SHORTWAVE BULLETIN

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Var det någon som inbillade sig att våren är på gång till Skandinavien? Förra helgen ville hustrun att vi skulle ta fram trädgårdsmöblerna. Den här helgen kom straffet - Snöstorm!

SWLOGit som omnämndes i förra numret av SWB har nu kommit i en ny version igen, SWLOGit 1.20. Den finns att hämta på samma ställen som tidigare, men nu även på min Web-sida ovan. Lowe Electronics har en bra Web-sida numera, därifrån har jag hämtat artikeln om Watkins-Johnson HF-1000. ABU har skickat en kopia på det "QSL" han fick från R Nova Visão. Om plats finnes plockar jag med det. Inte mycket att glädjas över i QSL-väg tycker jag. Vad anser ni som fått svar från stationen?

QSL

Christer Sandberg: G9CDP Bessemer Broadcasting-2404,5 stencil, info; CHU-3330 kort
Tore Larsson: AIR Jaipur-4910 brev; Bessemer Broadcasting-2404,5 brev, mm
Ivonne Eliasson: ADFR Australien-10623 brev; Radio Nigeria Lagos-3326 brev efter 10 månader
Jan Oscarsson: Radio Europe, Pioltello-7294 USB kort, dekaler, pers brev från DAM + möjlighet att för $30 bli livstidsmedlem i R Europe Fan Club!; Zimbabwe BC "Radio 3FM"-4828 kort som blev land nr 145.
Christer Brunström: G9CDP-2404,5 stenciler; AIR Kurseong-3355 kort; La Voix Nationale du Cambodge-11940 stencil; Voice of the Broad Masses of Eritrea-7020 kort
Kurt Norlin: KJES Mesquite NM-15384 kort, brev, stamps; Radio Amahoro-9560 med brev, dekal + massor av infos; AWR/Rimovská Sobota-6055 med kort, dekal mm samt slutligen AIR/Jaipur-3295 med brev. Det är årets QSL-skörd på kv. Bedrövligt helt enkelt!! Jag har inte varit med om liknande QSL-torka på 90-talet.
Björn Fransson: Bessemer Broadcasting-2404,5 med den vanliga uppsättningen.
Lars-Eric Svensson: Radio Huancabamba-6281 brev där v/s var Director César Colunce Bustamente. Dessutom har LES fått ett intressant brev från CEDEC Centro de Estudio para el Desarrollo "Chuquisaca" Casilla 196, Sucre, Bolivia. De bekräftar att rapporten är korrekt, men det finns en hake, att frekvensen skulle vara 6142 kHz. Jag sände en förfrågan till Radio Mauro Nuñez efter min avlyssning på 4950, adresserad till Villa Serano. De kanske har sänt där men i Sucre vet de inte något om detta, framtiden får utvisa om det är ett QSL eller en "groda". Jag vidhåller att jag hörde anropet "Radio Marivedeño Mauro Nuñez... Chuquisaca? (vet inte hur detta uttalas på spanska) Bolivia. Dessutom hördes flera gånger Hora Serrano, detta i samband med programbyte bl.a. Är det inte Mauro Nuñez vilken station skall det vara då? Maro Nuñez ingick klart och tydligt men varför Marivedeño i anropet? V/s Director General Dr. Vladimir Gutiérrez P". Detta enligt LES
Olle Alm: Radio 7, Samara-9550 ifylld genomslagskopia, 2 vykort, v/s A.S. Shamsutdinova, Glavnyy redaktor 134 d; AIR Leh-4760 brev, foton, v/s J.K. Mehta, Station Enigneer 60 d (Indier nr 70, MV+KV).
Bernt-Ivan Holmberg: Radio Fides-4845 2-sid brev; Radio Metropolitana-6195 3-sid brev, 2 vykort, standar; Radio Ondas del Huallaga-3330 brev, vimpel, vykort; Radio Villa Rica-4805 brev, vykort, dikter v/s Fidel Hilario, Dir de Programas, Maritza Pozo Manrique, Asoc. de Locutores del Peru; La Voz de la Selva-4824,5 brev, kort, info v/s Directora, Julia Jauregui Rengifo; Radio Tropical Tarapoto-4935 brev; HRET-4960 brev, kort; HRQO Radio Internacional-4930,6 kort, sti, visitk, vykort; WEWN-7465 kort, brev; Turkish Meteorological Sce-6900 brev, turistbr.

