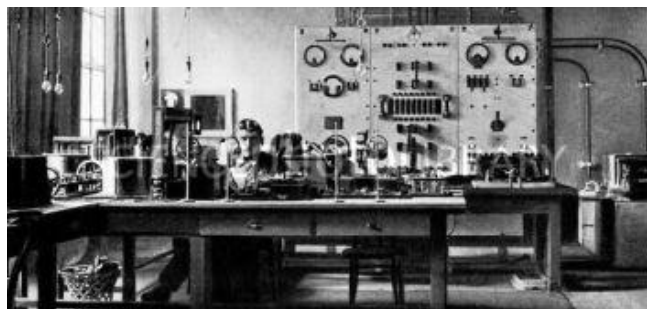
Preliminary work for the new Eiffel Tower began on January 28, 1887, with the excavation down to bedrock for the tower base. In mid year, 100 metal workers and 132 assemblers began the on-site assembly of the tower on the Champs de Mars Park in central Paris. They drilled 8 million rivet holes and assembled more than 18,000 pieces for the construction of the magnificent tower that eventually stood almost 1,000 feet tall. The total weight is close to 10,000 tons. Completion was at the end of March, just six weeks ahead of the official opening of the Paris World's Fair on May 6, 1889. At the time, the new Eiffel Tower became the world's tallest man made structure; twice taller than the Pyramids and St Peters Dome in the Vatican, and not superseded for another three decades until the Chrysler Building was constructed in New York in 1930. Fortunately, no workmen were killed in the construction of the tower. However, in 1901, a French airship crashed into the tower, and a frightened pregnant woman gave birth to a child. Some years later, a woman tried to commit suicide by jumping from the tower. However, she landed on top of a car, and subsequently ended up marrying the owner of the car.

The first usage of wireless on the new Eiffel Tower was in November 1897 when Eugene Ducretet placed his home made wireless transmission equipment on the third floor of the new structure. He followed up these original experiments just one year later, on November 5, 1898, when he made longwave spark communication with the Pantheon in Paris, at a distance of nearly three miles. Seven years later again, a regular wireless link was established with the French military post near the border with Germany; and soon afterwards, regular communication was established across the Mediterranean with the French government in Casablanca, Morocco.

The first broadcast of radio programming from the Eiffel Tower was accomplished on January 12, 1908 when the American radio inventor, Lee de Forest, presented a joint musical program with his wife, Nora. Soon, a permanent wireless center was constructed underground near the south leg of the Tower, a facility that is still in use to this day. Two years later, on May 23, 1910, the official wireless station on the Eiffel Tower, with its rather appropriate callsign FL, began the regular broadcast of accurate time signals.

Due to widespread criticism at the time, it was agreed that the Eiffel Tower would be demolished a few years after its official opening. However, when World War 1 was in the offing, the importance of the tower for wireless communication was already well established, and so the tower was saved; and instead, modernization projects were implemented on the tower on several occasions.

At the commencement of World War 1 in 1914, messages transmitted from the tower called taxis to transport personnel to the war front in the Battle of the Marne; and in 1916, experimentation was completed for computing the exact distance between Europe and the United States. These transmission experiments were carried out with communication between station FL on the Eiffel Tower and the American navy station NAA at Arlington in Virginia.



Regular radio broadcasting from the Tower began during the year 1921 with the airing of music records; and at the end of December 1921, regular live programming was produced.

The longwave transmitter was rated at 800 watts, and the antenna was a simple wire hanging from the top of the tower. Experimental television broadcasts took place in 1925. During the 1930s, regular broadcasting from the Tower was noted in Europe and North America, on longwave, mediumwave and shortwave. Two shortwave channels were in use, 6120 kHz & 9525 kHz, and QSL cards were issued for reception reports noting these broadcasts. However, the shortwave antenna system on the Tower was not efficient, due to the design of the Tower and the restricted space.

The final RF tube consisted of a glass top with metal ribbing attached for cooling and a metal bottom part. A special rubber seal that did not cause gas emission was in between and the assembly secured together with some screws. A pump devised by the inventor Holweck could draw an excellent vacuum in 30 seconds and ran permanently when the tube was in use. The filament reaches some 2700 degrees and this construction allowed easy filament replacement.

The plate current was around 6A and with 5kV anode voltage the output was 8kW while running it at 4kV and 25A the output was 5,8kW. Since May 1923 two such valves were in use and proved to be reliable.

During the tragic events of World War 2, the German occupation army took over the Eiffel Tower in June 1940; and four years later, in August 1944, the American army took over the Tower.

Interestingly, during the year 1960, two fraudulent attempts were made to sell the Tower for scrap, resulting in the loss of thousands of dollars on the part of the gypted buyers. In 1957, new radio and TV antennas were installed at the top of the Tower; and these days, the Tower is still in use for the broadcast of FM and TV programming. We could ask the question: Is the Eiffel Tower the world's first wireless/radio broadcasting station?

It is true that current radio stations that use the Eiffel Tower can trace their earliest origins back to the year 1897, when the first wireless transmission took place during the month of November. Over the years though, the Eiffel Tower has been used by several different personnel & organizations for wireless experimentation, wireless transmission, and radio & TV broadcastings. However, using the same criteria, we discover that there was a slightly earlier wireless station, and this one was located in the American state of Arkansas. Back during the year 1897, Professor William Gladson constructed an experimental wireless station at the University of Arkansas at Fayetteville, Arkansas. This experimental unit was replaced by a larger facility three years later, which was subsequently designated as a Special Land Station under the callsign 5YM. Then, in 1923, a mediumwave station was inaugurated at the same university under the callsign KFMQ, which was subsequently redesignated as KUOA, which was later sold to the John Brown University at Siloam Springs, half a dozen miles further north. Then back half a dozen years ago, the station was sold again and the studios were moved to nearby Springdale, though the transmitter and tower are still located at the John Brown University.

