



NASB NEWSLETTER

www.shortwave.org

November 2002

IN THIS ISSUE:

KSDA News
WRMI News
Shortwave Radios for Cuba
New Chip Improves Analog AM/FM Sound
Next HFCC Conference

REPORT FROM KSDA

Dr. Adrian Peterson

Adventist World Radio announces the inauguration of a new shortwave transmitter on the island of Guam. This new unit replaces the former unit that was previously identified as KSDA3.

It was back in the month of March in the year 1987 that the first transmitter at the new AWR shortwave station on

the island of Guam was commissioned. Later in the same year, the second transmitter was installed and placed into regular service. Seven years later again, transmitter number 3 was installed, and the fourth in the following year, 1995.

The two original transmitters, KSDA1 & KSDA2, are now sixteen years old and the second pair of transmitters, KSDA3 & KSDA4, are now seven years old. All four transmitters are

rated at 100kW; the first pair was constructed by Thomson CSF in France and the second pair by Continental in the United States.

Last year, AWR embarked on a modernization program at our flagship station KSDA on the island of Guam. This project includes the replacement of all four transmitters, the installation of a matrix switching system so that any transmitter can be connected to any antenna, and the re-siting of the diesel generator system. The two Continentals have been sold, and one has already been removed from the site. The sale of the two original Thomson transmitters at station KSDA is pending.

During all of these radio events on Guam, there was another shortwave station under construction in South Africa. This station was located at Langefontein on the west coast of South Africa, one hour from Cape Town. This transmitter base was planned for a full capacity of nine shortwave transmitters at 100 kW, though only eight were installed.

At the same time, another shortwave station was also planned for installation elsewhere in South Africa with a full complement of four transmitters at 100 kW. The transmitters were purchased but the project was never implemented.

This large shortwave station at Langefontein was set up by the military in the previous era of government to cover South Africa, and when South Africa became a democracy in 1994, the Defense Force no longer had need for this site and it was moth-balled. Construction of the Langefontein station began in 1989, and the project was completed in 1992.

All of the eight transmitters were installed at Langefontein and they were tested into a dummy load. These transmitters were commissioned and they were run periodically into this dummy load, though they were never put on air through the regular antenna system. Consequently, the filament hours on all of these transmitters was very low.

Recently, the government of South Africa contracted with Sentech (Pty) Ltd to dismantle the shortwave station at Langefontein. Sentech is the common carrier for broadcasting in South Africa and it cares for all transmission facilities and the delivery of programming to each transmitter site.

Arrangements were made for AWR to procure four of the installed transmitters from Langefontein. AWR also purchased one of the yet unused transmitters which was intended for installation at Sentech's shortwave station at Meyerton near

Johannesburg. It was still contained in its original crates. All five of these transmitters are ABB-Thomcast units from Switzerland and each is rated at 100 kW.

The first of these new transmitters from Sentech in South Africa is now on the air at Adventist World Radio on Guam. Originally this unit was designated as Langefontein No 2 and it is now on the air as KSDA3. It was placed into regular service at 1000 UTC on September 26.

The next ABB transmitter from Langefontein to be placed into service at AWR Guam has already been installed and it will replace transmitter KSDA4. It is currently being tested and commissioned, and the changeover date is expected to be around mid-December.

The entire modernization project is expected to be completed later next year. Four new transmitters will be on the air in regular service and the fifth will be a hot-standby replacement for use through the antenna switching matrix if a problem occurs in any of the other units.

NEWS FROM WRMI

Jeff White

October 28, 2002

WRMI ADDS RADIO PRAGUE RELAY IN CZECH

In addition to its daily relays of Radio Prague's English and Spanish programs, WRMI has begun relaying the Czech-language program of Radio Prague as well, as of today (UTC Oct. 28).

The Czech relay is aimed at Czech speakers in North America, and it will continue at least through the end of the B02 broadcast season.

VIVA MIAMI REVIEWS NEW FREEPLAY WIND-UP RADIOS

The latest edition of WRMI's "Viva Miami" program (Oct. 28) reviewed two new Freeplay wind-up radios and also included an interview with Rory Stear, founder and CEO of the Freeplay Energy Group in London. Here is the text of the review portion of the program, as presented by Jeff White:

Today on Viva Miami we are reviewing a couple of radios that should be of particular interest to shortwave listeners and people who spend a lot of time outdoors.

You may have heard of the Freeplay Energy Group. This is the company that introduced wind-up shortwave, AM and FM radios several years ago

now. They started building radios in South Africa, and later moved their production center to the Far East. The company, which was founded in 1994, is headquartered in London.