LOGGEN - ALL TIMES ARE UTC

2404,5	25.3	0430	Bessemer BC med nonstop klassisk mx och korta avbrott-id. Dock svag och störd av utilitysändningar. Q2 som bäs. 19.20 av BIH	BIH, KN
2460	31.3	0250	OID portugisiska, Brasilien? Spelade musik, för svag sedan	IE
2970	26.3	1845	Radio Station Centre, Moskva med HCJB-program på engelska. Torde vara 2x1485 kHz. 2-3	CB
3220	5.4	1755	OID med något som lät som pidgin engelska	BEFF
3235	18.3		R West New Britain Q2	HEJ
3249,8	19.3	0230	(tent) R Luz y Vida, Honduras med "rätt" typ av program för den här stationen, dvs religiöst av nordamerikanskt snitt. Dessutom stämde tidsangivelserna med Honduras. Q1-2	HEJ
3249,8	26.3	0336	OID med mkt svagt EE religiöst. Honduras?	BIH
3250	1.4	0320	Radio Luz y Vida med ID 3	CS
3260	25.3	0330	Estereo Carrizal fullt läsbar 2-3	CB, CS

3260	26.3	0327	Estereo Carrizal gick med nonstop mx och få IDn, stängde med N/A denna tid, 3	BIH
3260	1.4	0300	OID LA - nevner Carrizal sign off omkring 0330 /Du skrev 3360, men du menar väl 3260? AHK/	TBV
3260	1.4	0415	LV de Oxapampa med en del reklam, mycket mex. musik 3+	LES
3264,6	18.3	2145	RRI Gorontalo med rockigare mx än man vanligen hör hos indoneserna. Q3	HEJ
3280	26.3	0305	LV de Napo med cd nu. Mycket stark!	BIH
3280	1.4	0330	LV de Napo QSA3 med sign off	TBV
3300	26.3	0320	TGNC Radio Cultural starkare än på länge med EE och religiöst. Q3	JOB
3324,8	26.3	0259	Radio Maya de Barillas trängd, men gick att få ren på 2,4 kHz filtret. C/d 0328	BIH
3325	26.3	0253	Radio Maya med ID och musik	IE
3339,9	26.3	0330	R Altura natt mx QSA 2	TBV
3340	2.4	0115	Radio Altura mitt i ett reklamblock.	CB, CS
3359,9	26.3	0304	LV de Nahuala med kalasstyrka till cd. Tycks IDa Radio Nahuala, och inte La Voz..	BIH
3380	26.3	0205	Radio Chortis med mycket musuik och ID	BIH, IE
3385	18.3	1945	R East New Britain med religiös mx på söndagsmorgonen. Q2	HEJ
3390,0	2.4	2115	BBC via Sydafrika // 7150 portugiskt px. Hörd flera kvällar, men svag. Den 2/12/94 test på 3395, då starkt med nx	TN
3391,06	25.3	0150	Radio Emisora Camargo gav ifrån sig ett praktfullt id till sist. Q3	KN
3395	18.3	2005	R Eastern Highlands med ID. Q2-3 .	HEJ
3870	26.3	0217	Radio Adventista Mundial med barnsång. 2	CB
3925	25.3	2100	Radio Mariquita ganska tråkig 2	CS
4419	1.4	0120	Radio Frecuencia Lider. 2	CS
4508,7	25.3	0008	Radio Emisora San Joaquin med ett bra id efter att ha hörts ett tag. Hördes skapligt. Q3	KN
4509	1.4	2310	Radio San Joaquín med flera ID. 2-3	
4549	25.3	2300	Radio Naylamp med god styrka 3	CS
4549,37	24.3	2330	Radio Dif Trópico var det tyvärr som gick fint här. Annan LA svagt under i början. Det var den jag var ute efter. Q3+	KN
4599,97	25.3	0020	Bolivian. Trots ett otvetydigt "Radio Villamontes" i början är jag tveksam om det är den. Frekvensen och den hyfsade hörbarheten tidvis och att de nämnde "dpto de Pando" vid ett tillfälle gör att jag inte håller det för otroligt att det trots allt var Perla del Acre. Q2-3	KN
4606,6	18.3	2050	RRI Serui med lättsam musik nonstop fram till nyheterna på heltimmen. Q2-3	HEJ
4632	26.3	0210	Radio Soledad gav till sist ifrån sig ett id. 2-3	CS
4649	25.3	0100	Radio Santa Ana förståss 3	KN, CS