Admittedly, the historic lines of descent for both wireless/radio stations, KUOA in Arkansas and the Eiffel Tower in Paris, are at times quite tenuous. However, if you accept these matters in the same light, then mediumwave KUOA, with its earliest origins during the year 1897, might be seen as the earliest wireless/radio broadcasting station in the world; and the Eiffel Tower, with its earliest origins later in the same year, might be seen as the oldest wireless/radio broadcasting tower in the world.

Morse Keys in use at ZS6BTY

From left to right:

Key WT 8Amp No2 - 1940 Second World War Key

Swedish Key - a replica from the 1980's

Begali HST II - a new single lever paddle I operate in Cootie Mode



C/O NELSPOORT & 801 MALMESBURY STR, WINGATE PARK, PRETORIA [S25.49.36 & E28.16.07]

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 - Technical writing
 - 3rd Party scrutiny of projects and documents
 - MFJ 259/69 Analyzer repairs and calibration
 - Valuation of ham estates and their disposal.
- and products:
- Legal limit 30m and 40m dipole traps
 - Linear power supply O.V. protection kits
 - 30A DC switching supplies
 - 30A DC Anderson Power Poles
 - Connectors RF and Audio
 - Plug-in triple sequential industrial timer

Contact Hans at 012-333-2612 or 072-204-3991

Long Term HF Propagation Prediction for August 2013

Courtesy ZS6BTY

(see also our website propagation tab)

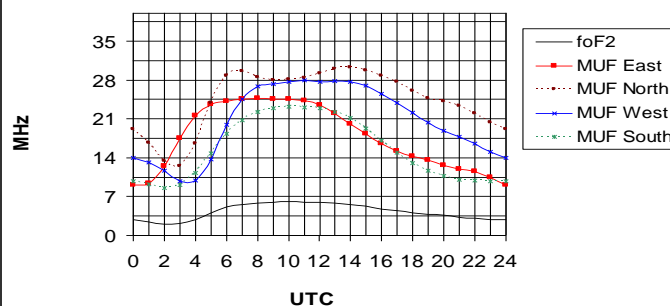
DX Operating

The graph shows the 4000 km maximum useable frequency (MUF) to the East, North, West and South from Pretoria for the first hop using the F2 layer.

Local Operating

The F2 critical frequency (foF2) is the maximum frequency that will reflect when you transmit straight up. E-layer reflection is not shown.

**F2 Critical Frequency and 4000 km MUF
Pretoria - August 2013**



The first portables and legal issues.

In 1954 Regency introduced a pocket transistor radio, the TR-1, powered by a "standard 22.5V Battery".

In 1957 Sony introduced their "Transistor Six" radio, small enough to fit in a vest pocket, and able to be powered by a small battery. It was an immediate success. Sony sold the radios by the millions, and numerous imitations also appeared.

The product became an indispensable part of popular culture of the late 1950's and 1960's; its low cost enabled the masses to enjoy radio wherever there were broadcasts. It was the first of a line of electronic consumer products that brought technology into personal contact with the user. Sony was convinced that miniaturization did more than make products more portable; it established a one-on-one relationship between people and machines.

Legal issues. When radio was introduced in the 1920s many predicted the end of records. Radio was a free medium for the public to hear music for which they would normally pay. While some companies saw radio as a new avenue for promotion, others feared it would cut into profits from record sales and live performances. Many had their major stars sign agreements not to appear on radio.

Indeed, the music recording industry had a severe drop in profits after the introduction of the radio.

For a while, it appeared as though radio was a definite threat to the record industry. Radio ownership grew from two out of five homes in 1931 to four out of five homes in 1938. Meanwhile record sales fell from \$75 million in 1929 to \$26 million in 1938 (with a low point of \$5 million in 1933), though the economics of the situation were also affected by the Great Depression.[27]

The copyright owners of these songs were concerned that they would see no gain from the popularity of radio and the 'free' music it provided. Luckily, everything they needed to make this new medium work for them already existed in previous copyright law. The copyright holder for a song had control over all public performances 'for profit.' The problem now was proving that the radio industry, which was just figuring out for itself how to make money from advertising and currently offered free music to anyone with a receiver, was making a profit from the songs.

The test case was against Bamberger Department Store in Newark, New Jersey in 1922. The store was broadcasting music throughout its store on the radio station WOR. No advertisements were heard, except for at the beginning of the broadcast which announced "L. Bamberger and Co., One of America's Great Stores, Newark, New Jersey." It was determined through this and previous cases (such as the lawsuit against Shanley's Restaurant) that Bamberger was using the songs for commercial gain, thus making it a public performance for profit, which meant the copyright owners were due payment.

With this ruling the American Society of Composers, Authors and Publishers (ASCAP) began collecting licensing fees from radio stations in 1923. The beginning sum was \$230 for all music protected under ASCAP, but for larger stations the price soon ballooned up to \$5,000. Edward Samuel's reports in his book *The Illustrated Story of Copyright* that "radio and TV licensing represents the single greatest source of revenue for ASCAP and its composers [...]" and average member of ASCAP gets about \$150-\$200 per work per year, or about \$5,000-\$6,000 for all of a member's compositions. Not long after the Bamberger ruling, ASCAP had to once again defend their right to charge fees in 1924. The Dill Radio Bill would have allowed radio stations to play music without paying and licensing fees to ASCAP or any other music-licensing corporations. The bill did not pass.