The advantage of these wind-up radios, of course, is that you don't need batteries nor AC power to operate them. That means they are excellent for outdoors-people---sportsmen, boaters, campers, etc. But initially at least, the main target market for these radios was people in remote areas, especially in Africa and the rest of the Third World, where batteries are often hard to find or too expensive for many people, and where electrical power may often be lacking.

Freeplay has produced many different models of radios since it began, and now it has added a new feature -- solar power -- to some of its radios. We have been reviewing the Coleman Outrider AM/FM radio that uses Freeplay technology. It's a small unit -- about 4 inches high, 8 inches long and two-and-a-half inches wide -- and weighs about 25 ounces. For those who use metric measures, that's 100 millimeters high, 205 millimeters long, 60 millimeters wide, and a weight of 700 grams. The body of the radio is very solidly-built.

The Outrider has only three controls to worry about -- an on/off-volume

control knob, an AM/FM bandswitch, and a tuning knob. AM coverage is 500-1700 kilohertz, so it will pick up stations for a considerable distance below the official AM band in North America, and also stations in the new expanded AM band from 1600-1700 kilohertz. FM coverage is the North American standard 88-108 Megahertz. Both the front speaker and the headphone jack provide FM mono sound -- no stereo.

But the neat thing about the Outrider is its power sources. There is a permanent built-in rechargeable battery pack that can be charged up four different ways. First, it comes with an AC adapter that you can plug into the wall. Or you can use the unique winder on the back of the radio. Just wind it up for about 30 seconds, and the radio will play for over a half-hour at a normal volume level. A third power source is a solar panel on the top of the radio. In direct sunlight, the battery pack will charge itself up and the radio will play non-stop, without even the need to wind it up. And the fourth method is to use an optional cigarette lighter adaptor in your car. So with this radio, you should never lack a power source. And when the battery pack is fully charged, it will run for about 25 hours.

The Outrider was developed as a partnership between Freeplay Energy Group and the well-known Coleman

company, which produces a variety of products for campers and outdoorsmen. The manufacturer's suggested retail price for the Outrider is \$49.99, and we noted that the reputable mail-order company Universal Radio, in its latest sales flyer, is selling the unit for \$44.95. For more information, you can check out the Coleman web site, www.coleman.com, or in North America you can call 1-800-835-3278. You can also look up Universal Radio's web site at www.universal-radio.com.

Now for those who are interested in shortwave coverage, Freeplay has just introduced to the marketplace a very significant new radio. The Freeplay Summit is the first wind-up shortwave radio with digital readout. We've tested one, and we're quite impressed. It's just slightly larger than the Outrider -- 3-and-a-half by 7 by 3 inches, or 90 by 170 by 80 millimeters -- and weighs the same: 700 grams. The casing is silver plastic and black rubber, and it has a sleek sort-of futuristic tabletop design. The Summit has four bands -- AM, FM, longwave and shortwave. Of course the longwave band, from 144 to 281 kilohertz, is not much use for us here in North America, but it will be of interest to listeners in other parts of the world. The FM band goes from 87.5 to 108 Megahertz. The AM band goes from 520 to 1710 kilohertz, nicely covering the new expanded

AM band. And it is switchable to a 9-kilohertz frequency separation, which is very important for those traveling to the Eastern Hemisphere.

In fact, the Summit is a great radio for world travelers. Besides its portable size and weight, the radio comes with several accessories that travelers will appreciate. There's a handy carrying pouch, an AC adapter that works in both 110 and 220-volt and both 50 and 60 hertz systems, three adapter plugs for use in most parts of the world, one of those handy reel-in type external shortwave antennas that's 7 meters or 21 feet long, an instruction manual in seven languages and an insert with a sample listing of shortwave frequencies, although unfortunately only for the BBC for some reason. Anyway, the complete package has just about everything that the traveling shortwave listener needs.

The major drawback to the Freeplay Summit is the coverage of the shortwave band. It goes from 5.95 to 15.60 Megahertz, which admittedly covers most of the shortwave range. But the lower end -- 5.95 Megahertz -- chops off part of what is effectively the 49-meter band and all of the 60, 90 and 120-meter tropical bands. And the upper limit -- 15.6 Megahertz -- cuts off a huge chunk of stations at the upper end of the 19-meter band (including WRMI on 15.725) and all of the 17, 21 and 25-Megahertz

bands. But if you can live with these limitations, it's not a bad radio.