4682	1.4	0015	Radio Paititi svagt, 1-2	CS
4747	25.3	0050	Radio Huanta 3	CS
4770,5	7.4	0200	R Centinela del Sur QSA 2	TBV
4775	5.4	0500	Radio Tarma med anrop på engelska. 2-3	CB
4789,1	18.3	2115	RRI Fak Fak med blandad musik och en kvinnlig skivpratare. Hade problem med en utility som slog av och på bärvågen i tid och otid. Q1-2	HEJ
4799,8	26.3	0205	Radio Buenas Nuevas gick bäst av Guatemalerna denna natt. Religiöst malande till 0228 då Q4-IDn följdes av musik	BIH
4800	26.3	0300	Radio Buenas Nuevas med id, svårt klämd, men ändå bra läsbarhet 3	CS
4887	25.3	2310	Radio Villa Rica med vacker andinsk musik non-stop. 3	CB
4890	18.3	1935	NBC Port Moresby började sina sändningar för dagen. Enorma styrkor. Q4	HEJ
4905	25.3	0230	Radio La Oroya med reklam och musik 3	TBV, CS
4915	26.3	0330	Radio Cora med noticias till Q4	JOB
4925	18.3	2225	RRI Jambi med wayang kulit. Ovanlig porgramtyp numera, var betydligt vanligare för tio/femton år sedan. Q4	HEJ
4930,6	25.3	0345	R Internacional gick länge denna natt. Tyvärr så förstörde "utility-helvetet" möjligheten till en bra rapport då de endast tog korta pauser på några sekunder i taget.	KN, HEJ
4965	25.3	1830	Christian Voice med request program 3	JOB, CS
4965	7.4	2145	OID med Radio Nederland px på indonesiska fick BEFF att stanna upp på frekvensen. Kanske en ryss tror han. Q4	BEFF
5010	25.3	0025	AIR Thiruvanthapuram störd av annan och oid asiat efter öppningen. Stark	KN
5019,8	25.3	0230	Ecos del Atrato äntligen starkt. Q3-4	KN
5020	26.3	0311	Ecos del Atrato stark och ren med härlig salsa-mx. Faktiskt samma låt som när jag tog rapport på R Robledo 1580, men här lyckades jag strula med bx:en!	

			Så tji rapport. 3	JOB
5039,2	17.3	2315	R Libertad Peru spelade stillsam musik	HEJ
5040	26.3	0057	La Voz del Upano med indianspråk och religiöst px. 2	CB
5066	26.3	1833	R Candip med franska och close down med hymn	JOB
5124,2	7.4	0140	OID LA med religiöst px QSA 2 på det beste	TBV
5131	26.3	0140	Radio Visión 2000 med "Visión en la notícia". 3	TBV, CB
5505	2.4	0020	Radio Emisora 2 de Febrero förvånade stort med att höras. 2	CS
5620	31.3	0230	Radio Ilucán med ID och musik. Sign off 0246	IE
5621	25.3	2320	Radio Ilucán en t rogen gäst 3	CS
5661	25.3	2350	La Voz de Cutervo med musikprogram 3	CS
5745	31.1	0258	WHRI idade	IE
5770	25.3	2330	Radio Miskut 3	CS
5980	8.4	0130	R Guaruja spillte musikk mens de fleste andre Brassen hadde fotball QSA 2	TBV
6000	26.3	0328	R Habana Cuba med intervallsignal efter svep med salsa-x. Denna QRG finns ej listad i WRTH	JOB
6010,1	18.3	0230	R Bahrain med lättrepad popmusik nonstop fram till nyheterna 0300. Q3-4	HEJ
6155	2.4	0220	Radio Fides QSA 3 // 4845	TBV
6188,1	17.3	2250	R Oriente med iD "Oriente del Yurimaguas" samt px "Radio Reporte" relativt svag	TN
6204	25.3	0115	Radio Cusco 3	CB, CS
6299,2	19.3	0115	Sani Radio, Honduras med långdragen religiös betraktelse späckad med bibelcitat. Q2	HEJ
6472	26.3	0100	Radio Luz y Sonido 2	CB
7500	8.4	1125	OID italienare	BEFF
15674,6	24.3	2310	Radio Copán Internacional körde Mailbag från RMI. Q2-3 med hjälp av amatör-antennerna i den rotorförsedda 30-metersmasten ute i klubbstugan	KN

