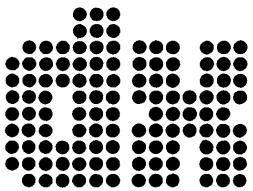


8/9 - 2001



ISSN 0175-6877



magazine



WORLD WIDE DX CLUB



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Each of the editors mentioned above is self-responsible for the contents of his composed column. Furthermore, we cannot be responsible for the contents of advertisements published in DX MAGAZINE.

Please do not forget to write all contributions for the different sections on separate sheets of paper, so that we are able to distribute them to the competent section editors.



DEADLINE (Redaktionsschluß) for
DX MAGAZINE No. 10 is on September 20th, 2001, and for DX MAGAZINE No. 11 on October 18th, 2001.



DX MAGAZINE is the monthly publication of WORLDWIDE DX CLUB, Postfach 12 14, D-61282 Bad Homburg, Germany. Price for a single copy: DM 2.50, €1.28 or 2 International Reply Coupons (IRC's); annual subscription rate: DM 30.00, €15.34 or 15 IRC's. Other currencies and air mail rates on request. Cover: Peter Pohle + Jürgen Kauer (KAVOP)



DX MAGAZINE No. 8/9 · Vol. XXXVI · August/September 2001

Hello again,

Welcome to the annual summer double issue of our DX MAGAZINE. Like in the past years you will find our normal monthly sections, several articles and in addition our annual "List of Members".

After receiving his copy of DX MAGAZINE 7/2001 our NEWS EDITOR Dr. Jürgen Kubiak asked me, from which station the QSL card shown on page 2 was originating. I'm sorry that the stations's name was nearly invisible on our reproduction. Therefore here it is once again on the left: DS Kultur from East Berlin, at that time broadcasting with 250 kW on 177 kHz. The persons showing on the QSL card have been the team of "DX Aktuell": Erwin Schastok, Norbert Schlammer, Reinhardt Walter, Connie Seliger, Ralf Grahlmann and Wolfram Hess (from left to right).



Over the last few years, extreme budget cuts for the Austrian broadcasting services for abroad have been made and this year the whole funding will again be cut in half (!). No broadcasting service for abroad can survive with a budget of only ATS 45 million, so this practically means the end for Radio Österreich International (Radio Austria International). Services that have already been dismissed are voice services in German, Spanish, Arabic and Esperanto. All listeners should show their solidarity with ROI now. Let 's give our vote for Radio Austria International. Just fill in the easy web-form and send it to ROI, or download the PDF-file, print it and send it to ROI. We all should be able to spare this one minute it takes! NOW it's our turn as listeners! Web-form and multilingual PDF-file can be found at: <<http://www.ratzer.at>>. Thanks a lot for your support - every vote counts!



Der Auslandsdienst von Radio Österreich International gerät in Gefahr, durch enorme Budgetkürzungen drastisch gekürzt zu werden, bzw. steht mit dem geringen Budget die Wahrscheinlichkeit, daß die einzige globale Stimme Österreichs verstummen wird, als wahrscheinlich im Raum. Bitte unterstützen Sie den Auslandsdienst durch Einsendung der vorbereiteten Stellungnahme an den ORF! (zu finden bei: <<http://www.ratzer.at>>) (Christoph Ratzer, OE2CRM, Salzburg, Austria)



Leider hat uns OM Hermann-Josef Ackermann Anfang August mitgeteilt, daß die Interessengemeinschaft Rundfunk-Fernempfang e.V. (IRF) aufgelöst wird. Die monatliche Cassettenzeitschrift "Der Wellenbummel", die monatliche IRF-Diskette, die IRF-Hörbücher, die Cassetten der Info-Reihe und die Sendepläne auf Cassette für Nichtsehende wird es in Zukunft nicht mehr geben. Zwanzig Jahre hat die IRF den nichtsehenden und sehbehinderten Rundfunkhörern gedient. Nun ist der bisherige Vorstand, bestehend aus Alfons Größl und Hermann-Josef Ackermann, aus gesundheitlichen und privaten Gründen zurückgetreten, und ein neuer Vorstand konnte nicht gefunden werden.

Die alten IRF-Vorstandsmitglieder nutzen diese Gelegenheit, letztmalig der Vielzahl von Mitarbeitern, Mitgliedern, Förderern, Unterstützern und auch Freunden den verdienten Dank abzustatten und allen ein Lebwohl zuzurufen. (Hermann-Josef Ackermann und Alfons Größl)

And with this best wishes and good DX until October from

NEWS ABOUT BROADCASTING (+other) STATIONS
 Dr. Juergen Kubiak · Goltzstr. 19 · D-10781 Berlin · GERMANY

ALASKA: *KNLS* has announced ambitious plans for expanding the New Life Station's transmissions. The ministry has initiated a campaign to raise seven million dollars to install a second transmitter and antenna system at the Anchor Point, Alaska broadcast complex. Additional programming resources will also be added. Begin of construction in spring 2002. The new transmitter will be exclusive to Mandarin broadcasts, while the airtime on original Harris 100 kW transmitter will be divided between Russian and English programming. Also a project has begun to upgrade audio studios. During this year *KNLS* will installing all new digital recording equipment at the Tennessee Operations Center studios as well as in Anchor Point by Broadcast Electronics. (Excerpt from Alaska Calling *KNLS* Newsletter, July 2001)

ANTARCTIC: 15476 LRA 36 - Base Esperanza will be closed-Acc the news appearing in the Argentine press, the Base Esperanza and others in the Antarctica will be closed for budget reasons and ***LRA36 Radio Nacional Arcangel San Gabriel*** in the next month will be out of the air. (Nicolas Eramo via BC-DX #435, 2001 Aug 18)

BELARUS: *Radio Minsk* is the only English language external service in Belarus. Structurally it comes as one of the departments at Radio Station Belarus - the oldest international radio broadcaster in the country. The idea that lied behind the establishment of Radio Station Belarus in 1962 was to provide the Belarusian communities abroad (mainly in the European region) with a link to their homeland. Originally the broadcasts went out only in the Belarusian language and focused on the politics, economy and culture of Belarus. At that time the radio station was an integral part of the Soviet Union's unified external broadcasting system and the programs also had to convey Moscow's point of view on world affairs and events. The fact that the output was aimed at the Western listener affected the general nature and style of reporting. The senior management in Moscow realized that the programs would be more convincing and appealing if they were more or less comparable to international standards. Unlike all the other broadcasters catering for internal audiences in the country the staff of Radio Station Belarus was allowed greater liberty in its coverage and analysis of news. In 1985 when on the threshold of Perestroika an enthusiastic team of journalists working at Radio Station Belarus undertook an initiative to expand their audience and launch a new service in the German language, they had to get over innumerable bureaucratic barriers to obtain permission from the headquarters in Moscow. After the disintegration of the Soviet Union in 1991, as the whole country plunged into the maelstrom of independence, Radio Station Belarus gained an opportunity to add to its traditional focus an international perspective and thus increase the interaction between Belarus and the international community. Along with obvious advantages the independence however also brought in an array of new problems which have to a great extent been a drag on further development but which the radio station has been struggling to overcome. In January 1998 new programs started to go out in English and Russian. The English language service primarily deals with political and economic news from Belarus and CIS states, relations between Belarus and the world, analysis of current issues with an emphasis on the international aspect, culture and music.

The 1st Channel of the ***Belarusian Radio*** could be tuned to on the frequencies 279 kHz and shortwave, the 2nd Channel of the Belarusian Radio broadcasts from 0700 until 0000 on the frequencies 873 kHz. Since June 15, 1998 the Belarusian Radio has been retransmitting its programs to Russian regions. One could listen to the BR in Russia every day from 06.00 until 08.00 on the frequencies 1170 and 7170 kHz, from 12.00 until 14.00 on the frequencies 1170 and 11960 kHz, from 18.00 until 20.00 on the frequencies 1170 and 7275 kHz. Belarusian Radio programs could be heard in Ukraine every day from 06.00 through 01.00 on the frequency 6080 kHz. Postal

address: 4, Krasnaya St., Minsk 220807, Belarus. Fax: +(375-17) 2366643. E-mail: radio-minsk@tvr.by

Schedule A01 of **Belarusian Radio**, spring to fall 2001:

Transmissions:

0100 – 0300: 1170, 6070, 7210 kHz

1900 – 2100: 1170, 7105, 7210 kHz

UTC	<u>Monday</u>	<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>
0100	Belarusian	Belarusian	Belarusian	Belarusian
0130	Belarusian	Belarusian	Belarusian	Belarusian
0200	English *	Belarusian	English *	German
0230	Russian	Belarusian	Belarusian	Belarusian
1900	Belarusian	Belarusian	Belarusian	Belarusian
1930	Belarusian	English	German	English
2000	Russian	Russian	Russian	Russian
2030	Belarusian	English *	German	English *
	<u>Friday</u>	<u>Saturday</u>	<u>Sunday</u>	
0100	Belarusian	Belarusian	Belarusian	
0130	Belarusian	Belarusian	Russian	
0200	English *	English *	English *	
0230	Belarusian	Belarusian	German	
1900	Belarusian	Belarusian	Belarusian	
1930	Russian	German	German	
2000	Belarusian	Russian	Belarusian	
2030	Russian	German	German	

* Replays

(R. Minsk website via JKB, Aug. 2001)

GERMANY: *German Telecom - Relay* stations transmissions, summer schedule A01 transmitter Juelich, valid from 1st Aug. 2001 (1=Sun ... 7=Sat):

frq	start	stop	ciraf	ant	azi	day	from	to	broad	
13720	0557	0659	18	308	20	1234567	010601	310801	RNW	
9855	0000	0100	7,8,9	105	295	1234567	250301	281001	LRT	Backup
5975	0905	1500	28	406	60	1234567	230801	020901	DRM	IFA
6015	1000	1400	27,28	402	ND	1	060501	310701	RSU	*
15545	0500	0555	46,47,52	306	160	1234567	120401	281001	ECC	
13810	1800	1859	46,47,52	211	155	123456	180401	281001	ECC	
13810	1800	2130	46,47,52	211	155	7	180401	281001	ECC	
9490	2330	0030	41,49	208	80	1234567	260601	281001	DVB	
15405	1430	1530	41,49	203	70	1234567	010701	281001	DVB	
17805	1455	1530	41,49	201	70	1234567	060601	281001	DVB	
6045	0858	1000	27,28	401	ND	1	250301	281001	EVR	
6015	1730	1759	27,28	401	ND	4	250301	310701	EVR	*
6015	1730	1759	27,28	401	ND	4	010801	281001	EVR	an W *
15715	1700	1759	38,39,48	209	140	16	010701	310701	SBO	(130) *
15715	1700	1759	38,39,48	209	140	146	010801	281001	SBO	(130) *
15715	1700	1759	38,39,48	103	125	5	010701	310701	SBO	an W *
5985	0900	0959	27,28	104	115	1	250301	281001	CHW	
21590	1230	1329	41	108	90	1234567	250301	281001	TBC	
9405	2230	2330	37,38	405	175	1234567	250301	281001	IBR	
15715	1630	1659	38,47,48	103	125	36	250301	281001	DTK	-140
13855	1830	1859	52,53	105	145	5	180401	281001	RRP	
15670	1600	1659	38,47,48	103	125	15	250301	281001	DTK	-130
21550	0700	0759	38,47,48	106	145	1	250301	281001	DTK	
15715	1830	1929	38,47,48	209	140	4	250301	281001	DTK	
5925	1400	1459	27,28	401	ND	7	250301	281001	DTK	
15670	1700	1759	38,39,48	209	140	25	010701	281001	DTK	-130
6180	0800	0859	27,28	402	ND	7	280501	281001	DTK	
15565	1900	1959	38,47,48	106	145	6	250501	281001	DTK	
15715	1600	1629	47,48,52,53	302	160	1	250301	281001	UNL	F
9435	0100	0129	41	110	90	1	250301	281001	UNL	E
6015	1630	1659	27,28	401	ND	345	250301	281001	UNL	G
13855	1800	1829	46,47,48	105	145	1	180401	281001	UNL	E
13810	1400	1559	38,39	103	115	1234567	010401	281001	TOM	
6110	1325	1724	27,28	406	290	1234567	010401	281001	TOM	

9490	0257	0459	47,48,52,53	306	160	23456	250301	281001	RTB	
9490	0427	0459	47,48,52,53	306	160	17	250301	281001	RTB	
17580	0500	0712	47,48,52,53	303	160	23456	250301	281001	RTB	
17580	0500	0959	47,48,52,53	303	160	7	250301	281001	RTB	
17580	0500	0806	47,48,52,53	303	160	1	250301	281001	RTB	
21565	0957	1206	47,48,52,53	301	160	23456	250301	281001	RTB	
21565	1000	1117	47,48,52,53	301	160	7	250301	281001	RTB	
21565	1057	1117	47,48,52,53	301	160	1	250301	281001	RTB	
17570	1457	1716	47,48,52,53	303	160	123456	250301	281001	RTB	
17570	1557	1716	47,48,52,53	303	160	7	250301	281001	RTB	
21590	0700	1200	38,39	101	115	1234567	250301	281001	VOH	
15715	1200	1559	38,39	102	115	1234567	250301	281001	VOH	
17550	1330	1535	40,41	109	90	1234567	100501	281001	VOH	
5975	0700	0900	27,28	406	290	1234567	250301	281001	VOH	
9495	1700	1900	29,30	202	70	1234567	010701	281001	VOH	
13820	1300	1559	43,44	202	50	1234567	010401	310701	VOH	*
15750	1700	1959	39,40	103	115	1234567	010701	281001	VOH	
1575013.30		1430	49,50	206	70	1234567	240701	310701	VOH	*
1575013.30		1430	49,50	202	70	1234567	010801	281001	VOH	*
9595	0100	0330	8,9	119	295	1234567	250301	281001	VOH	later
13810	1755	2100	46E,47,48	406	180	1234567	250301	281001	VOH	later
11725	2100	0100	12,13,14	112	240	1234567	250301	281001	VOH	later
11960	2100	0100	10,11	110	270	1234567	250301	281001	VOH	later
15420	1400	1500	44S	206	50	1234567	250301	281001	VOH	later
11775	0400	0559	38,48,53	211	140	1234567	250301	281001	UMC	
13810	0400	0559	46,47,52,53	302	160	1234567	250301	281001	UMC	
13820	1700	1859	38,48,53	106	145	1234567	250301	281001	UMC	
15485	1700	1859	46,47,52,53	301	160	1234567	250301	281001	UMC	
13855	1600	1800	47,48	105	145	1234567	250301	281001	YFR	
15775	1800	2100	47,48,52,53	306	160	1234567	250301	281001	YFR	
13855	1900	2200	46	308	200	1234567	250301	281001	YFR	
9925	2300	0059	11-16	202	230	1234567	070401	281001	HRT	
9925	0100	0259	6-10	112	300	1234567	080401	281001	HRT	
9925	0300	0459	2-10	105	325	1234567	080401	281001	HRT	
9470	0500	0659	55,59,60	202	230	1234567	080401	281001	HRT	
13820	0700	0859	58,59,60	208	270	1234567	080401	281001	HRT	
FMO										
6140	0600	1555	27,28	105	130	1234567	250301	281001	DWL	
6140	1555	1900	27,28	105	130	1234567	250301	281001	DWL	an W
6045	1027	1225	18S,27,28NW	401	ND	1234567	250301	281001	DWL (RNW2)	
5985	0657	0727	27,28	119	265	1234567	250301	281001	DWL (VRT)	
13710	1727	1856	27,28,37-39	111	120	1234567	250301	281001	DWL (VRT)	
15515	1757	1856	37,38,47,48,52,53	303	160	1234567	250301	281001	VRT	
5840	0300	0400	28,29,38,39	111	120	1234567	250301	281001	AWR	
11880	0900	1000	28,38	211	140	17	250301	281001	AWR	
15620	0700	0930	37,38,46	308	200	1234567	250301	281001	AWR	
15195	1600	1659	28,29,38,39	101	115	1234567	180701	251001	AWR	*
13720	1600	1659	28,29,38,39	106	115	1234567	260701	281001	AWR	*
15235	1700	1759	28,29,38,39	101	115	1234567	100601	281001	AWR	
9745	2100	2330	37,38,46	406	200	1234567	250301	281001	AWR	
9610	0355	0630	28SE,29	104	115	1234567	250301	281001	SRI	
17685	0555	0800	37S,38W,46	307	200	1234567	250301	281001	SRI	
15545	0555	0800	37S,38	306	160	1234567	250301	281001	SRI	
15315	0955	1230	37N	308	210	1234567	250301	281001	SRI	
15220	1625	1815	28,38E,39	102	115	1234567	250301	281001	SRI	
17735	1625	1815	38,39	107	115	1234567	100701	281001	SRI	
6110	1725	1930	27,28	406	290	1234567	250301	281001	SRI	
17580	1825	2130	37S,38W,46	307	200	1234567	250301	281001	SRI	
15220	1825	2130	47,52,53,57	302	160	1234567	250301	281001	SRI	
13770	1825	2130	38,48,53	105	145	1234567	250301	281001	SRI	SOT
9885	0025	0545	8,10,11,12N	102	295	1234567	250301	281001	SRI	SOT
21750	0555	0800	47,52,53,57	301	160	1234567	250301	281001	SRI	SOT
21770	0825	1030	47,52,53,57	301	160	1234567	250301	281001	SRI	SOT
21770	1055	1330	29,30,40,41,49,50,54	207	80	1234567	250301	281001	SRI	SOT
17680	1355	1600	29,30,40,41	207	80	1234567	250301	281001	SRI	SOT
21720	1625	1815	38,39,48	106	145	1234567	250301	281001	SRI	SOT
9885	2155	2400	13-16	112	240	1234567	250301	281001	SRI	SOT