In fact, we were very pleasantly surprised with the technical quality of the shortwave reception. The selectivity was quite good -- for example, completely separating two strong stations on the adjacent frequencies of 15295 and 15305 kHz, with no interference from one to the other. In terms of sensitivity, it depends greatly on which antenna you use. The built-in telescopic antenna does fine for AM and FM reception, but it's almost useless for shortwave. You have to use an external antenna. So I connected the wind-up antenna to the telescopic antenna and extended it almost all the way inside a room in my house, and I compared it side-by-side with a Grundig Satellite 500 shortwave receiver, using the same type of wind-up antenna. Overall, the results were quite favorable. I could generally get a slightly better signal out of the Grundig than I could from the Freeplay for most stations. But that's really to be expected, as the Grundig is a real Dxr's radio which cost about \$400 or \$500 as I recall. The Freeplay Summit has a suggested retail price of just \$100, which is very reasonable.

But back to my testing. I then took the Summit into another room and connected a 75-foot outdoor copper wire antenna to the telescopic antenna. Then I was able to get even

stronger signals out of the Summit, and the quality was generally just as good as what I got on a Realistic DX-394 receiver using the same longwire antenna. For example, I picked up Radio Australia at 0355 UTC on 15515 kHz with an amazing SINPO rating of 55545. The Voice of Russia World Service was also coming in beautifully on 7180 kHz at 0430 UTC.

However, I soon noted a few problems. The 75-foot longwire antenna actually overloaded the receiver when it came to strong stations like the BBC on 5975 kHz. It splattered outward from about 5960 to 5995 kilohertz. The same thing happened with other strong stations like Radio Marti and the South American beam of WHRI. Radio Marti on 7365 kHz could be heard all the way up to 7405, interfering with the other stations that are really supposed to be on those frequencies, like WRMI on 7385 kHz. And the strangest thing was that I found several strong stations in the 31-meter band which were also audible exactly 900 kilohertz lower, which must have been some sort of spur or image. (I'm not an engineer, so I don't know what the technical term is for that.) But Radio Exterior de Espana, for example, was clearly audible on 8640 kHz, exactly 900 kilohertz below the real frequency of 9540, where it also came in strong and clear. In many of those cases of overloading, I found

that I could reduce or eliminate the problem by disconnecting the outdoor longwire antenna and connecting the wind-up antenna that came with the radio. However, in other cases, I found that the wind-up antenna only gave me a fair or poor signal from stations like WJIE on 7490 and Radio Portugal on 9815 kHz, but if I switched to the outdoor longwire, I was able to get them with much better reception. In both of those cases, the stations were almost inaudible using just the built-in telescopic antenna.

So what does all of this mean? Well, you definitely need to use at least the supplied wind-up external antenna for shortwave listening with the Freeplay Summit. So don't forget to pack the antenna when you're going on a trip. You may need an even better longwire antenna to get good reception from some stations, but it will cause the strong ones to overload. So what would really be nice if they come out with any new versions of the Summit might be some sort of RF gain control or antenna tuner on the radio. In most cases, though, you can get quite satisfactory reception with the wind-up antenna by adjusting its length and height, and placing it close to or even outside a window.

And I might offer a few other observations. Number one, there is no tuning dial on the Summit, nor can you enter a station's frequency directly. There are five station

memory buttons for each band. You have to choose one of those memorized frequencies, and then use the scan-up or scan-down button to get where you want. That's quite frustrating at times.

Also, it's great to have a digital readout, but the dark LCD digital display on the Summit is sometimes difficult to read unless you have a lot of light in the room and hold it at the proper angle. There is a button that turns a light on the display, but the light only stays on for a few seconds; you can't make it stay on permanently. And the last digit in the digital display -- for example the "5" in 9.965 Megahertz -- is only half the size of the other digits, so it is even more difficult to see. And if you're looking for a shortwave station on a split frequency, you're out of luck, since the Summit only advances in 5-kilohertz increments. After the frequency readout has been on for several seconds without changing frequencies, the readout switches from the frequency to the time, which you may or may not like. Perhaps in future modifications to the Summit, they can provide buttons for direct frequency entry, the possibility of tuning in 1-kilohertz increments and an easier-to-read digital display including an alarm clock with sleep and snooze functions, and the clock can be set in either the 12-hour AM/PM mode or the 24-hour mode,

which is nice for international use, or setting the clock to UTC time.