Information från DX Party Line den 1 april 1995 (via CB)
Ny peruan: Radiodifusora Huancabamba 3370,3 med testsändningar

Framtida planer för Ecuador på kortvåg: Antena Libre 3240 kommer inte tillbaka på kortvåg. Sändaren är såld till Ondas del Norte som kanske dyker upp på kortvåg. Radio Oriental 4780 planerar snar återkomst. Radio Cumandá 3350 planerar återkomst. Radio Interoceánica 4840 har problem med sändaren. Planerar återkomst på kortvåg men detta har f.n. ingen stor prioritet. Ecos del Oriente 3270 planerar återkomst. Radio Sucumbíos i Lago Agrio är sedan en tid listad på 3300 men inget har ännu hörts. HCJB hade inte tillgång till stationens telefonnummer varför man fortfarande inte känner till stationens exakta kortvågsplaner. Emisoras Gran Colombia 4910 har nyligen flyttat. När detta är klart avser man atat åter sända på kortvåg. Radio Municipal 4750 har en 2 kW sändare på plats ochinväntar tillstånd från myndigheterna. La Voz del Río Tarqui 3283 utvärderar f.n. verksamheten och det är ännu inget bestämt om kortvågens framtid. Radio Popular 4800 sänder mycket oregelbundet pga elbrist. Ondas Quevedeñas 3325 uppger sig vara igång 10-13 och 22-24 UTC men har inte noterats i Quito. Flertalet stationer som är off the air har tekniska problem. Elbristen är sedan en tid akut i landet eftersom det inte regnat på länge.
/CB

Saxat från Internet via AHK

Equipment Review of Watkins-Johnson HF-1000 Receiver by Tom Roach (troach@netcom.com)
About eight years ago I bought a Panasonic RF-6100 (??) receiver which picked up shortwave signals and displayed the tuned frequency on a digital display. This receiver triggered the renewal of my shortwave listening hobby which has existed intermittently since the early 1950's when, as a teenager, I tuned in with an old console radio from the 1940's. In the late 1960s I bought a Drake R-4B and in the late '70s I purchased an R-390A which I sold before I moved to California.

After a couple of months with the Panasonic I decided my interest was serious enough for me to take a giant step so I purchased a JRC NRD-525, and shortly thereafter a PK-232 (RTTY decoder). As time went by I added two Singer Spectrum Analyzers, a pair of M-7000 decoders, and a NRD-535D to my tools. I went from an antenna consisting of a strand of wire lying on the floor to my current four dipoles (8.5, 11.175, 14.4 and 16 MHz), and two longwires measuring 100 and 500 feet in length. So I guess I can consider myself "serious". I do not have an engineering degree but do have a reasonable, but dated, knowledge of electronics. When I first heard of the Watkins-Johnson (WJ) HF receiver becoming available on the commercial market and aimed at the SWL community, I was intrigued. Imagine digital signal processing (DSP) and 58 selectable IF bandwidths! I ordered the radio in August from a store specializing in shortwave listening equipment and by December 1993 I was the proud owner of the Watkins-Johnson HF-1000 receiver.