6045	0642	0820	27,28	401	ND	17	250301	281001	TWR
6045	0652	0820	27,28	401	ND	23456	250301	281001	TWR
9490	1227	1245	28	104	130	1234567	250301	281001	TWR
7135	1557	1645	28	211	110	7	250301	281001	TWR
7135	1627	1645	28	211	110	16	250301	281001	TWR
9855	1557	1645	28	111	120	7	250301	281001	TWR
9855	1627	1645	28	111	120	16	250301	281001	TWR

* changes

+ active on demand

momentary not active

AWR Adventist World Radio

CHW Christliche Wissenschaft

DTK Deutsche Telekom

DVB Democratic Voice of Burma

DWL Deutsche Welle

DLF Deutschlandfunk

DLR DeutschlandRadio

ECC Radio Ecclesia

EVR Evangeliums Radio Hamburg

HRT Hrvraska Radio Televizija

HLR Hamburger Lokalradio

IBR IBRA Radio Sweden

INF Inforadio

LRT Radio Vilnius Lithuania

RNW Radio Netherlands World Service

RRP Radio Reveil Paroles de Vie

RSU Radio Sunshine

RTB Radio Television Belge de la communaute Francaise

SBO Sagalee Bilisummaa Oromoo

SRI Swiss Radio International

TBC Tamil Broadcasting Corporation

TOM The Overcomer Broadcast

TWR Trans World Radio

UMC The United Methodist Church

UNL Universelles Leben

VOH High Adventure Ministries - The Voice of Hope (ex HAM)

VRT Vlaamse Radio en Televisie (ex RVI)

YFR WYFR Family Radio

(Ralf Weyl - German Telecom, via WWDXC-HQ; August 02, 2001)

INDIA: All India Radio - AIR, External Service A01 schedule for 25th March 2001 to 28th October 2001. In each language service a composite program is presented consisting of a news bulletin, commentary, press review, talks on matters of general and cultural interest, occasional feature programs and documentaries, Indian classical and light classical music (Vocal and Instrumental music) as well as music of the area concerned. Broadcasting started in India in 1927 with the proliferation of private radio clubs. The operations of All India Radio began formally in 1936, as a government organization. With clear objectives to inform, educate and entertain the masses. When India attained Independence in 1947, AIR had a network of six stations and a complement of 18 transmitters. The coverage was 2.5% area and just 11% of the population. Rapid expansion of the network took place post Independence. AIR today has a network of 198 broadcasting centers with 145 medium frequency, 55 high frequency (SW) and 103 FM transmitters. The coverage is 90% area, serving 97.3% of the people in the largest democracy of the world. AIR covers 24 languages and 146 dialects in home service and in external services, it covers 24 languages.

Service	UTC	KHz	Gujarati	1515-1600	11620
East Africa			Gujarati	1515-1600	15175
G.O.S-IV	1745-1945	11935	Hindi	1615-1730	9950
Gujarati	0415-0430	15185	Hindi	0315-0415	15185
Hindi/Gujarati/Hindi	0845-1100	17715	Hindi	0430-0530	15075

Hindi	0430-0530	15185	G.O.S-II	1000-1100	13700
Swahili/Hindi	2045-2300	17670	G.O.S-II	1000-1100	15020
Swahili	1515-1615	9950	G.O.S-II	1000-1100	17510
West and North West Africa			G.O.S-V	2045-2230	11715
French	1945-2030	9910	G.O.S-V	2045-2230	9910
French	1945-2030	13795	G.O.S-V	2045-2230	7150
G.O.S-IV	1745-1945	15120	G.O.S-V	0215-0400	11620
G.O.S-IV	1745-1945	13795	Eastern Services		
G.O.S-IV	2315-0115	17670	Burmese	0100-0130	9950
West Asia			Burmese	0100-0130	13630
Arabic	0430-0530	13620	Burmese	1215-1315	11710
Arabic	0430-0530	15770	Burmese	1215-1315	11620
Arabic	0430-0530	17845	Chinese	1145-1315	15795
Arabic	1730-1945	9910	Chinese	1145-1315	17705
Arabic	1730-1945	13620	Chinese	1715-1845	11840
Hindi	1615-1730	7410	GOS-II	1530-1630	11585
Hindi	1615-1730	12025	Indonesian	1415-1515	15770
Hindi	1615-1730	13770	Indonesian	0845-0945	17510
Hindi	0315-0415	13695	Thai	1115-1200	15330
Hindi	0845-0945	11855	Thai	1115-1200	17740
Hindi	0315-0415	15075	Thai	1115-1200	13645
Malyalam	1730-1830	7115	United Kingdom & West Europe		
Malyalam	1730-1830	12025	G.O.S-IV	1745-1945	7410
Persian	0400-0430	15770	G.O.S-IV	1745-1945	9950
Persian	0400-0430	17845	G.O.S-V	2045-2230	7410
Persian	1615-1730	7115	G.O.S-V	2045-2230	9650
Persian	1615-1730	9910	G.O.S-V	2045-2230	9950
North East Asia			Hindi	1945-2045	7410
G.O.S-I	2245-0045	13605	Hindi	1945-2045	9950
G.O.S-I	2245-0045	9950	Russian	1615-1715	11620
G.O.S-II	1000-1100	15020	Russian	1615-1715	15140
G.O.S-II	1530-1630	11585	Neighbouring Countries		
G.O.S-I	1000-1100	17840	Bengali	0300-0430	594
Chinese	1145-1315	15795	Bengali	0800-1100	594
Chinese	1145-1315	17705	Bengali	1445-1515	1134
South East Asia			Bengali	1600-1730	1134
G.O.S-I	2245-0045	9705	Nepali	0130-0227	594
G.O.S-I	2245-0045	13605	Nepali	0130-0227	3945
G.O.S-I	2245-0045	11620	Nepali	0130-0227	9810
G.O.S-III	1330-1500	9690	Nepali	0130-0227	11715
G.O.S-III	1330-1500	11620	Nepali	0700-0800	11850
G.O.S-III	1330-1500	13710	Nepali	0700-0800	9565
Hindi	2300-2400	9910	Nepali	0700-0800	7250
Hindi	2300-2400	11740	Nepali	1330-1430	11695
Hindi	2300-2400	13795	Nepali	1330-1430	3945
Tamil	0000-0045	9910	Nepali	1330-1430	6045
Tamil	0000-0045	11740	Nepali	1330-1430	1134
Tamil	0000-0045	13795	Nepali	1900-2000	7410
Tamil	1115-1215	13700	Sinhala	0045-0115	1053
Tamil	1115-1215	15770	Sinhala/Tamil	0530-0645	11985
Tamil	1115-1215	17810	Sinhala	1300-1500	1053
Telugu	1215-1245	13700	Sinhala	1300-1500	9895
Telugu	1215-1245	15770	GOS-II	1000-1100	1053
Telugu	1215-1245	17810	GOS-II	1530-1630	15770
Indonesian	0845-0945	15770	Tamil	0000-0045	1053
Indonesian	0845-0945	17510	Tamil	0000-0045	4790
Thai	1115-1200	13645	Tamil	0000-0045	9835
Thai	1115-1200	15330	Tamil	0115-0330	1053
Thai	1115-1200	17740	Tamil	1100-1115	1053
Australia and New Zealand			Tamil	1115-1215	17860
G.O.S-II	1000-1100	17895	Tamil	1115-1215	1053

Tamil	1115-1215	17860	Sindhi	0100-0200	5990
Tamil	1215-1300	1053	Sindhi	0100-0200	7125
Tamil	1500-1530	1053	Sindhi	1230-1500	6165
Tibetan	0130-0200	9565	Sindhi	1230-1500	1071
Tibetan	0130-0200	13700	Sindhi	1230-1500	9620
Tibetan	0700-0730	11900	Sindhi	1230-1500	11585
Tibetan	1215-1330	1134	Western Service		
Tibetan	1215-1330	9565	Baluchi	1500-1600	1071
Tibetan	1215-1330	11695	Baluchi	1500-1600	6165
Urdu	0015-0430	702	Baluchi	1500-1600	9620
Urdu	0015-0430	6155	Baluchi	1500-1600	11585
Urdu	0015-0430	9595	Dari	0300-0345	11895
Urdu	0015-0100	1071	Dari	0300-0345	9910
Urdu	0100-0430	11620	Dari	1315-1415	7255
Urdu	0200-0430	1071	Dari	1315-1415	9910
Urdu	0830-1130	702	Persian	0400-0430	15770
Urdu	0830-1130	1071	Persian	0400-0430	17845
Urdu	0830-1130	9595	Persian	1615-1730	7115
Urdu	0830-1130	11620	Persian	1615-1730	9910
Urdu	0830-1130	7250	Punjabi	0800-0830	702
Urdu	1430-1930	702	Punjabi	1230-1430	702
Urdu	1430-1930	4860	Pushtu	0215-0300	9910
Urdu	1430-1930	6045	Pushtu	0215-0300	11735
Urdu	1430-1745	3945	Pushtu	0215-0300	11895
Urdu	1600-1930	1071	Pushtu	0215-0300	13620
Dari	0300-0345	9910	Pushtu	1415-1530	7255
Dari	0300-0345	11895	Pushtu	1415-1530	9910
Pushtu	0215-0300	9910	Russian	1615-1715	11620
Pushtu	1415-1530	7255	Russian	1615-1715	15140
Baluchi	1500-1600	1071	Sindhi	0100-0200	1071
Baluchi	1500-1600	6165	Sindhi	0630-0730	5990
Baluchi	1500-1600	9620	Sindhi	0100-0200	7125
Baluchi	1500-1600	11585	Sindhi	1230-1500	1071
Punjabi	0800-0830	702	Sindhi	1230-1500	6165
Punjabi	1230-1430	702	Sindhi	1230-1500	9620
Saraiki	1130-1200	702	Sindhi	1230-1500	11585
Sindhi	0100-0200	1071	Saraiki	1130-1200	702

G.O.S = General Overseas Service in English.

(Web Site: <<http://www.allindiaradio.com/>> via JKB, Aug 20, 2001)

INDONESIA: Here is the current observed schedule of *Voice of Indonesia* (Suara Indonesia), thanks to Olle Alm for assistance. All frequencies appear to be via Cimanggis (Jakarta) 250 kW. Some language services seem to disappear occasionally for days or weeks, with transmitters remaining on air with open carrier at the relevant times.

Arabic

0300-0400: 9525, 11785

Chinese (Mandarin)

1030-1130: 9525

English

0100-0200: 9525, 11785

0800-0900: 9525

2000-2100: 15150

French

1900-2000: 15150

German

1800-1900: 15150

Indonesian (Bahasa Indonesia)

0200-0300: 9525, 11785

1200-1300: 9525

10

Japanese
1130-1200: 9525
Malay (Bahasa Malaysia)
0900-1000: 9525
Spanish
0030-0100: 9525, 11785
1730-1800: 15150
Thai
1000-1030: 9525 (Alan Davies; August 24, 2001)

KUWAIT: Latest A01 schedule of *Radio Kuwait*, PO Box 397, Safat 13004, Kuwait.

Shortwave Stations:

0200-1305 6055/ 9750 ,0800-1000 (Gulf region)
0400-0740 15505,(WAsia)
0500-0800 0800-0925,16.00-1800,15110,(SEAsian region)
0930-1605 13620 } For North America,Europe.
1000-1505 17885(Far East Area)
1315-2130 9880/15495,0200-1305.(MEast)
1615-1800 11990
1745-2130 15505
1800-0000 15495,15505, 1015-1740 (African Regions)
1800-2100 11990
1815-0000 9855
2200-0530 11875,(North America,Western part of) (Bailey in ADXN #428, July 2001)

MALAYSIA: The *Voice of Malaysia* with their schedule. Postal address: Suara Malaysia (Voice of Malaysia), P.O.Box 50740, Kuala Lumpur, Malaysia.

0700-0830 English 6175, 9750 to Indonesia, 15295 to AUS, NZL
0830-1030 Malaian 9750 to Indonesia, 15295 to NAF, ME, AUS, NZL
0900-1400 Indonesian 6175, 9750 to Indonesia
1030-1230 Mandarin 11885 to TWN, AUS, NZL, 15295 to CHN
1030-1300 Tagalog 1475 to Philippines
1300-1430 Thai 6100, 6175 to Thailand
1430-1530 Myanmar 6100, 6175 to Myanmar
1530-1700 Arabic 15295 to Naf, ME
1700-1900 Malaian 6175, 9750 to Indonesia
2200-2400 Indonesian 6100, 6175, 9750 to Indonesia
(VoM website via JKB, 24 Aug 2001)

MEXICO: *Radio Mexico International - RMI* has the following scheme in Spanish, effective until the month of October 2001.