The audio quality of the Summit was very good, although there are no bass and treble controls, which might be a nice addition. And of course the best feature of the Summit is the three-way power source. Like the Coleman Outrider, the Summit has a rechargeable -- and in this case replaceable -- battery pack which can be charged with the supplied AC adapter, the built-in winder on the back of the radio, or the solar panel on top of the radio. Again, this is really handy for people who are traveling, camping, boating, or live in remote places, or can't find or afford batteries. I charged up the battery pack overnight, and it lasted a very long time while I was doing my testing.

In summary, the Freeplay group is to be congratulated for coming out with the first digital wind-up solar-powered shortwave receiver. It's a very good radio for just \$100, and we can recommend it highly. It's not quite up to the standards of a serious Dxr's radio yet, but it's certainly very adequate for general shortwave listening. And with a few minor improvements, it could become a major competitor for many other shortwave receivers that cost far more. For more information on the Summit and other Freeplay products, see their website: www.freeplay.net.

The Summit, incidentally, is being sold by mail order in North America by the C. Crane Co. (www.ccrane.com).

U.S. GOVERNMENT DISTRIBUTING SHORTWAVE RADIOS IN CUBA

by Jeff White

As most shortwave listeners and broadcasters are aware, Cuba has one of the highest shortwave listenership rates in the Western Hemisphere. This is because the domestic Cuban media are all government-owned, and Cubans are seeking independent news and information from outside the island. In addition, religious/evangelical broadcasting is not permitted on domestic Cuban media, so Cubans often listen to foreign shortwave stations for religious programming.

There have been many press reports in recent months about the efforts of the U.S. Interests Section in Havana to distribute shortwave radios in Cuba free of charge. This has caused diplomatic flaps between the U.S. and Cuba because these radios can be used to hear the U.S. Government's Radio Martí broadcasts. There was even some speculation that these radios might be fix-tuned to Radio Martí frequencies. But none of the dozens of press reports has given

much technical information about the receivers, so we decided to find out for ourselves.

A source at the U.S. Interests Section, which operates out of the Embassy of Switzerland in Havana, has confirmed to WRMI that the radios being distributed are Chinese-made Tecsun brand, model R9701, which come with "external antenna, earpiece, batteries and battery charger." Some investigation on the Internet reveals that Tecsun has a marketing office in Hong Kong. The manufacturing plant is somewhere in China, and it also makes certain models of shortwave radios for the well-known German company Grundig. As with most Chinese-manufactured shortwave receivers, there have apparently been some quality control issues with certain Tecsun products, but it is likely that Grundig is fairly demanding in that respect.

The model R9701 has AM, FM and seven shortwave bands. A photo on the company's website (www.tecsun.com.cn/english/swdual.htm) shows the radio, but it is not clear enough to distinguish the exact coverage of the seven shortwave bands. It is clear, though, that the radio covers most of the major shortwave bands. The R9701 has analog readout, is dual conversion and measures 115 x 75 x 29 millimeters. It uses two AA batteries and has an earphone jack. The website does not

mention a price, but an Oct. 23 article in USA Today indicates that the radios cost \$10 each, and that the U.S. Interests Section has distributed more than 1000 of them so far. The U.S. Interests Section told WRMI that "we are not locked in on this model and may be receiving others in the future," which seems to indicate that they intend to continue giving away radios on the island.

While the Cuban government has criticized the U.S. for distributing the radios (and in fact has threatened unspecified consequences if the U.S. does not quit distributing them), the U.S. Interests Section points out that these radios are not fix-tuned to Radio Martí frequencies; they can be used to hear shortwave stations from all over the world, including Castro's own Radio Havana Cuba. And they have AM and FM bands to pick up all of the local Cuban government-owned stations.

The Tecsun R9701 is obviously a simple, cheap shortwave receiver, but for listeners in Cuba who are struggling to get information from abroad, something is better than nothing at all. These radios will literally bring the world to Cuban listeners, and while the main objective of the U.S. Interests Section may be to get people to listen to Radio Martí or the Voice of America, clearly all shortwave broadcasters who target Cuba will benefit.