Was it worth the wait and the price tag? Since then many reviews, pro and con, have been written about this quantum leap in

SWL receivers. I continue to get feedback from users, both pro and con. The following presents the receiver in what I feel is a fair light and should enable you to make the decision as to its worth or capabilities for yourself from what follows.

I have truly enjoyed the JRC NRD series receivers and they have provided endless hours of excitement and entertainment, but the transition from the NRD to the WJ HF-1000 was about the same order of improvement as the leap from the Panasonic to the NRD-525! Fifteen months have passed since I received the HF-1000 and I am just as excited and pleased to have made the purchase as I was in December 1993. Let's take a look at this receiver. Appearance: The unit is "large" in that it was obviously built for rack mounted operation. The front panel is 5.25 inches in height, and the 19 inch width makes for plenty of room for a large digital display whose digits are about twice as large as those on the NRD-series, not to mention wider and brighter. The unit front panel is a very dark to not so dark grey in color, with the lighter grey areas used to set off functionally related buttons and knobs. I expected it to be as heavy in weight as it was in appearance. In fact, it is relatively light, I think about 14 or 15 pounds. Both the front and rear panels have handles. The rear panel has easily accessible BNC type connectors for both input and output functions. The receiver was advertised as having a terminal strip for various audio signals, but instead came with a "D" connector. You'll have to wire the connector yourself. They supply the connector and pins. It also has standard connectors for the RS-232 and CSMA remote control features. As I was to later learn, my disdain for wiring anything improved the performance of the receiver immeasurably for reasons we shall discuss later in this review.

Buttons that are "activated" display a green light in the middle of the button to indicate they are "engaged". The labels are written in relatively dull white letters, and are "readable" but just barely in a dimly lit area. There are a total of four LED panels used to display various operating parameters (more on them in a bit). There is a built in loudspeaker, which can be heard through a "grill" of holes on the unit's top cover. Tuning: Resolution of the tuned signal is displayed to one Hz. A large tuning knob (with a very light feel, unlike the heavier feel of the NRD-535D) and two arrow buttons enable the user to select the tuning increments in steps of one, ten, one hundred, one thousand, ten thousand, one hundred thousand, and one million Hertz. At the one Hz increment level, you don't need a fine touch, the exactincrements are very easy to set using either the knob, or tuning arrow buttons. [Note: After fifteen months of use the knob, which has a dimpled tuning device just right for spinning with your finger, the dimple provides just enough imbalance so the receiver will mistune itself if the "dimple" is at the 9 o'clock position. My friend has a HF-1000 and his tuning knob does not suffer from this minor deficiency.] A two level intensity "blinking" LED clearly shows what increment level you are set to. Tuning lock is acquired by the touch of a button. When tuning lock is engaged all the digits are of the same intensity level, and the green light in the tuning lock button goes on.

Modes of operation: The demodulation types currently available are: AM, SYNCHRONOUS AM, FM, CW, USB, LSB, and ISB. The originally advertised AM synchronous mode was not available till an updated EPROM (now standard on newer units) was given, at no cost, to original owners. [Note: The upgraded EPROM contained the originally advertised synchronous AM mode AND a user adjustable "Medium" AGC setting. All new receivers are supposed to include the updated EPROM. As a reward for their patience original owners were to be supplied you a Windows based "Receiver control software". I regret to say this remains "vaporware"!]. EPROMs will be issued from time to time and are user installable, and installation by the user does NOT void the warranty. The demodulation mode is selected by depressing the "DET MODE" button and then turning the "SPECIAL FUNCTION" knob, or by continuing to depress the button as it cycles through the demodulation types.

One mark of an amateur (me, at his level of operation) was my concern over why the receiver didn't have an RTTY setting, as do the NRD series of SWL receivers. To make a long story shortyou enable the "standard" RTTY setting by selecting CW demodulation and entering a BFO offset of +2210 Hz. Very easily done using the number pad on the front panel of the receiver. Fo standard CW or "Morse code" I set the BFO for 750 Hz because I am using the unit in conjunction with a Universal M-7000 decoder, which is set for a +750 Hz offset. For FAX and other bizarre modes, the BFO frequency offset is set to the desired amount. The BFO offsset can be varied in 10 Hz increments from -8,000 to +8000 Hz. Once again, this is easily done using the numericalkeypad.