RMI at web: <http://www.telecommex.com/imer/rmi.html>

0000-0400 9705, 11770 Daily
0400-0500 9705, 11770 Sundays
1300-1500 9705, 11770 Daily
1800-2200 9705, 11770 Daily
2300-2330 9705, 11770 Saturday + Sunday
QTH: R.M.I., Apartado 21-300; 04021 Mexico, DF, Mexico.
(Marcelo Cornachioni in CONEXION #117 via WWDXC-HQ; July 29, 2001)

MISCELLANEOUS: *Honolulu Volmet* (station call: 'Honolulu Radio') transmitting weather information of airports in the Pacific area in USB on 2863, 6679, 8828 and 13282 kHz around the clock. Duration of each transmission: 5 minutes.

xx00, xx30 Airports Honolulu, Agana, Hilo, ...
xx05, xx35 Airports US-Westcoast (L.A., Seattle, ...)
xx25, xx55 Airports Alaska, Canada (Anchorage, Vancouver, ...)
Postal address: Honolulu Automated Flight Service Station, 28 Lagoon Drive, Honolulu, Hawaii 96819-1813, U.S.A.
(Honolulu R. via Angelo Pascorig in Radiorama #7-2001, May 2001)

Russian Air-Meteo stations:Weather forecast, in Russian

3117, 5691, 8861, 13267 kHz:

Kirensk-meteo (xx.00, xx.30),

Yakutsk-meteo (xx.10, xx.40),

Khabarovsk-meteo (xx.15, xx.45),

Magadan-meteo (xx.20, xx.50),

Irkutsk-meteo (xx.25, xx.55)

2867, 6693, 8888, 11318 kHz:

Syktyvkar-meteo (xx.00, xx.30),

Koltsovo-meteo (xx.05, xx.35),

Novosibirsk-meteo (xx.10, xx.40),

Samara-meteo (xx.15, xx.45),

Tyumen-meteo (xx.20, xx.50)

3407, 6730, 8819 kHz:

Aktyubinsk-meteo (xx.05, xx.35),

(Fedor Brazhnikov, Irkutsk via 'Kvadrat' #24, via Anatoly Klepov in RUS-DX #97-C via WDXC-HQ; August 25, 2001)

Alma-Ata-meteo (xx.10, xx.40),

Tashkent-meteo (xx.20, xx.50)

2941, 6617, 8939, 11297 kHz:

S.Petersburg-meteo (xx.05, xx.35),

Moskva-meteo (xx.10, xx.40),

Kiev-meteo (xx.20, xx.50),

Rostov-meteo (xx.25, xx.55)

Weather forecast, in English

4663, 10030, 13279 kHz:

Khabarovsk-meteo (xx.05, xx.35),

Kiev-meteo (xx.10, xx.40),

Tashkent-meteo (xx.15, xx.45),

Novosibirsk-meteo (xx.20, xx.50),

Moskva-meteo (xx.25, xx.55)

MYANMAR: Some interesting facts about *Myanmar Defense Forces Station* by Adrian Peterson, USA: I note with interest recent comments about the regional SW stn operated by the Burmese army, and the fact that it is described as a "mystery" stn. Back in the early part of 1985, I visited this stn which is located in a small army camp on the eastern edge of the regional city, Taunggyi. A Burmese doctor who was fluent in English drove me into the stn and also acted as translator. This stn was established in 1962 and I would suggest that the original tx was a 1 kW unit operating at 500 watts, on 5060 kHz. In 1987, a 10 kW NEC tx from Japan was installed and the freq was moved to 6570. Programming is locally produced in regional langs in half hour time blocks, though some programming is also prepared by BBS (Myanmar [sic] Radio & TV) in Rangoon (Yangon). I am aware of only one QSL coming from this stn, and if I remember rightly, it was to a listener in JPN. I would suggest that the reasons why this stn could be described as a "mystery" stn are because it is isolated and no communications come from it to the DX world. In Southern Asia, the stn can be heard quite readily over a wide area. The stn is run by a comparatively small detachment of communication personnel in the army, and they are operating the stn on behalf of the Burmese (Myanmar) govt. I would suggest that it is not really a propaganda stn, but a legitimate nx & information stn with programming for minority peoples, particularly those in strategic border areas. I imagine that it was off the air for a few years, not by design, but simply because they did not have funding to procure spare parts. I asked one of the directors of BBS in Rangoon (Yangon) during a visit into this stn if BBS would QSL RRs of the regional stn in Taunggyi. He stated that it is true that they bc some programming prepared in the BBS studios, but no, they would not verify RRs on the regional stn. I wrote an article on this stn many years ago, and it was published in Popular Communication. (Adrian Peterson, 2001 Jul 17/18, Cumbre via DXLD via BC-DX #531)

Current full schedule for Myanmar Defense Forces Station on 6570: 0130-0430, 0630-0930, 1330-1630. The break at 0930-1330 coincides with the minority language sce of Myanmar Radio from Yangon on 4725. (Alan Davies, 20 Jul 2001)

UKRAINE: *Radio Ukraine International - RUI* from July 11 puts in operation two Txs in Mykolaiv again after a long off the air. This caused changes (*) in schedule of RUI - now in complete it is as follows:

kHz	UTC	Tx	Azi.	Target
5905	1600-0100	Kyiv	254	S.-W.Europe
*6020	1500-2200	Kyiv	ND	C.Europe
*7150	0200-0600	Mykolaiv	4	N.Europe
*7150	1600-2100	Mykolaiv	4	N.Europe
7320	0000-0500	Kharkiv	55	Russia (Tyumen)

7410	0300-0800	Kharkiv	235	S.Europe
7410	1900-2400	Kyiv	266	W.Europe
9560	1400-2300	Kharkiv	290	W.Europe
9620	0400-0900	Kyiv	254	S.-W.Europe
9640	0000-0400	Kyiv	74	Russia, N.Kazakhstan
9640	1400-1800	Kyiv	74	Russia, N.Kazakhstan
11705	0500-0900	Kyiv	264	W.Europe
11705	1900-2300	Kyiv	254	S.-W.Europe
11840	0300-0900	Kyiv	93	S.Kazakhstan
11840	1400-1800	Kyiv	93	S.Kazakhstan
11950	1900-2300	Kharkiv	290	W.Europe
*12040	2300-0400	Mykolaiv	314	N.-W.Europe, E.of N.America
12045	1100-1800	Kharkiv	55	Russia (Tyumen)
15135	0900-1400	Kyiv	307	N.-W.Europe, E.of N.America

The output of all SW transmitters is 100 kW, except on 12040 kHz where the power is 1000 kW. Schedules of programmes in various languages are as follows:

GERMAN (one hour long) except on 6020 and 12040 kHz: at 1700, 2000, 2300 UTC.

ENGLISH (one hour long) except on 12045 kHz: at 2100, 0000, 0300, 1100 UTC.

UKRAINIAN programs are transmitted on all frequencies and at all times except for the time reserved for German and English programs, as shown above.

ROMANIAN (half an hour long): on 657 kHz Medium Waves (Chernivtsi, 25 kW), at 1700, 1930, 2100 UTC. (Alexander Yegorov, 2001 Jul 10 - some corrections: Vladimir G. Titarev, 23 Jul 2001)

UNITED KINGDOM: New religious broadcaster to West Africa. On 6 July 2001 **Salama Radio** started broadcasting to West Africa. French, English, Arabic, Hausa, and Fulfulde are announced as the first languages to come on the air with other languages understood by at least ten million people to follow. Dr Jacob Abdalla, President of Harvestime Ministries, suggests that "Salama Radio has a potential audience of about 300 million in sub-saharan Africa, and there is a tremendous opportunity here for Christian ministries and organizations to reach these people with the message of hope and salvation in various ways including Bible teaching, radio drama, gospel music, and educational programmes." According to the web site "original materials will be secured from local producers, ministries, churches, non-governmental organizations, and international organizations, thereby giving the station both a local and international perspective. Salama Radio will bring Christian News from around the world to and from the region as well as broadcast vibrant and good mix of gospel programmes from Bible based ministries. Salama Radio will allow Christian commercials while maintaining the central point of evangelisation." With regard to the last sentence it is surprising that in March 2001, Margaret Perera accepted to serve as Salama Radios first International Director on a voluntary basis. Currently, the station is heard 19.00-20.00 h UTC on Woofferton 15475 kHz. Ultimately, it wants to be on the air round the clock using the transmission facilities of Merlin Communications. "Salama Radio will generate the desire to listen and Merlin will make it heard using its state of the art transmission facilities in strategic locations around the world."

Harvestime Ministries, Salama Radio

The Studio, PO Box 126, Chessington

Surrey KT9 2WJ, United Kingdom

Fax: +44(0)208 395 7425

Email: admin@salamaradio.org

Webpage: <http://www.harvestime.org.uk> (HJB, 13 July 2001)

VIETNAM: *Voice of Vietnam* - **VOV4** minority language service retimed some programmes at the beginning of July. Now at 0930-1030 on 6020 and 0930-1100 on 7210, replacing previous times in 1145-1300 period. Each frequency carries a separate stream of 30-minute language segments. There are probably still other transmissions in local early morning and again before noon on the same frequencies, but they are not audible here. 6020 and 7210 carry VOV's 2nd and 1st networks respectively at other times. Hmong Sce on 5035v and 6165 seems to be unchanged at

0500-0600 and 1200-1330, 2200 transmission not checked recently. (Alan Davies, 20 Jul 2001)

Voice of Vietnam - VOV international daily programs for A01 period, valid until 10/28/01. Postal address: Radio The Voice of Vietnam, 58 - Quan Su street, Hanoi - Vietnam. Please note new Fax: (844)8261122 and Email: qhqt.vov@hn.vnn.vn address, WWW-URL <http://www.vov.org.vn/>

0000-0030	Cambodian	7285
0000-0100	Vietnamese	9730, 13740
0030-0100	Lao	7285
0100-0130	English	6175, C-9525
0130-0230	Vietnamese	C-9695
0230-0300	English	C-9525
0300-0330	Spanish	C-9795
0330-0400	English	C-9795
0400-0500	Vietnamese	C-9795
0830-0930	Mandarin	9840, 12020
0930-1000	Indonesian	9840, 12020
1000-1030	English	9840, 12020
1030-1100	Indonesian	9840, 12020
1100-1130	Spanish	9730, 13740
1100-1130	English	7285
1130-1200	Thai	7285
1130-1200	Russian	9840, 12020
1200-1230	Japanese	9840, 12020
1200-1230	Cambodian	7285
1230-1300	English	9840, 12020
1230-1300	Lao	7285
1300-1330	French	9730, 13740
1300-1330	Russian	7285
1330-1400	English	9730, 13740
1330-1400	Cambodian	7285
1400-1430	Japanese	9840, 12020
1400-1430	Lao	7285
1430-1500	Indonesian	9840, 12020
1430-1500	Cantones	7285
1500-1530	Thai	9840, 12020
1500-1530	Mandarin	7285
1530-1600	Cantones	9840, 12020
1600-1630	English	9730, 13730
1630-1700	Russian	9730, 13740
1700-1730	English	R-12070
1700-1800	Vietnamese	9730, 13740
1730-1830	Vietnamese	7440, R-12070
1800-1830	English	7440, 9730, 13740
1830-1900	French	7145, 9730, R-12070, 13740
1900-1930	English	9730, 13740
1930-2000	French	9730, 13740
2000-2030	Spanish	9730, 13740
2000-2030	Russian	7390
2000-2130	Vietnamese	7390, 12030
2030-2100	English	9730, 13740
2100-2130	French	9730, 13740
2130-2200	Japanese	9840, 12020
2200-2230	Mandarin	9840, 12020
2230-2300	Cantones	9840, 12020
2300-2330	Thai	9840, 12020
2330-2400	English	9840, 12020

Nota: (C) Via Sackville, Canada / (R) Via Russia.
(CONEXION #117 via WDXC-HQ, July 29, 2001)

YEMEN: New postal address of **Radio Sana'a**, Yemen: P.O.Box 2371, Sana'a, Yemen.
(Bailey in ADXN #428, Aug. 2001)

Sources & Contributors:

BC-DX News Bulletin by Wolfgang W. Bueschel - Germany.
 CONEXION CONEXION Digital - Buenos Aires, Argentina.
 DXLD Glenn Hauser's DX LISTENING DIGEST - USA.
 HJB Dr. Hansjoerg Biener, Amberg - Germany.
 JKB Dr. Juergen Kubiak, Berlin - Germany.
 Radiorama News Bulletin of A.I.R. - Italy.
 RUS-DX Information bulletin of Russian DX League - Russia.
 WWDXC-HQ WWDXC Headquarter, Michael Bethge

Abbreviations:

<i>Target:</i>	<i>Target Prefix:</i>
ITU country code or	N North
Af Africa	E East
Am America	S South
As Asia	W West
Eu Europe	C Central
ME Middle East	
FSU Former Soviet Union	

<i>Languages:</i>	<i>Other common abbreviations:</i>
Ar Arabic	bc broadcast
Ch Chinese	lsb Lower Side Band Mode
Du Dutch	nd non-directional
E English	px program
F French	sce(d),
G German	sked schedule
Gr Greek	ssb Single Sideband Mode
I Italian	tx(er) transmitter
J Japanese	usb Upper Side Band Mode
K Korean	mm/dd/yy Date (month/day/year)
P Portuguese	ddmmyy (daymonthyear)
R Russian	
Sp Spanish	
Turk Turkish	

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<http://home.snafu.de/j.kubiak/>



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LIST OF TROPICAL BAND STATIONS

by Raimo Mäkelä

In each line you will find: frequency (kHz), station, location and country.

120 meter band

2310.0 Northern Territory Shortwave Service, Alice Springs, Australia
 2325.0 Northern Territory Shortwave Service, Tennant Creek, Australia
 2340.0 Fujian People's Broadcasting Station, Fuzhou, China
 2360.0 Radio Maya, Guatemala
 2380.0 Radio Educadora, Limeira, Brazil
 2390.0 Radio Huayacocotla, Mexico
 2390.0 WWCR, United States of America
 2410.0 Radio Enga, Papua New Guinea (off air?)
 2415.0 Wenzhou People's Broadcasting Station, Wenzhou, China
 2460.0 Radio Alvorada, Rio Branco, Brazil
 2485.0 Northern Territory Shortwave Service, Katherine, Australia
 2490.2 Radio Oito de Setembro, Brazil (v)

90 meter band

3200.0 Trans World Radio, Swaziland
 3205.0 Radio Ribeirao Preto, Brazil
 3205.0 Radio West Sepik, Radio Sandaun, Papua New Guinea (off air?)
 3210.0 Radio Exterior Espana, Costa Rica
 3210.0 WWCR, United States of America
 3214.8 RRI Manado, Indonesia (v)
 3220.0 La Voz de los Andes, Ecuador
 3220.0 Korean Central Broadcasting Station, Hamhung, North-Korea
 3220.0 Radio Morobe, Papua New Guinea
 3223.0 All India Radio, Shimla, India
 3230.0 Radio Nepal, Nepal (v)
 3230.0 World Beacon, South-Africa
 3230.2 Radio El Sol de Los Andes, Juliaca, Peru (v)
 3232.0 RRI Bukittinggi, Indonesia (v)
 3234.8 Radio Luz y Sonido, Huánoco, Peru (v)
 3235.0 Radio West New Britain, Papua New Guinea
 3240.0 Trans World Radio, Swaziland
 3245.0 Radio Clube, Varginha, Brazil
 3245.0 All India Radio, Lucknow, India
 3245.0 Radio Gulf, Papua New Guinea (off air?)
 3249.8 Radio Luz y Vida, San Luis, Honduras (v)
 3250.0 Pyongyang Broadcasting Station, North-Korea
 3250.0 Radio Pyongyang, North-Korea
 3250.6 Radio Qollasuyo, Huanuco, Peru (v)
 3250.7 Radio Comas, Lima, Peru (v)
 3255.0 Radio Educadora 6 de Agosto, Xapuri, Brazil
 3255.0 BBC, Meyerton, South Africa
 3260.0 La Voix du Sahel, Niger
 3260.0 Radio Madang, Papua New Guinea
 3264.8 RRI Gorontalo, Indonesia (v)
 3270.0 Namibian Broadcasting Corporation, Namibia
 3275.0 Radio Southern Highlands, Papua New Guinea
 3277.0 Radio Mocambique, Beira, Mozambique (v)
 3280.0 Voice of Pujiang, Shanghai, China
 3280.0 La Voz del Napo, Tena, Ecuador (v)
 3283.2 Radio Estacion Wuari, Ayacucho, Peru (v)
 3285.0 Radio La Voz del Río Tarqui, Cuenca, Ecuador (v)
 3288.0 Radio Madagascar, Madagascar (v)
 3289.8 Radio Centro, Ambato, Ecuador (v)
 3290.0 Namibian Broadcasting Corporation, Namibia
 3290.0 Voice of Guyana, Georgetown, Guyana
 3290.0 Radio Central, Papua New Guinea
 3300.0 Radio Cultural, Guatemala, Guatemala
 3305.0 Radio Western, Papua New Guinea - off air?
 3306.0 Zimbabwe Broadcasting Corporation, Zimbabwe
 3310.0 Radio Mosoj Chaski, Cochabamba, Bolivia
 3315.0 All India Radio, Bhopal, India
 3315.0 Radio Manus, Papua New Guinea
 3316.0 Sierra Leone Broadcasting Service, Sierra Leone
 3320.0 Pyongyang Broadcasting Station, North-Korea
 3320.0 Radio Sonder Grense, South-Africa
 3324.8 Radio Maya, Barillas, Guatemala (v)
 3325.0 Radio Tupi, Sao Paulo, Brazil
 3325.0 RRI Palangkaraya, Indonesia
 3325.0 Radio North Salomons, Radio Bougainville, Papua New Guinea
 3326.0 Federal Radio Corporation of Nigeria, Lagos, Nigeria
 3329.5 Radio Ondas del Huallaga, Huanuco, Peru (v)
 3335.0 Radio East Sepik, Papua New Guinea