MOTOROLA ANNOUNCES NEW DIGITAL RADIO CHIP TO IMPROVE ANALOG AM/FM SOUND

On Oct. 1, 2002, Motorola announced that it has developed a new radio technology that enhances sound quality and improves signal reception for existing AM and FM analog broadcasts. Motorola says the "Symphony Digital Radio Chipset" will allow existing analog radio signals to benefit from less static, fading, pops and hisses; automatic tuning to reduce adjacent station interference; extended listening range for existing signals; and overall better audio clarity and volume. New Symphony Digital Radio receivers for home and car use are expected to be on the market by the end of 2003, and the cost is expected to be about the same as a regular consumer receiver. Unlike other digital radio systems that are currently being developed for shortwave and AM transmissions, the Symphony system does not require broadcasters to buy new transmitting equipment. Motorola is touting the introduction of Symphony as "a move that has significant repercussions for the digital radio industry," while some digital proponents have already tried to portray digital broadcasting quality as technically superior to that of Symphony. Undoubtedly this will be somewhat controversial, but will also be of great interest to both local and

international broadcasters over the coming months. For more information on Symphony, see the following URLs:

<http://www.forbes.com/2002/10/01/1001tentech.html?partner=yahoo>
http://www.usatoday.com/tech/news/techinnovations/2002-10-01-motorola-symphony_x.htm
http://www.motorola.com/mediacenter/news/detail/0,1958,1573_1221_23_00.html
<http://e-www.motorola.com/collateral/REVRADIO.htm>

The latter URL is an article called "Revolutionizing the Radio," and offers the opportunity to listen to a comparison between a traditional analog and a Symphony radio signal.

NASB TO ATTEND NEXT HFCC CONFERENCE IN SOUTH AFRICA

The HFCC/ASBU (High Frequency Coordinating Committee and Arab States Broadcasting Union) Conference for the A03 broadcast season will be sponsored by Sentech and held in Sandton, a suburb of Johannesburg, South Africa, from February 3-7, 2003. Sentech is a state-owned but commercially-operated telecommunications company which operates shortwave transmission facilities used by Channel Africa, the BBC and a number of other

international broadcasters. Jeff White, NASB Vice President, will represent NASB at the HFCC Conference and will be part of the FCC delegation from the United States. Most of the major shortwave broadcasters take part directly or indirectly in the HFCC conferences, where approximately 80% of the world's shortwave channel usage is coordinated so that stations do not interfere with one another. This will be the first time that an HFCC conference has been held in sub-Saharan Africa. (There was a conference in Tunisia in 1998.) NASB members that do not have their own representatives at the HFCC Conference in Johannesburg will be able to communicate via e-mail with Jeff during the conference to check the status of their frequency requirements for the A03 season and to resolve any potential frequency collisions. Please have your station's frequency manager contact Jeff White at radiomiami9@cs.com for further information and arrangements. This is a service that NASB offers its members free of charge.

As we approach the Johannesburg conference, HFCC Chairman Oldrich Cip in Prague issued the following message to NASB members:

"We believe that global co-ordination of shortwave broadcasting is now becoming a reality and the incoming

B03 Conference in Sandton/Johannesburg is going to be another important milestone. The last global conference for the B02 season was held in Bangkok in August this year, and for the first time ever participants were able to co-ordinate within one, single, global database that had combined requirements of all HFCC, ASBU and ABU (Asia-Pacific Broadcasting Union) broadcasters. What is even more important is that methods and procedures are being developed on how to maintain an ongoing, single global database for the Johannesburg conference and for subsequent events even if HFCC/ASBU and the ABU co-ordination group hold separate meetings.

"Interest in co-ordination and frequency planning in shortwave broadcasting is growing constantly. NASB Vice President Jeff White, with the approval of the NASB Board, keeps collecting frequency requirements of bigger Latin American stations for the joint seasonal databases. The next conference of HFCC and ASBU countries will be hosted by Sentech in South Africa and there is a hope that this venue will help motivate some bigger stations in Africa that are still outside the global process. We are in touch with the ITU on a possibility of organizing a seminar in Africa that would be devoted to

HFBC co-ordination but this has not been confirmed.

"I am sure that the rapid progress of co-ordination resulted in the fact that the present international management

of shortwave spectrum for broadcasting is more rational now than at any other moment in its past history. It is important too, that the NASB has become part of this effort."

NASB Members:

Adventist World Radio
Assemblies of Yahweh
Family Radio Network
Far East Broadcasting Co.
Fundamental Broadcasting Network
Herald Broadcasting Syndicate
High Adventure Ministries
LeSea Broadcasting Corp.
Radio Miami International
Trans World Radio
World Christian Broadcasting
World International Broadcasters
World Wide Catholic Radio

NASB Associate Members:

Antenna Products
George Jacobs & Associate
HCJB World Radio
IBB
IDT Continental Electronics Corp
TCI/Dielectric
TDP
Thales Broadcast and Multimedia

National Association of Shortwave Broadcasters

10400 NW 240th Street, Okeechobee, Florida 34972

Ph: (863) 763-0281 Fax: (863) 763-8867 E-mail: nasbmem@rocketmail.com