One feature cited in the advertising was the 58 IF bandwidth settings. This is particularly nice since you can tailor the bandwidth to exactly the optimal level for various RTTY signals. Thus there is a 325 Hz bandwidth just perfect for SITOR-A and Pyongyang's RTTY broadcasts. I use the 225 Hz setting for Russian 50 Baud/170 Hz RTTY. Accordingly there is a 600 Hz setting optimal for Cuban diplomatic RTTY, etc. I was somewhat unhappy when I first tried the receiver on RTTY signals and found that the bandwidth I wanted was "skipped". Finally following the old adage that when all else fails, read the directions, I discovered that you could skip or include a bandwidth by merely toggling the "SPECIAL FUNCTION" push button and then turning the Special Function knob (see the manual for the exact procedure) so it cycles through the usable IF BW. By engaging a subset of the 58 available bandwidths, you can spend less time twisting the knob to get to the BWs you find most useful. It should be noted that in the USB/LSB/ISB modes ONLY (??!) 16 settings between 900 and 3,200 Hz are available. I have heard the next EPROM upgrade will include a 4 kHz USB/LSB/ISB option.

A hint I received from Watkins-Johnson when I asked about optimal bandwidth settings for RTTY. To calculate optimal BW setting for RTTY add the Baud rate to the shift rate to get "optimal" bandwidth. I have found, given 58 bandwidth settings, that I do just that and usually open it one more setting to allow for slight variations. If you want a real nice demonstration of how good the filters are, try setting it one "notch" below optimal and watch the X/Y output of your decoder (if it has one) on an oscilloscope and see how radically a small bandwidth decrease can affect the signal! Since this is a "mini-review" I won't go on endlessly about exactly how the receiver is operated. I will say there is a consistent logic to the way things are done and that the learning process speeds up noticeably once you grasp the basic approach. I have also used (marginally) the remote RS-

232 computer control features of the receiver to the degree I can assure you they work. To my continuing distress, the long promised (by Watkins-Johnson) Windows based receiver control software, remains vaporware.

The passband tuning is limited to the CW mode, but I at least proved it works. There is also a heterodyne remover which can be tuned in ONE Hz increments (to be absolutely accurate one Hz increments BELOW 1 kHz but in ten Hz increments above 1 kHz). Its performance is amazingly good (for a single heterodyne). The noise blanking, works fine on auto ignition but I have found other types of pulsed interference for which it is totally useless in eliminating. At this point let's get to the real meat of the receiver; how it functions in a real signal environment, and especially how it compares to the JRC NRD series receivers.

Operational Testing

I have a special interest in RTTY; with Russian transmitters being my favorites. In fact I have written a book on how to set up your own home communications intelligence (COMINT) intercept and analysis center. I also have recently regained interest in monitoring ISWBC (BBC, Radio Nigeria, etc.) to include "tropicals". Also I am currently exhibiting a greater interest in monitoring military SSB global HF communications. One of my idiosyncrasies is the desire to measure an AM transmitter's actual operating frequency, and its stability, to the one Hz level. While the JRC NRD-535 series allows tuning to the one Hz increment level, the frequency displayed is still only in 10 Hz increments. I quickly made some measurements with the HF-1000 and to my dismay found that it was NOT measuring the frequency of the WWV correctly! This is done by tuning to about the correct, i.e. expected frequency, and then engaging the BFO by switching to the CW mode. I take the receiver's audio output and display it on an oscilloscope sweeping at exactly 750 Hz so if I am tuned correctly I will see a single sine wave that is not drifting across the trace. When I tuned to 5 MHz, I was mildly disturbed to see that according to my HF-1000, WWV was operating off frequency (ha, ha!) by 5 Hz. [Note: This is within the advertised stability/accuracy limit of 1 PPM.] Nevertheless, I went into "panic" mode and purchased a Rubidium based atomic standard whose 5 MHz sine wave output is used by the HF-1000 to phase lock the VFO and thus I can be SURE of the frequency of any AM or CW transmitter to the one Hz level. It turns out this "error" is very easily adjusted. In fact, it is the only operator adjustable control on the receiver, from a maintenance point of view. The fix consists of adjusting the R59 potentiometer (found on main receiver circuit board's upper left hand corner) so that the internal LO is set exactly on frequency. Even if you don't have an atomic standard, my receiver's LO drift never appeared to more then plus/minus 0.5 Hz, so even if my Rubidium standard fails, I should still be able to measure RF(s) to plus or minus one Hz. Let me remark. Do not interpret what I have said to mean the receiver's local oscillator is not stable. It's very stable, but in my case it was just "off" by one Hz/MHz. So far this is the only "major problem" I have encountered, but I did consider this an unacceptable problem for a receiver asgood as this.