3335.0 Broadcasting Corporation of China, Taipei, Taiwan
 3339.9 Radio Altura, Cerro de Pasco, Peru (v)
 3345.0 All India Radio, Jaipur, India
 3344.8 RRI Ternate, Indonesia (v)
 3345.0 Radio Northern, Papua New Guinea (off air?)
 3345.0 Channel Africa / Radio Lusofonia, Meyerton, South-Africa
 3350.0 Korean Central Broadcasting Station, Pyongsong, North-Korea
 3355.0 Radio Nacional de Angola, Angola
 3355.0 Radio Simbu, Papua New Guinea
 3355.3 RRI Jambi, Indonesia (v)
 3356.0 Radio Botswana, Botswana
 3360.0 La Voz del Upano, Macas, Ecuador
 3360.0 La Voz de Nahualá, Guatemala (v)
 3365.0 Radio Cultura, Araraquara, Brazil
 3365.0 All India Radio, Delhi, India
 3365.0 Radio Milne Bay, Papua New Guinea
 3366.0 Ghana Broadcasting Corporation, Ghana
 3370.0 Radio Tezulutlan, Coban, Guatemala (v)
 3375.0 Radio Nacional de Angola, Angola (v)
 3375.0 Radio Clube, Dourados, Brazil (v)
 3375.0 Radio Educadora, Guaraja Mirim, Brazil
 3375.0 Radio Western Highlands, Papua New Guinea (off air?)
 3375.2 Radio San Antonio, Atalaya, Peru (v)
 3380.0 Radio Chortis, Guatemala
 3380.8 Malawi Broadcasting Corporation, Malawi
 3384.9 Radio East New Britain, Papua New Guinea
 3385.0 Radio Educacao Rural, Tefé, Brazil
 3385.0 RRI Kupang, Indonesia (v)
 3385.0 RTM Miri, Sarawak, Malaysia
 3390.0 La Voix du Peuple, Bunia, Congo Dem Rep.
 3390.0 All India Radio, Gangtok, India
 3390.0 BBC Meyerton, South-Africa
 3391.0 Radio Emisora Camargo, Bolivia
 3395.0 RRI Bandar Lampung, Indonesia
 3395.0 Radio Eastern Highlands, Papua New Guinea
 3396.0 Zimbabwe Broadcasting Corporation, Zimbabwe
 3396.4 Radio Internacional del Peru, San Pablo, Peru (v)
 3492.0 Radio Padilla, Padilla, Bolivia (v)

75 meter band

3900.0 Hulun Ber People's Broadcasting Station, China
 3900.0 Radio Freedom of Communist Party in Iraqi Kurdistan (v)
 3900.0 Voice of the People of Iraq, Unknown (v)
 3900.0 Voice of the Strait, Fuzhou, China
 3904.9 Radio New Ireland, Papua New Guinea (v)
 3904.9 RRI Merauke, Indonesia (v)
 3915.0 BBC World Service, Singapore
 3920.0 Korean Central Broadcasting Station, Hyesan, North-Korea
 3925.0 Radio Tampa, Japan
 3930.0 Korean Broadcasting System, Chogjin, Korea
 3935.0 ZLXA, Levin, New Zealand
 3940.0 Hubei People's Broadcasting Station, China
 3940.0 Korean Central Broadcasting Station, North-Korea
 3945.0 Radio Tampa, Japan
 3945.0 Radio Vanuatu, Vanuatu
 3950.0 Qinghai People's Broadcasting Station, China
 3955.0 Radio Korea via United Kingdom
 3960.0 Korean Central Broadcasting Station, Kanggay, North-Korea
 3960.0 Xinjiang People's Broadcasting Station, China (v)
 3960.4 RRI Palu, Indonesia (v)
 3965.0 Radio France International, France
 3970.0 NHK, Japan
 3970.0 Korean Central Broadcasting Station, Wonsan, North-Korea (v)
 3970.0 Federal Radio Corporation of Nigeria, Enugu, Nigeria
 3976.0 RRI Pontianak, Indonesia (v)
 3980.0 Korean Central Broadcasting Station, North-Korea (v)
 3985.0 Voice of Iranian Kurdistan, Unknown (v)
 3985.0 IRRS, Italy
 3985.4 RRI Surabaya, Indonesia (v)
 3987.4 RRI Manokwari, Indonesia (v)
 3990.0 Xinjiang People's Broadcasting Station, China
 4000.0 Nei Menggu People's Broadcasting Station, China
 4000.0 RRI Padang, Indonesia (v)
 4003.0 RRI Kendari, Indonesia (v)

60 meter band

- 4750.0 Hulun Ber People's Broadcasting Station, China
4750.0 Xizang People's Broadcasting Station, China
4750.1 Radio San Francisco Solano, Peru (v)
4752.0 Radio Huanta 2000, Peru (v)
4753.0 RRI Makassar, Indonesia (v)
4753.8 Radio Difusora do Maranhao, Sao Luiz, Brazil (v)
4755.0 Radio Educacao Rural, Campo Grande, Brazil
4760.0 All India Radio, Leh, India
4760.0 All India Radio, Port Blair, Andaman & Nicobar Islands
4760.0 ELWA, Liberia
4760.0 Trans World Radio, Swaziland
4763.6 Radio Chincheros, Chincheros, Peru (v)
4765.0 Radiodifusora Guanay, Bolivia (v)
4765.0 Radio Rural, Santarem, Brazil
4765.0 Radio Integracao, Cruzeiro do Sul, Brazil
4765.0 Radio Congo, Congo
4766.0 RRI Medan, Indonesia
4766.6 Radio Constelacion, Guanay, Bolivia (v)
4770.0 Federal Radio Corporation of Nigeria, Kaduna, Nigeria
4770.1 Radio Centinela del Sur (CDS), Loja, Ecuador (v)
4774.9 Radio Tarma, Peru (v)
4775.0 Radio Amarela, Rolim do Moura, Brazil
4775.0 Radio Congonhas, Congonhas, Brazil
4775.0 Radio Portal do Amazonia, Cuaiba, Brazil
4775.0 Radio Liberal, Belém, Brazil (v)
4775.0 All India Radio, Imphal, India
4775.0 Trans World Radio, Swaziland
4777.0 Radiodiffusion Gabonaise, Libreville, Gabon (v)
4779.8 Radio Coátan, Guatemala
4780.0 Emissora Provincial Kuando-Kubango, Angola
4780.0 Emisora Onda Musical, Dominican Republic (v)
4780.0 Radio Satellite, Santa Cruz, Peru (v)
4783.2 RTV Malienne, Mali (v)
4785.0 Radio Brasil 5000, Campinas, Brazil
4785.0 Radio Caiari, Porto Velho, Brazil
4785.0 Nei Menggu People's Broadcasting Station, China
4785.6 Radio Super, Ibagué, Colombia (v)
4785.8 Radio Federacion, Ecuador
4788.0 Radio Ballivian, San Borja, Bolivia (v)
4789.0 RRI Fak-Fak, Indonesia (v)
4790.0 All India Radio, Chennai, India
4790.0 Azad Kashmir Radio, Pakistan
4790.0 Radio Atlántida, Iquitos, Peru (v)
4795.0 Radio Mallku, Uyuni, Bolivia (v)
4795.0 Radio Difusora, Aquidauana, Brazil
4795.0 Radio Rossii, Ulan-Ude, Russia
4795.2 Radio La Voz de los Caras, Ecuador (v)
4799.8 Radio Buenas Nuevas, Guatemala (v)
4800.0 All India Radio, Hyderabad, India
4800.0 Lesotho National Broadcasting Service, Lesotho
4800.0 XERTA, Radio Transcontinental de America, Mexico
4800.7 Radio Armonia, Argentina
4801.0 Radio Oriental, Tena, Ecuador (v)
4802.0 Radio Mamore, Bolivia (v)
4805.0 Radio Difusora do Amazonas, Manaus, Brazil
4805.0 Radio Itatiaia, Belo Horizonte, Brazil
4810.0 Voice of Armenia, Yerevan, Armenia
4814.3 Radio El Buen Pastor, Saraguro, Ecuador (v)
4814.9 Radio Difusora, Londrina, Brazil
4815.0 Radio Burkina, Burkina Faso
4815.0 China Radio International, China
4819.1 La Voz Evangélica, Tegucigalpa, Honduras (v)
4820.0 Emissora Provincial da Huila, Angola
4820.0 Radio Botswana, Botswana
4820.0 Radio Rossii, Khanty-Mansiysk, Russia
4820.0 All India Radio, Calcutta, India
4824.3 La Voz de la Selva, Iquitos, Peru (v)
4824.9 Radio Cancao Nova, Cachoeira Paulista, Brazil
4824.9 Radio Mam, Guatemala (v)
4825.0 Radio Ecucadora, Braganca, Brazil
4825.0 Radio Rossii, Yakutsk, Russia
4826.6 Radio Sicuani, Sicuani, Peru (v)
4828.0 Zimbabwe Broadcasting Corporation, Zimbabwe
4828.0 Radio Mauritanie, Mauritanie (v)
4830.0 Radio Grigota, Bolivia (v)
4830.0 Hua-yi Broadcasting Corporation, Fuzhou, China
4830.0 Radio Litoral, Le Ceiba, Honduras
4830.0 Radio Thailand, Thailand
4830.0 Radio Táchira, San Cristobal, Venezuela
4831.0 Radio Lircay, Peru (v)
4831.5 Radio Reloj, Costa Rica (v)
4835.0 Northern Territory Shortwave Service, Alice Springs, Australia
4835.0 RTV Malienne, Mali (v)
4835.3 Radio Tezulutlan, Guatemala (v)
4836.0 Radio Buenaventura, Buenaventura, Colombia (v)
4840.0 Heilongjiang People's Broadcasting Station, China
4840.0 Radio Interoceanica, Santa Rosa de Quijos, Ecuador (v)
4840.0 All India Radio, Mumbai, India
4840.0 Radio Andahuaylas, Peru (v)
4840.1 Radio Valera, Venezuela
4844.6 Radio K'ekchi, Guatemala (v)
4845.0 Radio Fides, La Paz, Bolivia (v)
4845.0 Radio Meteorologia Paulista, Ibitinga, Brazil
4845.0 RRI Ambon, Indonesia
4845.0 Radio Malaysia, Kajang, Malaysia
4845.2 Radio Cultura Ondas Tropicais, Manaus, Brazil
4850.0 CRTV Radio Yaonde, Cameroon
4850.0 China National Radio, China
4850.0 All India Radio, Kohima, India
4850.0 Mongol Radio, Mongolia
4850.0 Uzbek Radio, Uzbekistan
4855.0 Radio Tropical, Barra do Garcas, Brazil
4855.0 Radio Mozambique, Mozambique (v)
4855.4 Radio La Hora, Cusco, Peru (v)
4860.0 All India Radio, Delhi, India
4865.0 Radio Centenario, Santa Cruz, Bolivia (v)
4865.0 Radio Alvorada, Londrina, Brazil
4865.0 Radio Missoes da Amazonia, Obidos, Brazil
4865.0 Radio Verdes Florestas, Cruzeiro do Sul, Brazil (v)
4865.0 Gansu People's Broadcasting Station, Lanzhou, China
4865.0 La Voz de Cinaruco, Arauca, Colombia (v)
4870.0 ORTB Cotonou, Benin (v)
4870.0 Radio La Voz de Upano, Macas, Ecuador
4870.0 Radio Majestad, Huancayo, Peru (v)
4870.0 SLBC, Sri Lanka
4875.0 Radio Difusora de Roraima, Boa Vista, Brazil
4875.0 Radio Khara, Georgia
4875.0 RRI Sorong, Indonesia (v)
4875.2 Radio La Cruz del Sur, La Paz, Bolivia (v)
4876.0 Radio Samorodinka, Russia (v)
4879.8 Radio Nacional Espejo, Quito, Ecuador (v)
4880.0 Radio Bangladesh, Bangladesh (v)
4880.0 All India Radio, Lucknow, India
4880.0 Provincial Station Than Hoa, Vietnam
4881.0 Radio Comas, Comas, Peru (v)
4885.0 Radio Voz do Coracao Imaculado, Anápolis, Brazil
4885.0 Radio Clube do Pará, Belém, Brazil
4885.0 Radio Difusora Acreana, Rio Branco, Brazil
4885.0 Radio Ondas del Meta, Villavivencio, Colombia
4885.0 Kenya Broadcasting Corporation, Kenya
4886.0 Radio Virgen del Carmen, Peru (v)
4890.0 Radio France Internationale, Moyabi, Gabon
4890.0 National Broadcasting Commission, Papua New Guinea
4890.4 Radio Chota, Chota, Peru (v)
4895.0 Radio Baré, Manaus, Brazil
4895.0 Radio IPB AM, Campo Grande, Brazil
4895.0 La Voz del Río Arauca, Colombia
4895.0 Colombia Estereo, Santa Fe, Colombia
4895.0 All India Radio, Kurseong, India
4895.0 Radio Malaysia, Sarawak, Malaysia
4895.0 Radio Chanchamayo, La Merced, Peru (v)
4895.0 Radio Tyumen, Siberia, Russia
4895.0 Radio Pakistan, Pakistan (v)
4988.0 Radio Saquisili, Ecuador (v)
4900.0 Voice of the Strait, China
4900.0 Radio Conarky, Conarky, Guinea Republic (off-air)
4902.0 SLBC, Sri Lanka (v)
4904.9 Radio La Oroya, La Oroya, Peru (v)
4905.0 Radio Anhanguera, Araguaina, Brazil
4905.0 Radio Relógio Federal, Rio de Janeiro, Brazil
4905.3 Radio Ecos del Orinoco, Puerto Carreno, Colombia (v)
4907.0 National Radio of Cambodia, Phnom Penh, Cambodia
4910.0 Northern Territory Shortwave Service, Tennant Creek, Australia
4910.0 All India Radio, Jaipur, India
4910.0 Zambia National Broadcasting Corporation, Zambia
4910.6 La Voz de la Mosquitia, Puerto Lempira, Honduras (v)
4914.5 Radio Cora, Lima, Peru (v)
4915.0 Radio CBN Anhanguera, Goiania, Brazil

- 4915.0 Radio Difusora, Macapa, Brazil
4915.0 Radio Armonias del Caquetá, Florencia, Colombia
4915.0 Ghana Broadcasting Corporation, Ghana
4915.0 Kenya Broadcasting Corporation, Kenya
4915.0 Radio Pakistan, Pakistan
4919.0 Radio Quito, Ecuador (v)
4920.0 All India Radio, Chennai, India
4924.9 Radio Difusora, Taubaté, Brazil
4925.0 Honghe People's Broadcasting Station, China (v)
4925.0 RRI Jambi, Indonesia
4925.0 Radio Mozambique, Mozambique
4926.0 Radio Nacional, Bata, Equatorial Guinea
4926.1 Radio San Miguel, Riberaita, Bolivia (v)
4930.0 Radio Costena Internacional, San Pedro Sula, Honduras
4930.0 Namibian Broadcasting Corporation, Namibia
4930.0 Turkmen Radio, Turkmenistan
4931.0 RRI Surakarta, Indonesia (v)
4935.0 Radio Capixaba, Vitória, Brazil
4935.0 Radio Difusora, Jatai, Brazil
4935.0 Kenya Broadcasting Corporation, Kenya
4935.0 Radio Tropical, Tarapoto, Peru (v)
4939.2 Radio Norte, Montero, Bolivia (v)
4939.5 Radio Amazonas, Puerto Ayacucho, Venezuela (v)
4940.0 Hua-yi Broadcasting Corporation, Fuzhou, China
4940.0 All India Radio, Guwahati, India
4940.0 Radio San Antonio, Peru (v)
4940.0 Radio Mix Master, Russia
4940.0 SLBC, Sri Lanka
4945.0 Radio Illimani, La Paz, Bolivia
4945.0 A Voz do Sao Francisco, Petrolina, Brazil (v)
4945.0 Radio Difusora, Pocos de Caldas, Brazil
4945.0 Radio Progreso, Porto Velho, Brazil (v)
4949.9 Radio Baha'i, Otavalo, Ecuador (v)
4950.0 Voice of America, Pinheira, Sao Tome
4950.0 Radio Nacional de Angola, Angola (v)
4950.0 Voice of Pujiang, Shanghai, China
4950.0 All India Radio Kashmir, Srinagar, India
4950.0 Nei Menggu People's Broadcasting Station, China
4950.1 Radio Madre de Dios, Peru (v)
4952.0 Em. Provincial Maputo e Gaza, Mozambique
4955.0 Radio Clube, Rondonopolis, Brazil
4955.0 Radio Cultura, Campos, Brazil (v)
4955.0 Radio Nacional, Bogota, Colombia
4955.4 Radio Cultural Amauta, Huanta, Peru (v)
4959.0 Voice of Vietnam, Vietnam (v)
4960.0 All India Radio, Ranchi, India
4960.0 Radio Vanuatu, Vanuatu
4960.0 SIBC Honiara, Salomon Islands
4960.0 VOA, Sao Tome
4960.1 Radio Federacion, Sucua, Ecuador
4960.2 Radio Villa, Santo Domingo, Dominican Republic (v)
4960.3 Radio HRET, Puerto Lempira, Honduras
4965.0 Radio Alvorada, Parintins, Brazil
4965.0 Namibian Broadcasting Corporation, Namibia
4965.0 Voice of Russia, Tajikistan
4965.0 Provincial Station Radio Son La, Vietnam
4965.0 Christian Voice, Zambia
4970.0 Xinjiang People's Broadcassting Station, China
4970.0 Radio Imagen, Tarapoto, Peru (v)
4970.0 Radio Rumbos, Villa de Cura, Colombia
4970.0 All India Radio, Shillong, India
4974.8 Radio del Pacifico, Lima, Peru (v)
4975.0 Radio Mundial, São Paulo, Brazil
4975.0 Fujian People's Broadcasting Station, Fuzhou, China
4975.0 Radio Ondas del Orteguzza, Colombia
4975.0 Voice of Russia, Russia
4975.0 Tajik Radio, Yangi-Yul, Tajikistan
4976.0 Radio Uganda, Kampala, Uganda
4980.0 Xinjiang People's Broadcasting Station, Urumqi, China
4980.0 Ecos del Torbes, San Cristobal, Venezuela
4985.0 Radio Brasil Central, Goiania, Brazil
4990.0 Hunan People's Broadcasting Station, China
4990.0 All India Radio, Itanagar, India
4990.9 Radio Animas, Chocaya, Bolivia (v)
4990.9 Radio Apintie, Paramaribo, Surinam (v)
4991.0 Radio Ancash, Huaraz, Peru (v)
- 4993.0 AFRTS Sigonella, Italy
4995.8 Radio Andina, Huancayo, Peru (v)
5000.0 Provincial Station Binh Thuan, Vietnam
5000.0 Provincial Station Radio Yen Bai, Vietnam
5003.0 Radio Nacional, Equatorial Guinea (v)
5005.0 Radio Nepal, Nepal (v)
5005.0 RTM Kuching, Sibul, Malaysia
5009.5 Radio Madagascar, Madagascar (v)
5009.7 Radio Cristal Internacional, Dominican Republic (v)
5010.0 CRTV Radio Garoua, Cameroon (v)
5010.0 Central People's Broadcasting Station, China
5010.0 All India Radio, Thirupuram, India
5010.0 RTM Madagascar, Madagascar
5011.3 Escuelas Radiofónicas Populares, Riobamba, Ecuador (v)
5014.8 Radio Pioneira de Teresina, Brazil (v)
5015.0 Emissora Provincial do Namibe, Angola
5015.0 Radio Brasil Tropical, Cuiaba, Brazil (v)
5015.0 Radio Pioneira, Teresina, Brazil (v)
5015.0 Turkmen Radio, Turkmenistan
5018.8 Radio Horizonte, Chahapoyas, Peru (v)
5019.6 Ecos del Atrato, Quibda, Colombia
5020.0 Jiangxi People's Broadcasting Station, China
5020.0 ORTN Niamey, Niamey, Niger (v)
5020.0 SIBC Honiara, Solomon Islands
5025.0 Northern Territory Shortwave Service, Katherine, Australia
5025.0 ORTB Parakou, Benin (v)
5025.0 Radio Rebelde, Cuba
5025.0 Radio Quillabamba, Peru (v)
5025.0 Radio Tashkent, Uzbekistan
5026.0 Radio Uganda, Kampala, Uganda
5027.0 Radio Pakistan, Pakistan (v)
5030.0 China National Radio, China
5030.0 Adventist World Radio/University Network, Costa Rica
5030.0 RTM Sarawak, Malaysia
5030.0 Radio Tonga, Tonga
5030.0 Provincial Station Dia Tieng Noi, Vietnam
5035.0 Radio Aparecida, Brazil (v)
5035.0 Radio Educacao Rural, Coari, Brazil (v)
5035.0 RTV Centrafricaine, Bangui, Central African Republic (v)
5035.0 Radio Tashkent, Uzbekistan
5039.2 Radio Libertad, Junin, Peru (v)
5039.9 RRI Pekanbaru, Indonesia (v)
5040.0 Fujian People's Broadcasting Station, China
5040.0 La Voz de Yopal, Colombia
5040.0 Radio La Voz del Upano, Macas, Ecuador
5040.0 Georgian Radio, Dusheti, Georgia
5040.0 All India Radio, Jeypore, India
5040.0 Radio Tashkent, Uzbekistan
5043.0 Emissora Provincial de Benguela, Angola
5045.0 Radio Cultura do Para, Belem, Brazil
5046.2 Radio Intergración, Peru (v)
5047.0 Radiodiffusion Togolaise, Lomé, Togo
5050.0 Guangxi Foreign Broadcasting Station, China
5050.0 The Voice of the Strait, China
5050.0 All India Radio, Aizawl, India
5050.0 Radio Tanzania, Dar-es-Salaam, Tanzania
5053.6 Radio Acobamba, Acobamba, Peru (v)
5054.9 Radio Faro del Caribe, Costa Rica (v)
5055.0 Radio Jornal A Critica, Manaus, Brazil (v)
5055.0 Radio Difusora, Caceres, Brazil
5055.0 RFO Cayenne, French Guyana (v)
5055.0 Radio Pakistan, Pakistan
5060.0 Xinjiang People's Broadcasting Station, Urumqi, China
5060.0 Radio Progreso, Loja, Ecuador (v)
5060.0 Radio Tashkent, Uzbekistan
5060.5 Radio Bolivar, Peru (v)
5066.0 La Voix du Peuple, Gongo D.R. (v)
5067.0 Ondas del Suroriente, Quillabamba, Peru (v)
5070.0 WWCR, Nashville, United States of America
5075.0 Voice of Pujiang, China
5076.8 CARACOL, Columbia
5084.6 Radio Mundo, Cusco, Peru (v)
5085.0 WGTG, McCaysville, United States of America
5090.0 Central People's Broadcasting Station, China

v = variable frequency

(Raimo Mäkelä's "Tropical Radio Stations" on the web, v40 - 04 August 2001, via JKB)



DX LOGBOOK

Logs around the clock

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LONG & MEDIUMWAVE BANDS

Frequ.	UTC	SINPO	ITU	Radio Station	Language	Programme Details	Date	Rep.
153.0	1900	45444	RUS	R. Rossii, Komsomolsk	Russian	1900-1500, no local programs	0108	HO*
189.0	2130	45444	RUS	Amurskoe R.	Russian	Local weather, ad, mx //6060	0208	HO+
549.0	0930	45444	RUS	Mayak, Svobodnyy	Russian		0308	HO+
585.0	0250	45444	RUS	R. Zeya, Begolsk	Russian	0258 closing announcement	0308	HO+
585.0	0900	45444	RUS	Vo Russia, Belogolsk	Chinese	News (0900-1000)	0308	HO+
603.0	0730	45444	RUS	Mayak, Belogolsk	Russian		0308	HO+
621.0	1900	55555	RUS	Khabarovskoe R.	Russian	Sign on, national anthem, ID	0108	HO*
711.0	2000	55555	RUS	R. Vostok Rossii, Khabarovsk	Russian	S/on, mx, ID, weather	0608	HO*
765.0	2100	55555	RUS	R. Khabarovsk	Russian	S/on, ID	0108	HO*
873.0	1500	55555	RUS	R. Rossii, Khabarovsk	Russian	Sign on at 1500	3007	HO*
999.0	0950	45444	RUS	R. Yunost', Birobidzhan	Russian	Christian px by TWR	0308	HO*
1008.0	1200	55555	RUS	R. Yunost', Khabarovsk	Russian	//1377 & 1575, s/off at 1400	3007	HO*
1134.0	2000	55555	RUS	Avtoradio, Khabarovsk	Russian	S/on with chime and ID	0608	HO*
1188.0	0400	55555	RUS	R. DVA/FEBC, Khabarovsk	Russian	S/on, long opening announcem.	0608	HO*
1188.0	0930	55555	RUS	R. DVA/FEBC, Khabarovsk	Russian	Mx&talk, 1000-1100s/off Korean	3007	HO*
1413.0	2059	55555	RUS	Russkoe Radio	Russian	S/on, western pops, canned IDs	0608	HO*

TROPICAL BANDS

Frequ.	UTC	SINPO	ITU	Radio Station	Language	Programme Details	Date	Rep.
2349.8	1225	35333	KRE	KCBS, Sariwon	Korean	Song by female singer	1808	HO
3205.0	1158	35333	PNG	R. Sandaun	Pidgin	Mx, 1200 ID, chorus mx	2107	KH
3264.7	1036	34343	INS	RRI Gorontalo	Indonesian	Talk and mx, ID at 1100	2008	KH
3329.6	1035	23322	PRU	Ondas del Huallaga, Huanuco	Huaynos	Full ID in Spanish	0907	ALS
3345.0	1300	SIO=343	INS	RRI Ternate	Indonesian	Man & woman with comment	1408	KAB
3925.0	1210	SIO=444	J	R. Tampa	Japanese	Man & woman with comment	1108	SHM
3945.0	1215	SIO=433	J	R. Tampa	Japanese	Man & woman with comment	1108	SHM
3976.0	1305	33333	INS	RRI Pontianak	Indonesian	Talk, ID at 1319	2108	KH
3976.0	1315	SIO=343	INS	RRI Pontianak	Indonesian	Comment	1708	KAB
3985.0	1220	SIO=333	KOR	Echo of Hope	Korean	Comments, amateur radio QRM	1108	SHM
4000.0	1223	SIO=333	CHN	Nei Menggu	Chinese	Comments by man & woman	1108	SHM
4060.2	1613	25332	CLA	Clandestine Vo People of Kurdistan	Kurdish	Talk, ID 1627, //6995 (45433)	2008	KH
4635.0	1525	35333	TJK	Tajik R.	Tajik	Local mx	1308	HO
4681.0	1130	24221	BOL	R. Paititi (p)	Spanish	Dialogue of man & woman, mx	3007	GI
4725.0	1357	SIO=242	BRM	R. Myanmar	English	Comment, ID, mail address	0508	KAB
4770.0	1955	35433	NIG	R. Nigeria Kaduna	English	1959 drums, 2000 ID, news	1508	KH
4775.0	1606	45343	IND	AIR Imphal	Hindi	Indian mx, ID at 1613	0808	KH
4777.1	1940	S=3	INS	RRI Jakarta	Indonesian	Male host taking phone calls	2208	PO
4790.0	1642	SIO=343	PAK	Azad Kashmir R.	Kashmiri	Indian style mx, ID 1648.	0808	SHM
4795.0	1200	33332	RUS	R. Rossii, Ulan Ude	Russian		1308	HO