There has been a couple of other major criticisms of this receiver. They basically deal with the receiver being "noisy" or having poor audio. It appears that those complaining wildly about terrible noise problems were justified in doing so. That is because they used the "D" pin plug for audio output. I don't know why, but users should be warned. DO NOT USE this as a source of audio. Even WJ admits this is the source of SERIOUS RFI problems!! Due to my laziness, I avoided the whole problem by using the audio output from the front left panels audio out plug, usually used for headphones. So, I have had NO "RFI" noise problems. I connect the front panel audio of the HF-1000 to an oscilloscope, and take the o'scopes VERT SIG OUT output and run that to a DAT recorder whose audio I monitor. WJ is supposed to fix this, but so far they have "improved" but not fixed this, according to my friend who still insists on using the "D" plug. The only "advantage" of the "D" plug output is that in the ISB mode it allows the user to select the upper or lower sideband audio by twisting a knob on the front panel. Also there is an annoying (to those whose ears haven't been turned to mush by years of misuse, as have mine) hiss in the left channel if you use the front panel output to listen with headphones. I "tested" the receiver by seeing what kind of DX I could get, measuring some RF's with high accuracy, and using its great number of IF bandwidths to see if they provided optimal operation of RTTY signals, all the while comparing it to a truly great receiver, the JRC NRD's. There is a saying that in the land of the blind the one-eyed man is king. All too true! I will never have the great admiration for the NRD's that I once did. In a word the NRDs are very noisy in comparison to the WJ. Listening to AM signals that I can't distinguish a single word of on the NRDs, are clearly listenable on the WJ. I have gotten some feedback on the Internet that the noise in the NRD's is due to the microchips used to generate the digital display putting out too much RFI. I can't overemphasize the difference in what signals I can clearly hear on the WJ compared to the NRDs. [Note: This only applies if you DO NOT use the "D" plug output!!!]. Now on the BBC or R. Moscow or even most relatively weak stations, this matters not a wit. However, when you d an A/B comparison of Papua New Guinea tropicals which are often very weak, then you clearly are delivered what you paid those extra dollars for. I salivate thinking what this receiver would do tied to a Beverage, log periodic, or good beam antenna!

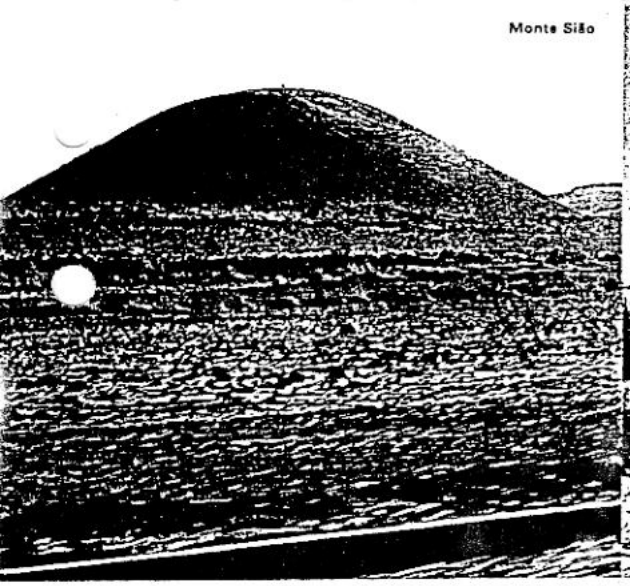
Let's talk about the synchronous AM (SAM). When it's good, it's very, very good. When it's bad, forget it! I suspect there are a number of factors that can cause it to lose lock (fading, interference from another station, etc.). Sometimes a signal that sounds like it will be really good in SAM end up being worse. Then there are signals you would probably give up on until you try SAM, and find the improvement is remarkable. All I can say is try it. I find it probably improves things some 50 to 60 percent of the time. At present, you can NOT select whether it picks the upper or lower sideband. Talk to WJ about this! For a truly sophisticated SAM get a Sony ICF-2010! (I'm only half joking!)