4815.0	2018	34333	BFA	Rdiff. Nat. du Burkina Faso	French	Local pops mx, ID at 2030	1408	KH
4820.0	1530	44343	IND	AIR Kolkata	English	News & talk, ID at 1600	0808	KH
4826.4	1055	24232	PRU	R. Sicuani, Cusco	Spanish	Local ads read by man	0907	ALS
4835.0	2007	35333	MLI	Rdiff. TV Malienne	French	Talk, //4783 (35232)	1408	KH
4835.3	2020	34333	MLI	R. TV Malienne	French	ID & male talk, 2030 interview	2607	IN
4845.0	2006	S=4	MTN	RT Mauritanie	Arabic	News by man, very good audio	0908	ZL
4850.0	1100	34433	MNG	Khokh Tengel (Blue Sky) Radio	Mongolian	News, American hit pops	1308	HO
4850.0	2057	S=3	CHN	CNR 2	Chinese	IS & ID many times	0808	ZL
4855.6	0957	24432	PRU	R. La Hora, Cusco	Huaynos	Ads in Quechua, ID in Spanish	0907	ALS
4865.0	0951	24432	B	R. Missoes da Amazonia, Obidos	Tupa	Relig. talks in Tupa	0907	ALS
4874.6	1124	34333	INS	RRI Sorong	Indonesian	Pops and male talk	2108	IN
4876.7	0941	34433	BOL	R. La Cruz del Sur, La Paz	Aymara	Relig. anthems + commentary	0907	ALS
4880.0	1411	34433	IND	AIR Lucknow	Hindi	Talk & Ind. mx, ID at 1414	1408	KH
4886.8	1022	24332	PRU	R. Virgen del Cramen, Huancavelica	Spanish	ID + freq. ann., local ads	0907	ALS
4890.0	2100	S=3	PNG	NBC	Pidgin	News	0808	ZL
4904.7	1017	24432	PRU	R. La Oroya, La Oroya	Spanish	Local mx, time ann., ID	0907	ALS
4910.0	1734	45444	IND	AIR Jaipur	E & Hindi	Engl. & Hindi nx, 1740 ID + s/off	0808	KH
4919.0	1015	14331	EQA	R. Quito (T), Quito	Spanish	Comment. by man	0907	ALS
4919.0	1320	SIO=343	EQA	R. Quito	Spanish	Rapid comment	1408	KAB
4930.0	1400	35333	TKM	Turkmen R. (tent.)	Turkmen	Local mx & talk	1208	HO
4940.0	1045	35333	RUS	R. Mix Master, Yakutsk	Russian	Rock DJ	0807	HO
4940.0	1114	34333	RUS	R. Mix Master	Russian	Russ. pops & male talk, ID	1008	IN
4950.0	1046	34322	PRU	R. Madre de Dios, Puerto Maldonado	Spanish	Time check, local ads, time + ID	0907	ALS
4950.0	1539	35333	IND	AIR Srinagar	E & Kashm.	E nx and talk, 1545 ID	1208	KH
4965.0	1702	35332	ZMB	Christian Voice	English	Pop mx, ID at 1704	0608	KH
4965.0	1955	25332	ZMB	Christian Voice	English		2807	HN
4970.0	1610	35333	IND	AIR Shillong	English	Pop mx, E ID at 1616	0908	KH
4975.1	0933	34433	PRU	R. del Pacifico, Lima	Spanish	Relig. px by man	0907	ALS
4976.0	1955	35333	UGA	R. Uganda	E & Swahili	Talk, ID at 2003	2108	KH
4992.5	1105	34232	PRU	R. Ancash	Spanish	Talk & hayno mx, ID at 1119	0308	KH
4992.6	1013	24332	PRU	R. Ancash, Huaraz	Spanish	Relig. px by woman	0907	ALS
5003.0	1930	S=3	GNE	R. Nacional, Bata	Spanish		0808	ZL
5009.6	2017	24442	MDG	RTV Malagasy	Unknown	2020 ID	2807	HN
5015.0	1400	34333	TKM	Turkmen R. (tent.)	Turkmen	Local mx, NOT parallel 4930	1208	HO
5015.1	1001	24432	B	R. Cultura, Cuiaba	Portuguese	Full ID, mx, ann. by man	0907	ALS
5020.6	1855	33432	NGR	Rdiff. TV Niger	French	African drums, 1901 ID, mx+talk	2207	KH
5025.0	1001	24432	CUB	R. Rebelde, La Habana	Spanish	News, time ann., sports	1907	ALS
5039.2	1041	33322	PRU	R. Libertad, Junin	Spanish	Peruvian folk mx, ID, local ads	0907	ALS
5040.0	1253	43443	IND	AIR Jeypore	Hindi	Talk & India mx, ID at 1325	1308	KH
5050.0	1954	35333	TZA	R. Tanzania	Unknown		2807	HN
5055.0	1006	24432	B	R. Difusora, Caceres	Portuguese	Mx, ID by man, time ann.	0907	ALS

SHORTWAVE BANDS

Frequ.	UTC	SINPO	ITU	Radio Station	Language	Programme Details	Date	Rep.
5145.0	1232	SIO=333	CHN	China R. Int.	Unknown	Woman with long talk	1108	SHM
5290.0	1200	23332	RUS	R. Rossii, Krasnoyarsk	Russian		1308	HO
5500.0	1455	34332	???	Voice of Tigray Revolution	Tigre	Talks	0708	KH
5830.0	1225	SIO=433	CHN	CPBS	Chinese	Comments, off the air by 1230	1108	SHM
5860.0	1235	SIO=333	CHN	V. Jinling	Chinese	Comments and mx	1108	SHM
5880.0	1238	SIO=433	CHN	CPBS	Chinese	Long talk & comments	1108	SHM
5924.0	1240	SIO=333	VTN	Vo Vietnam	Vietnamese	Vietn. mx	1108	SHM
5925.0	1140	34443	VTN	Vo Vietnam-DS	Vietnamese	Bridge mx, then talk by man	3007	GI
5940.0	1200	33433	RUS	R. Rossii, Magadan (Arman)	Russian	//7320	0807	HO
5952.4	1114	24432	BOL	Radio Pio XII, Orura	Spanish	Folk Songs	1507	IN
5952.5	1110	34232	BOL	R. Pio Doce	Spanish	Talk & mx, ID at 1112	0108	KH
5965.0	0557	S=2-3	B	R. Nova Visao	Portuguese	Relay Radio Trans Mundial	0808	PO
5985.0	2004	34433	COG	RTV Congolaise	French		2707	HN
5985.0	2024	44434	COG	Rdiff. T. Congolaise	French	African pop mx, ID at 2027	2107	KH

5985.8	1203	33343	BRM	R. Myanmar	Burmese	Regional mx prg. woman hosted	3007	GI
5990.0	1459	33433	ETH	R. Ethiopia	Amharic	IS and ID, talk	1208	KH
5995.2	0530	S=2-3	PRU	R. Melodia, Lima	Spanish	Long talk, latin pops	0808	PO
6000.0	1252	SIO=433	SNG	R. Singapore Int.	Chinese	Comments + pop mx, ID 1259	1108	SHM
6020.0	1303	SIO=433	AUS	R. Australia via Shepparton	English	Newscast & Interviews	1108	SHM
6020.0	1305	SIO=333	PHL	Vatican R. relay	Chinese	Mass and choir mx	1108	SHM
6025.0	0100	33333	DOM	Radio Amanecer	Spanish	World News & Music	0207	MAH
6025.0	1009	24432	BOL	R. Illimani, La Paz	Aymara	News in Aymara, Andean mx	1907	ALS
6060.0	2130	45444	RUS	Amurskoe R.	Russian	Local weather, ad, mx //189	0208	HO+
6061.8	1000	32432	B	R. Tupi	Portuguese	ID at 1006, QRM R. Tanpa 6055	2907	HN
6070.0	1315	SIO=433	KRE	Voice of Korea, Pyongyang	Japanese	Log talk/comments	1108	SHM
6071.2	0958	44443	INS	Radio Rep. Indonesia, Jayapura	Indonesian	Music and News, ID	2107	KH
6071.2	0958	44443	INS	RRI Jayapura	Indonesian	Mx progr, ID at 1014, 1024+1030	2107	KH
6085.0	1930	34443	D	Bayerischer Rundfunk	German	ID at 2000	2707	HN
6085.0	2027	34333	D	Bayerischer Rundfunk	German	News px, ID at 2029 & 2100	2108	IN
6090.0	2002	25432	NIG	R. Nigeria Kaduna	Unknown	//4770	3007	HN
6100.0	1705	33322	BIH	Radio Yugoslavia	Albanian	News	3007	WB
6115.0	1322	SIO=322	CHN	PLA	Chinese	Comments & mx	1108	SHM
6130.0	1200	44444	LAO	Lao National Radio	Laotian	News by man. //4660.75	3007	GI
6134.8	1002	23432	BOL	R. Santa Cruz	Spanish		2207	HN
6135.0	0958	33333	B	Radio Aparecida, Aparecida	Portugese	Talks	1707	KH
6140.0	1059	33333	CUB	R. Rebelde	Spanish	Talk, ID at 1101, Good Signal	0208	KH
6155.0	1051	24332	BOL	Radio Fides	Spanish	Talk and ID	1707	IN
6160.0	1004	34333	CAN	CKJU	English	CBC News	1207	KH
6165.0	1220	34443	VTN	Vo Vietnam-DS4	H'mong	Man singing. //5035	3007	GI
6180.0	0901	34433	B	R. Nac. da Amazonia	Portuguese	Talk, ID at 0902 by man	0208	KH
6265.0	1555	34333	ZMB	Zambia Nac. Broadcasting Corp.	English	Afr. pop mx, 1558 IS	1408	KH
6520.4	1030	34433	PRU	R. Paucartambo, Paucartambo	Spanish	Many Ids, Ann. in Quechua	0907	ALS
6692.1	1228	34332	VTN	Radio Lao Cai	Vietnamese	IS, Music & ID	2207	GI
6797.6	1118	22442	PRU	Radio Ondas del Rio, Maya	Spanish	Talk, ID at 1118	2008	KH
6940.0	1520	35232	ETH	R. Fana //6210 (22332)	Amharic	Talk & Ethiopian pops	0608	KH
6955.0	1920	44333	BUL?	R. Eurosonor - One day special	German	Terribly distorted audio	1108	WB
6995.0	1547	45343	CLA	Clandestine Vo People of Kurdistan	Kurdish	Talk & Kurdish mx, ID at 1559	0608	KH
7105.0	1605	23332	BLR	Belarus R., Minsk	Belarus	News and local music	1308	HO
7110.0	1950	31321	QAT	QBS Doha	Arabic	Arab. mx, mess of 3 stn's	1308	WB
7150.0	0510	25222	UKR	Radio Ukraine International	Ukranian	Songs	1907	WB
7200.0	1355	45333	BIH	R. Yugoslavia Bijeljina	Serbo-Cr.	Phone in	1808	WB
7260.0	0913	35433	VUT	R. Vanuatu	Pidgin	Talk, ID at 0914 + 0917	0308	KH
7265.0	2046	24332	D	Südwestrundfunk	German	Mx px, nx at 2100	0608	IN
7320.0	1200	22332	RUS	R. Rossii, Magadan (Arman)	Russian	//5940	0807	HO
7330.0	0230	24443	RUS	Radio Santec relay	Spanish	IS and Comments	0207	MAH
7345.0	1200	35332	RUS	R. Rossii, Yakutsk	Russian	Talk, //7200 kHz etc.	0807	HO
7415.0	0355	SIO=433	USA	WCBQ The Planet	English	Old time mx, comments by man	1208	SHM
7475.0	0340	SIO=333	GRC	Vo Greece //9420(444) //12105(544)	Greek	Greek mx and comments	1208	SHM
7480.0	1710	21221	ISR	Radio Barabari	Persian	Program	3007	WB
7480.0	1800	45433	CLA	Clandestine R. Payem-e Doost	Farsi	Opening mx + ID by woman	1907	KH
7490.0	0550	25222	USA	KCJR	English	Telephonic Talks	1907	WB
8098.0	0929	24332	ARG	R. Diez	Spanish	Talk, ID at 0930 + 0932	0108	KH
8098.0	1148	23332	ARG	R. Continental	Spanish	Talk, ID at 1200	2807	KH
9355.0	2105	34433	MRA	Radio Free Asia, Saipan	Cantonese	Talks	3007	WB
9390.0	1830	34333	PAK	Radio Pakistan, Islamabad	Urdu	Programs	1207	WB
9410.0	2111	13322	CYP	BBC World Service relay	English	Phone Interview	2806	MA
9515.0	1021	33433	B	R. Novas de Paz //11725 (22432)	Portuguese		2907	HN
9525.0	1203	33333	POL	Radio Polskie	Russian	World News & Talks	2806	MAH
9530.0	0702	S=4	B	R. Nova Visao //5965	Portuguese	Relay R. Trans Mundial religious	0808	PO
9530.0	1200	44443	RUS	R. Rossii, Magadan (Arman)	Russian		0807	HO
9570.0	2130	S=5	IRN	VoIRI	English	Progr. preview + nx	1108	PO
9585.0	1505	43443	SWA	Trans World Radio, Manzini	Malagasy	IS, ID and Music	1807	KH

9650.0	1143	55555	CAN	Radio Korea	English	Comments	2806	MAH
9704.0	1556	23432	ETH	R. Ethiopia	Unknown		2607	HN
9704.2	1459	33433	ETH	Radio Ethiopia	Amharic	IS, ID and Talks	1707	KH
9737.6	0840	43443	PRG	R. Nac. del Paraguay	Spanish	Paraguay mx, ID at 0846	0108	KH
9780.4	1624	34433	YEM	Yemen Radio & TV	Arabic	Talks and ID	1707	KH
9780.4	1755	32432	YEM	Yemen R.& TV Corp.	Arab.&Engl.	1756 IS, 1800 mx &ID, nx & pop	1707	KH
9815.0	2341	44444	D	Deutsche Welle	English	Taped Comments	0107	MAH
9840.0	2106	44444	E	R. Ext. de Espana	English	Interview, ID 2113	1908	IN
9945.0	1835	22222	CHN	China Radio International	Italian	News	1107	DG
9955.0	2105	22222	TWN	Radio Taipei International	Spanish	News	1707	DG
9965.0	0230	34433	ARM	Radio Santec relay Spanish	Spanish	IS and Comments	0207	MAH
9980.0	1558	34332	BUL	Eurosonor Radio	English	IS, ID and News	1507	KH
9980.0	1640	34333	BUL?	R. Eurosonor	German	US American mx	1208	WB
9990.0	2058	35333	EGY	R. Cairo	French	French Talk, 2105 Arabic by rad	1008	IN
11570.0	1605	44444	PAK	Radio Pakistan, Islamabad	English	News	1807	DG
11615.0	2320	11111	CZE	Radio Praha	Spanish	Program on Cinema	1507	DG
11635.0	1650	42322	MDA	Radio Internationaal	English	Programs	3007	WB
11645.0	1830	44444	GRC	Voice of Greece	English	News	1707	DG
11650.0	1730	44444	CHN	China R. Int.	Russian	News & radio journal, ID	2207	HO
11675.0	2111	55555	ATG	BBC World Service relay	English	Phone Interview	2806	MAH
11675.0	2335	SIO=433	KWT	R. Kuwait	Arabic	Comments and Arab. mx	1108	SHM
11700.0	2343	SIO=433	BUL	R. Bulgaria	English	Comments & interv., local mx	1108	SHM
11710.0	1203	33433	ARG	RAE	Spanish	Talk by man, ID at 1209	0908	KH
11710.0	2346	SIO=333	IRN	VOIR	Arabic	Comments and Arab. mx	1108	SHM
11734.1	1459	43443	TZA	Vo Tanzania Zanzibar	Swahili	Talk by woman, ID at 1516	0608	KH
11745.0	1317	34444	TWN	Radio Taipei International	Russian	World News	0207	MAH
11785.0	0823	34322	B	R. Guaiba	Portuguese	Talk & mx, ID 0828 & 0835	0108	KH
11787.0	1610	43433	IRQ	R. Baghdad	Arabic	ID by female ann., nx at 1615	3107	WB
11840.0	0100	34333	RUS	R. Sakhalin (USB)	Russian	ID, progr. preview, weather	1308	HO
11840.0	0200	34433	RUS	R. Sakhalin (USB)	Russian	News, ID at 0200, 0202, 0205	2008	KH
11840.0	0200	34333	RUS	R. Sakhalin (USB)	Russian	Talk by woman, local pops	2608	HO
11850.0	1615	43333	GUM	AWR KSDA Guam	English	Sermon Abraham	3107	WB
11885.0	2355	SIO=433	TUR	Vo Turkey	English	Turk. mx, ID at 2400	1108	SHM
11895.0	0332	SIO=544	CAN	R. Sweden relay	English	News about Sweden + weather	1108	SHM
11895.0	1643	13322	J	Radio Japan NHK, Tokyo	Japanese	Music Program	2806	MAH
11920.0	0315	SIO=444	MRC	RTV Morocco	Arabic	Arabic mx, comments at 0320	1108	SHM
11925.0	0828	33333	B	R. Bandeirantes	Portuguese		2907	HN
11970.0	0535	32222	AFS	AWR, Meyerton	English	Program	1907	WB
11980.0	2304	54444	EQA	Radio HCJB	German	Religious Preachings	0107	MAH
12000.0	0435	SIO=433	RUS	Vo Russia	English	Interviewing man from China	0408	SHM
12005.0	0432	SIO=333	TUN	RTV Tunisienne	Arabic	Arabic mx	0408	SHM
12035.0	0426	SIO=444	G	BBC World Service	English	"World Today"	0408	SHM
12040.0	0302	54444	UKR	Radio Ukraine Intl.,	English	World News on Washington	0207	MAH
12045.0	1643	11111	CLN	Radio Japan via Sri Lanka relay	Japanese	Music Program	2806	MAH
12050.0	0420	SIO=333	EGY	R. Cairo	Arabic	Comments	0408	SHM
12055.0	1355	22322	RUS	Vatican Radio	Vietnamese	Religious Prayers	3107	WB
12070.0	0715	35333	RUS	R. St. Tikhiiy Okean, Khabarovsk	Russian	ID "Govorit Vladivostok"	0807	HO
				From mid-August freq. has been silent!				
12095.0	0355	SIO=333	ASC	BBC World Service relay	English	Comments & interviews	0408	SHM
13635.0	2236	55555	ISR	KOL Israel, Jerusalem	Hebrew	Phone Interview	0107	MAH
13635.0	2245	SIO=433	ISR	Kol Israel Home Service	Hebrew	Phone in, //11585 + 15760	0508	SHM
13670.0	1256	35444	KOR	Radio Korea Intl.,	Indonesian	Comments, ID and IS	0207	MAH
13680.0	2205	SIO=333	CUB	R. Habana Cuba	Spanish	Comments	0208	SHM
13700.0	2207	SIO=333	ATN	Radio Nederland relay	Dutch	Comments & interview	0208	SHM
13755.0	1700	45433	UAE	Voice of UAE, Dhabaiyya	Arabic	IS and News	3007	WB
13810.0	1800	34332	D	R. Ecclesia via DTK	Portuguese	ID & freq. ann. by man, talks	2507	KH
13810.0	1825	24432	D	R. Ecclesia via DTK	Portuguese	Talk by man, 1854 ID & freq.info	0308	HY
13820.0	1340	32222	D	Voice of Hope via Juleich	Vietnamese	Chorus	3107	WB
13820.0	1800	55555	D	Radio Africa International	English	News	0907	DG

15100.2	1340	23222	PAK	R. Pakistan	Urdu	ME sce., talks //11570 kHz	1808	WB
15140.0	1410	33333	OMA	R. Oman Thumrait	English	Interview on journalism	1808	WB
15150.1	1910	45444	INS	V.o. Indonesia, Jakarta	French	Indon. mx, French announcem.	3107	WB
15160.0	0030	24322	PAK	Radio Pakistan, Islamabad	Urdu	Chorus Music	1207	WB
15190.0	1400	54444	IRN	VoIRIB Kamalabad	Russian	ID,IS,nx //Sirjan 15290,11960,11930	1808	WB
15190.0	1905	35333	PHL	PBS Tinang //11720 kHz	English	New aircraft for Sri Lanka	3107	WB
15235.0	1400	45433	CLA	Clandestine R. Free Vietnam	Vietnamese	Mx, ID by woman, talk	0608	KH
15270.0	0810	S=3	ARM	R. Yerevan	English	Full Engl. schedule	1808	PO
15345.0	0530	35333	AFS	AWR, Meyerton	Hausa	Programs	1907	WB
15375.0	1400	34333	OMA	R. Sultanate of Oman	Arabic	Talk by man, 1403 Idby woman	2507	KH
15375.0	1400	34322	OMA	Radio Oman,Muscat	Arabic	Talks and ID	2207	WB
15385.0	1405	22222	UAE	AWR Dhabbaya	Urdu	Sermon	1808	WB
15390.0	2111	33333	USA	BBC World Service relay	English	Phone Interview	2806	MAH
15400.0	2111	34444	ASC	BBC World Service relay	English	Phone Interview	2806	MAH
15415.0	2036	35333	LBY	Voice of Africa, Tripoli	English	Talks	1807	KH
15415.0	2036	35333	LBY	Voice of Africa	Arab/E/Fr.	2045 Engl., nx in French 2057	1807	IN
15435.0	1400	25432	SNG	ABC/Radio Australia	Chinese	IS and News	3107	WB
15450.0	1506	33443	TUN	RTV Tunisienne	Arabic	Arabic mx, //17735 (43443)	1208	KH
15475.0	0150	35332	RUS	R. Rossii, Irkutsk	Russian	Mx, //11840USB	1308	HO
15475.0	1900	34443	G	Salama R.	Unknown	1902 ID & drum rhythm, folk mx	0308	HY
15475.0	1900	44433	G	Radio Salama Intl.	English	Music and ID	1107	KH
15476.0	1910	33433	ATA	R. Nac. Arcangel San Gabriel, Antarct.	Spanish	Full ID, Argent. songs	3007	ALS
15495.0	1335	23222	UAE	AWR Dhabbaya	English	To Central & SouthEastAsia	1808	WB
15520.0	1655	23222	UAE	AWR Dhabbaya	Somali etc.	QRM RDP Lisbon 15525 kHz	1208	WB
15575.0	2103	24443	KOR	Radio Korea Internationaal	English	World News	2806	MAH
15605.0	1400	34333	RUS	R. Gardarka	Russian	Engl. ID, 1406 mx px, test to NA	3007	IN
15715.0	1330	23322	D	Voice of Hope via Juleich relay	Arabic	Sermon	3107	WB
15715.0	1830	45333	D	Vo Democratic Path of Ethiopian Unity	Amharic	via DTK Juelich, 1830 IS + ID	1807	KH
15820.0	1356	35333	ARG	R. Diez (LSB)	Spanish	Talk, 1400 and 1402 ID	1408	KH
17505.0	1230	SIO=555	S	R. Sweden	English	//18690 (252) + 21530 (252)	1408	SHM
17520.0	1632	21211	MDA	GHI anti-Iran station	Farsi	Talks	1208	WB
17550.0	1405	21221	D	Voice of Hope via Juleich relay	English	Sermons	3107	WB
17595.0	1215	35333	EGY	Radio Cairo	English	IS, ID and Music	1107	KH
17595.0	1332	35433	EGY	R. Cairo	Bengali	Koran & talk	0508	KH
17670.0	1236	55555	FIN	Radio Finland, Helsinki	English	Business News	2806	MAH
17720.0	1535	32332	CHN	Radio Canada International	English	Program on Medicine	3107	WB
17730.0	1540	21221	UAE	WYFR, Dhabbaya	English	Religious Program	3107	WB
17730.0	1650	22222	UAE	Family Radio, Dhabbaya	English	Sermon, QRM: DW from ATG	1208	WB
17735.0	1420	33443	TUN	Rdiff. TV Tunisienne //15450 (34433)	Arabic	Arab. mx and talk, 1435 ID	0408	KH
17770.0	1457	34433	AFS	Channel Africa	English	IS,ID and News	1807	KH
17795.0	1350	44444	QAT	QBS Doha	Arabic	Discussion	1808	WB
17825.5	0638	25322	PAK	Radio Pakistan, Islamabad	Urdu	Songs	1307	WB
17885.0	1150	34433	KWT	R. Pinoy via R. Kuwait	Tagalog	Talk, 1158 ID, 1150 anthem+s/o	2607	KH
21465.0	0800	44444	PAK	Radio Pakistan, Islamabad	English	News	0907	DG
21630.0	1643	54444	ASC	Radio Japan, NHK, Tokyo	Japanese	Music	2806	MAH
21670.0	2147	34433	J	Radio Japan, NHK, Tokyo	English	Comments & Talks	2106	MAH
21715.0	0319	34433	TUR	Voice of Turkey, Ankara	English	Comments & Music	2806	MAH
21740.0	2310	SIO=544	AUT	R. Australia via Shepparton	English	"Australia Pacific" newscast	0508	SHM
21790.0	2341	34433	RUS	Deutsche Welle	English	Comments	0107	MAH

(bold frequencies = new station/frequency)

Thanks a lot for your contributions:

ALS : Arnaldo L. Slaen, Argentina, SONY ICF 2010, Realistic DX-160 & GE Superradio with 15 metres long wire

DG : Dario Gabrielli, Cadoneghe, Padova, Italy. SONY ICF SW 7600 with swivel Telescopic antenna
 GI : Gaku Iwata, Chiba, Japan. FRG 7700 / NRD 535D, AD30, 20 metres long wire
 HN : Hiroo Nakagawa, Japan - AR-7030, NRD-535, Antenna: RF Systems T2FD
 HO : Hironao Oguma, Tokyo, Japan. SONY ICF-2001D, AOR AR7030
 Please note: Logs marked "*" were heard in Khabarovsk and marked "+" in Blagoveshchensk, RUSSIA
 HY : Hiromitsu Yanagisawa, Saitama, Japan. Drake R8 with 10 metres long wire
 IN : Iwao Nagatani , Kobe, Japan. NRD 525, AD-370 with 20 metres long wire
 KAB : Ken A. Baird, Christchurch, New Zealand - R5000, 37m windom
 KH : Kouji Hashimoto, Yamanashi, Japan. NRD 525, FRG 7 & RD 9830 with 35 metres long wire
 MAH : Mark Alexander Humenyk, Weston, Ontario, Canada. Magnavox D-2935 with Grove TUN-3 MINITUNER.
 PO : Paul Ormandy, Oamaru, New Zealand
 SHM : Stewart H. MacKenzie, Huntinton Beach, California , USA . Kenwood R5000/Grundig Satellit 650 with 35 metres long wire.
 WB : Wolfgang Bueschel, Stuttgart, Germany AOR AR 7030, SONY ICF 2010, Kenwood R-1000, Drake SPR-4 with 12 metres long wire.
 ZL : Zacharias Liangas, Thessalonki, Greece with Lowe HF-150, SONY ICF 7600D, Yupiteru MVT 7100

Dear Friends,

Welcome to the August issue of Logbook which I am writing from Toronto, Canada. This month the Logbook is short and is partly composed by our Club President.

Till next issue it's 73's from your Editor,

Ashok Kumar Bose

Dear Friends,

Welcome to the August/September issue of our Logbook. As OM Ashok Kumar Bose has mentioned above already, he has moved to Toronto, Canada, in the beginning of August. Therefore I had to write part of this month's logbook. Please excuse any mistakes, but please understand that I don't have the same practice to write the logbook as our regular editor.

Until OM Ashok has found a permanent accomodation, please send your logs either to the WWDXC postal address in Bad Homburg/Germany or to the following E-Mail address: <logbook@wwdxc.de>.

Best wishes until October from,



Michael Bethge

QSL CORNER

Editor: Richard Lemke, 60 Butterfield Crescent, St. Albert, Alberta, T8N 2W7, CANADA

Country	Station	QSL	Time	ORG	Remarks	OM
Alaska	KNLS	C	89 d	9.615	v/s, Mike Osborne, Personal letter.	MH
Albania	TWR, relay.	C	16 d	9.960	Also on 12.090 Khz	MH
Australia	Christian Voice via Darwin	e-mail	50 d	21.680	v/s, Lorna Manning.	AKB
Australia	Radio Australia	C	191 d	21.740	V/s, John Wright - ARDXC	MH
Australia	Radio Australia	C	38 d	9.580	v/s, John Wright	MH
Austria	RCI Relay	C	13-14 d	11.835	v/s, Bill Westenhaver	MH
Bolivia	R. La Cruz del Sur	e-mail	23 d	4.875	v/s, Dtr. Reyes Baltazar Quispe - Director.	DC
Bulgaria	Radio Bulgaria	C	81 d	7.500		MH
Canada	CKZN, New Foundland	C		6.160	Sticker, after follow up rpt. V/s, Shawn Williams.	DC
Canada	Radio Japan	C	32 d	11.705	v/s, T. Ohiwa	MH
Canada	Radio Sweden Relay	C	12 d	9.560	v/s, C. Adler	MH
Canada	RCI	C	32-45 d	15.305	v/s, Bill Westenhaver	MH
Chile	La Voz Christiana	C	64 d	17.680		MH
China	CRI	C	69 d	11.880	w/ Post card.	MH
Cuba	Radio Habana Cuba	C	110 d	13.680	w/letter, tourist guide	MH
Cuba	Radio Havana Cuba	C	81 d	13.680		MH
Cyprus	CYBC	C	130-867 d	6.180	v/s, Director General	MH
Czech Republic	Radio Prague	C	22 d	21.745		MH
Czech. Rep.	Radio Prague	C	31-38 d	11.600		MH
Ecuador	HCJB spd xr.	C	205 d	9.745	V/s, Paul Ormandy South Pacific DX Report.	MH
Ecuador	HCJB	C	71 d	9.745	v/s, Hannah Larkin	MH
Gabon	Africa No. 1	C	69 d	15.475		MH
Germany	AWR Relay	C	61 d	9.745	v/s, Marine West, QSL's AWR	MH
Germany	High Adventure Min. Relay	C	78-86 d	15.715		MH
Germany	R. Africa Relay	L	14 d	15485	v/s Donna Niemann & Raphael Mbadinga.	MH
Germany	RCI Relay	C	13 d	17.820	v/s, Bill Westenhaver	MH
Germany	RTBF Relay	C	73 d	17.570		MH
Greece	RFE/RL Relay	L	22 d	7.155	V/s, David Walcutt	MH
Greece	VOG	C	36 d	15.630		MH
Iceland	Rikisutvarpid	C	22 d	11.402		MH
India	Kashmir AIR Srinagar	C	55 d	4.950	V/s, A.K. Bhatnagar.	DC
Japan	Radio Japan/NHK World	C				MH
Jordan	Radio Jordan	C	110 d	11.690	w/ flag and stickers, mint stamps.	AKB
Kazakstan	RFA Relay	L	90 d	7.550	v/s, The Staff of Radio Free Asia, w/ sticker.	MH
Mali	CRI Relay	C	52 d	11.975		MH
Morocco	VOA Relay	C	37 d	13.650	w/VOA Guide	MH
Morocco	VOA Relay	C	60-75 d	11.670		MH
N. Mariana Is.	RFA Relay	L	90 d	15.250	v/s, The Staff of Radio Free Asia	MH
Neth. Antilles	R. Netherlands Relay	C	38 d	17.605		MH
Neth. Antilles	R. Netherlands Relay	C	28 d	21.590	w/ Calendar, stickers.	MH
Neth. Antilles	RVI Relay	C	52 d	15.565		MH
Netherlands	Radio Netherlands	C	30 d	9.895		MH