I never have paid any attention to the signals below 500 kHz till a friend came by yesterday and we picked up several RTTY signals and a CW station below 100 kHz. We connected the 500 foot longwire to both the WJ and the NRD-535D and what was as clearly present and very readable on the HF-1000 wasn't even to be heard on the NRD-535D! Using the HF-1000 for RTTY is another great leap forward. When used in conjunction with the M-7000, while watching the M-7000's o'scope tuning output, you can be sure you are getting all that can be gotten with minimum copy errors when using the WJ. Tuning on some types of RTTY

signals (Piccolo anyone?) does require almost one Hz resolution, not to mention stability, for optimal results. This means you need stability and as good a IF filter match as you can get. I am told that the improvement in signal to noise levels is due to: digital signal processing (DSP is a big selling feature of the WJ), lower phase noise, better and quieter LED drivers, etc. Something sure makes an incredible difference. I also use the filtered 455 kHz IF (which is available from a BNC connector output on the rear panel of the HF-1000) which is sent to a Singer Spectrum Analyzer to look for weak AM signals and observe modulation characteristics. This is an incredibly great tuning aid when looking for weak signals. The WJ puts out a very healthy level of IF signal for examination. My NRD-525 was wired so I could look at its 455 kHz output as well, but the signal level is much lower than that on the WJ. An unfiltered 455 kHz output signal is also available via BNC connector on the rear of the WJ.

Summary

Assuming you don't use the "D" plug, do NOT try one of these at home if you don't have the money to buy it. It will be almost impossible for you to return it. Maybe there is something out there that makes the HF-1000 pale in comparison. I don't want to know about it or how much i costs! At the strictly chauvinistic level I am glad to see an American company produce a piece of high tech receiver gear that makes the Japanese receivers look like junk in comparison. Up until now such receivers were probably made strictly for the military or NSA. No wonder we won the Cold War! If you are a serious SWL type, this is the Great Lap Forward. Mortgage the house, sell your NRD's, ICOMs, or whatever and enjoy it. If your wife or girl friend complains you already spend too much time fooling with the radio expect a divorce or a break up. Don't say I didn't warn you.



VIK 480

LEMBRANÇA DE JERUSALÉM

Os Patriarcas estiveram, os Profetas estiveram, os Apóstolos estiveram, Jesus esteve, e, pela graça de Deus, eu e a minha esposa também estivemos em todos os lugares mencionados na Bíblia Sagrada.

Estas quatro fotos, tiradas do lugar onde Nosso Senhor Jesus Cristo foi sepultado e ressuscitou, do lugar onde Ele foi batizado nas águas, do Jardim das Oliveiras onde Ele orou tantas vezes por nós e por vocês, e do Monte Sião que é comparado com o crente fiel a Deus, são uma lembrança do Missionário Manoel de Mello e esposa, irmã Ruth, para você e sua família. Guarde-a com muito amor.

Continue ouvindo o programa "A VOZ DO BRASIL PARA CRISTO", divulgando-o e orando pelo Missionário e toda a sua equipe. E, que o Senhor esteja com você e sua família no fim, no começo e durante todos os dias do ano, numa consagração perfeita a Deus.

Amém. Aleluia!

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