Netherlands	RCI Relay	C	14 d	17.820	v/s, Brian Lowneley & Bill Westenhaver.	MH
North Korea	R.Pyongyang	C	104 d	11.710		MH
Norway	De.Voice Burma Relay	L	22 d	11.850	V/s Petter Berntsen	MH
Norway	Radio Denmark Relay	C	32-46 d	15.705	v/s, Erik Koie.	MH
Peru	R. La Voz de la Selva	C			Iquitos & Radio Sicuani, Cusco	DC
Peru	R.La Hora, Cusco	C		4.855	V/s, Carlos Gamarra Moscoso, Director.	DC
Peru	Radio LTC,Juliaca	C		6.010	V/s, Gamarra	DC
Philippines	VOA Relay	C	68-75 d	15.205	v/s, MZV	MH
Philippines	VOA Relay	C	30 d	17.820	v/s, MZV	MH
Pirate	WHYP	L	114 d	6.950		MH
Portugal	R. Diffusao Portugal	C	38-44 d	15.555	w/letter, schedule.	MH
Portugal	Radio Diff.Portugal	C	31 d	13.770		MH
Qator	Radio Qator	C	46 d	9.535	V/s, Jassem Mohd. Al-Qattan.	MH
Romania	Radio Romania Int.	C	76-92 d	9.690		MH
Romania	Radio Romania Int	C	88 d	15.290		MH
Romania	Radio Romania Int.	C	45-85 d	9.690		MH
Russia	R.Studio Doma R.	C	30 d	6.235	V/s, Dmitry Vasyliiev	DC
Rwanda	Deutsche Welle, Relay	C	152 d	15.135	v/s Horst Scholz transmission Management	MH
Rwanda	Deutsche Welle Relay	C	69 d	13.780	v/s, Horst Scholz	MH
Rwanda	DW, Relay	C	52 d	17.860	v/s Horst Scholz, transmission Management.	MH
Singapore	SRI	C	40 d	9.540	v/s, E. Neidhammer	MH
Spain	REE	C	97 d	17.715		MH
Spain	RFE/RL Relay	L	44 d	9.520	v/s David Walcutt	MH
Sweden	Radio Sweden	C	18 d	17.505	v/s, C. Alder	MH
Sweden	RCI Relay	C	16 d	17.630	v/s, Bill Westenhaver	MH
Sweden	RCI Relay	C	13-14 d	5.865	v/s, Bill Westenhaver	MH
Switzerland	SRI	C	40 d	21.770	v/s, E.Neidhammer	MH
Taiwan	Radio Australia Relay	C	52 d	11.550	v/s, John Wright	MH
Tajikistan	RFA Relay	L	90 d	9.355	v/s, The Staff of Radio Free Asia	MH
Thailand	VOA Relay	C	75 d	11.925	v/s, MZV	MH
Turkey	Voice of Turkey	C	56 d	6.020		MH
Turkey	Voice of Turkey	C	48 d	9.655		MH
Turkey	Voice of Turkey	C	49-73 d	11.845		MH
TZA-Zanzibar	The Voice of Tza-Zanzibar	C			SW transmitter chief Engineer Mr. Khalid Hassan	DC
USA	KJES	C	81 d	11.715		MH
USA	KVOH	C	92 d	17.775	w/schedule, folder.	MH
USA	RTI	C	39 d	15.600		MH
USA	VOG Relay	C	36 d	17.705		MH
USA	Voice of America	C	74-75 d	15.350	v/s, MZV	MH
USA	Voice of America	C	30 d	17.640		MH
USA	WHRI	C	134-408d	6.040	V/s, James L.HolyCross.	MH
USA	WILM-Wilmington-Del.	C	15 d	1450	v/s, Allan R. Loudell Programme	MH
USA	WRMI	C	96 d	15.725	v/s, Jeff White	MH
USA	WWCR	C	67-68 d	12.160		MH
USA	WWCR	C	26 d	15.685		MH
USA	WYFR	C	21 d	21.455		MH
USA	WYFR	C	36 d	6.085		MH
USA	WYFR	C	28 d	9.355		MH
Vatican City	Vatican Radio	C	46 d	11.830		MH

Thanks to our Reporters:

Mark Humenyk, Weston, Ontario. RX Magnavox D-2935

Ashok Kumar Bose, Kolkata, India

Daniele Canonica, Switzerland. RX JRC NRD-535 HF with 30 m LW antenna

☆☆

ADVENTIST WORLD RADIO - 30th Anniversary DX Contest - September 2001

Throughout the year 2001, Adventist World Radio is presenting many programs to mark the auspicious 30th anniversary of its first broadcast which went on the air from Radio Trans Europe in Sines, Portugal on October 1, 1971. The annual DX contest for this year, 2001, honors the 30th anniversary of Adventist World Radio.

As with previous DX contests, the special "Thirtieth Anniversary DX Contest" will run throughout the month of September 2001 and the main ingredient is a search for "The World's most Beautiful QSL Cards". Listeners are also invited to list their "Five Most Wanted Shortwave QSLs".

The world winner for the "AWR 30th Anniversary DX Contest" will receive the 2001 Bronze Medallion and an autographed copy of Jerry Berg's highly acclaimed book, "On the Shortwaves". Additional continental winners will receive a copy of their choice, either "Passport to World Band Radio 2001" or "World Radio TV Handbook 2001". Several hundred additional awards are also available.

All entries must be postmarked in September 2001, though in some cases early entries will be accepted. Late entries will not be awarded any prizes though the reception reports will be QSLed with new QSL cards and the 2001 endorsement.

AWR 30th Anniversary DX Contest - "Most Beautiful QSL Cards"
Contest Requirements in Full Detail

PART A: FIVE MOST BEAUTIFUL QSL CARDS

1. Select the 5 most beautiful QSL cards in your collection.
2. All QSL cards in any mode (SW, LW, MW, FM, TV, amateur, CB, utility, etc) are valid for entry.
3. The QSL cards may be addressed to you or passed on to you.
4. Each card must be printed as a QSL card.
5. Not valid are tourist postcards, with a rubber stamp or a sticker with the QSL text.
6. List these 5 cards in order of preference with the best at the top of the list.
7. You may submit original cards, or color copies, or black & white copies, or a brief description of each card.

PART B: FIVE MOST WANTED SHORTWAVE QSLs

1. If you had the opportunity to hear any active shortwave station in any country, what would be the 5 most wanted stations and/or countries in your list? You should list these in order of preference with the most wanted at the top of the list.
2. If so desired, you may list stations and/or countries in the past as well as the present.
3. You may list countries which at present may not be active on shortwave.
4. You may list shortwave stations that are known not to issue a QSL.

Throughout these two years I have stayed in contact with some of you via **electronic mail** on the Internet. That already brings me to one of the important aspects of my lecture which is titled: The influence of the Internet on DX Clubs.

I am Chairman of the Danish Shortwave Club International which is 43 years old, so I hope you will permit me to use our experiences with the Internet when talking on this subject.

We have about 350 members who live in 42 countries in all continents of the world. During all these years we have published a monthly Club magazine in English, called Shortwave News (SWN). Thus we are without doubt the DX-Club with printed magazine with the most worldwide coverage.

With the introduction of the Internet, we began around 1993 to correspond via electronic mail with each other within the Board and Editorial Staff, and also with our members around the world. Since this is both cheaper and much faster than ordinary mail via the Post Office, this way of communication has expanded greatly especially during the past couple of years and we rarely any longer use telephone or telefax or send letters to each other.

Our Chief Editor receives nearly all the pages from his subeditors as attachments to e-mail, and since they are in digital form, it is much easier for him to put them into the magazine in the right layout.

In the beginning of 1996 the DSWCI began to use the Internet to publish weekly electronic DX-newsletters to our members. We called it the "DX Window" and it contained the best DX-loggings and news on shortwave broadcasting which the members sent us via e-mail.

It was free of charge and was distributed to all subscribers as electronic mail. It soon became a big success, because our members received the hot DX-information while the stations still could be heard and several non-members soon joined as subscribers and sent us their loggings and news.

The bulletin expanded quickly, so we had to appoint a Chief Editor and some subeditors who as specialists could take care of their specific regions of the world (Latin America, Africa Indonesia, etcetera). It took many hours to edit and distribute each DX Window, so we had to share the burden by shifting the responsibilities between two or three DX-ers from week to week. Since the Internet is global, it was not a problem for us to have editors in Denmark, Germany, the Netherlands, Austria, United Kingdom, Taiwan and Honduras ! That worked just perfect! For more than a year our Chief editor was doing his job from Taiwan receiving inputs from his co-editors in Europe and Honduras!

Today there are several similar weekly or monthly electronic DX newsletters available free of charge on the Internet. Some of them even issue extraordinary bulletins, if something special happens. Let me mention some of them which are all edited, before they are sent out as e-mail to those DX-ers who have asked for them:

Cumbre DX, USA (which is also broadcast on certain shortwave stations)
 DX Listening Digest edited by Glenn Hauser, USA (also broadcast on SW)
 Numero Uno by Gerry Dexter, USA
 Conexión Digital by Nicolas Eramo, ARG with news from some of the best DX'ers in LAm.
 Boletín Banda Tropical by Jorge García, Venezuela
 Chasqui DX by Pedro Arrunategui, Peru
 Noticias DX by two DX Clubs in Spain with Pedro Sedano as coordinator
 Broadcast DX by Wolfgang Bueschel, Germany
 Jembatan by Juichi Yamada, Japan concentrating on Indonesian stations
 Relampago DX by Takayuki Inoue Nozaki, Japan concentrating on stations in the Andes.

An even more advanced kind of distributing hot DX-information as e-mail via the Internet is the daily electronic DX-newsletters. I am aware of two existing nowadays:

Hard-core-DX issued by the Finnish DX-er Risto Kotalampi from his home in California. It has more than 500 subscribers around the world and is the biggest of its kind.

Electronic DX Press issued by Bob Padula in Australia which is just two months old in this format.

In both cases, when a DX-er sends an e-mail with hot DX news to a given address, it is immediately forwarded automatically to all subscribers without editing by the owner of the network. Thus every subscriber anywhere in the world gets the DX-news within minutes after it was sent from the sending DX-er.

The second aspect of getting DX-information from the Internet is by searching or browsing the millions of **home pages on the World Wide Web**. In this case, the information is not sent to the individual DX-er as e-mail, but he has to find it himself e.g. by using the browser programmes from Netscape or Internet Explorer. The information is still free of charge, but he has to stay longer on the Internet to get it, thus the telephone bill will be higher than when receiving e-mail.

Most of the bigger international and domestic broadcasting stations have their own home pages, and you are often able to find their current frequency schedules and programme schedules there.

Many DX Clubs also have their own home pages which contain a lot of information relevant for DX-ers.

The third aspect of the Internet, I will mention, is **Real Audio**. By using advanced technology, the broadcasting stations nowadays are able to transmit their radio programmes via the Internet. If the owner of a Personal Computer has the software required, he or she will be able to hear the radioprogramme in good quality directly in the loudspeakers of the computer, even if it comes from the opposite side of the Earth.

Many hundred, maybe more than a thousand broadcasting stations in all continents can be heard via Real Audio today. Some Shortwave Listeners prefer this instead of hearing the stations on shortwave with all its disturbances. But remember again that the telephone bill will be high as you pay for every second being on the Internet.

Several international broadcasters have even reduced their shortwave broadcasts for instance towards Western Europe, because they can be heard better nowadays via Real Audio or Satellite which often are distributed through our cable networks with perfect quality.

This spring, when I edited the second edition of the Domestic Broadcasting Survey, I made some observations which I wish to share with you concerning the still downgoing trend in the number of active frequencies of Domestic Broadcasting Stations in the Shortwave Bands between 2200 and 5800 kHz.

During the period 1973-1997 452 stations out of 1136 being on the air in 1973 disappeared from these SW bands or an average of 19 closing down per year. But in 1997-2000 the decrease has drastically increased to 212 stations or 71 per year !

There are still some 472 Domestic Broadcasting Stations to hunt for on the Tropical Bands and at the same time interfering broadcast and utility stations are disappearing. So do not give up your DX-

ing on the Tropical Bands!

But pessimistic views indicate that most Domestic Broadcasting Stations on the Tropical Bands may have closed down by year 2007!

The biggest decrease in the number of stations using the Tropical SW Bands during the last three years was noted throughout Asia and in Southern Africa .

The main reason for this is that FM-networks are still growing in most parts of the world and replacing the need for shortwave transmitters. Today, the majority of Domestic shortwave transmitters can be found in developing countries with vast areas where it still is too expensive to establish a network of FM-stations that can cover the whole country.

I have just given you a quick introduction to what the Internet today offers to the DX-er who have access to that from a Personal Computer at home or at work, or at a library or a Cibernet office.

It is evident that the Internet as a new media is able to provide DX-ers with useful information much faster than the printed DX-bulletins.

But the Internet also offers so many other challenges to the user like surfing on the home pages or playing games, that he or she easily may find this more interesting than the traditional hobby of DX-ing.

Let me now speak about the core of the subject of my lesson: **The influence of the Internet on DX Clubs.**

At the annual Conference of the European DX Council which took place in Copenhagen, Denmark last November, the European DX-Club Representatives discussed this issue, but did not reach any conclusions. The question was raised: "Is there still a need for all the national and local DX Clubs in Europe, and for the European DX Council itself?" Somebody suggested that the clubs merge across the borders to be able still to publish printed DX-bulletins.

I will use our experiences in the Danish Shortwave Club International as an example, but the situation is similar in many other DX-Clubs in the world.

First the failing interest for shortwave listening, especially amongst young people who are more attracted by the Internet and other challenges.

During the last several years, the DSWCI did loose about 25 members per year, but two years ago we lost 35 and last year it was 49. This is a serious development, so in April this year we issued a questionnaire to our members in order to analyze the situation. 75 members in 20 countries have answered the questionnaire, and I will now give you the results of that:

Those who answered had a span of age from 27 to 87 years. The average age was 52 while it was 49 at our survey two years ago. 95% of our members are above 30 years of age and 81% above 40. This again confirms that it is very difficult to attract younger people to our hobby.

Today 76% of our members have access to the Internet. Two years ago it was only 38%. It is fantastic to note that this number has doubled in just two years !

However, this new media gives us much competition. First of all, it can offer so much information

from all parts of the world and much entertainment, that the DX-hobby with all its disturbances becomes much less attractive.

Secondly, the time a DX-er spends in front of his Computer cannot be spend in front of his DX-receiver. Thus in most cases, less time is devoted to DX-ing.

Thirdly, DX Clubs are competing on the Internet to bring the hot DX News, and several do that free of charge. For some DX-ers this is sufficient for their DX-ing, and they drop Club membership. Particularly our treasurer has noted the effect and we had a big deficit in our Club economy 1999!

Our monthly magazine, Shortwave News, normally had 32 pages, but this year we have had to reduce every second edition to 16 pages in order to save printing and postage costs.

You might ask: "Why do not cease issuing printed bulletins and just send out an electronic version? That would save a lot of money to printing and postage!"

Unfortunately, it is not that simple. 24 % of our members have no access to the Internet and that equals to 82 paying members. We cannot just neglect them by ceasing printing SWN and only publish it via the Internet. Furthermore 11% have only limited access to the Internet.

In the questionnaire we asked them to mention their preferences on how the Club shall provide them DX-information in the future. 37 % of our members prefer a considerable increase in membership fee in order to get a SWN of about 32 pages 12 times a year, but most will accept a mix of hot news via the Internet and some kind of a reduction in the publication of SWN. However, in their letters many warned us that publication of SWN only every third month would be too rare. It is remarkable that even amongst those with full access to the Internet two thirds still want to receive the printed SWN. On the other hand, 19% wish to receive SWN only via the Internet for a lower membership fee and not in printed form.

About half of our members wish to receive a weekly newsbulletin via the Internet (like the DX-Window) in order to get the DX-news before they get too old.

About half of our members also wish to be kept informed about new adresses of radio related homepages. This would be most relevant to publish on our home pages.

As a consequence of these results of our survey, the DSWCI Annual General Meeting in May decided to put all pages of "Shortwave News" on our home pages on the World Wide Web. Our members will then get a personal username and password, and then be able to read our members' bulletin via the Internet.

A special, reduced membership fee is now introduced for those members who just want to get SWN electronically via our Homepage and not in printed version.

Conclusions:

- 1) Electronic mail is replacing letters sent via the ordinary postal services.
- 2) Electronic mail is the fastest way to distribute DX-information. In extreme cases, you can get the e-mail while the new station is still broadcasting.
- 3) Digital editing of DX-bulletins is much easier than using the typewriter.
- 4) Most radiostations and DX-Clubs have their own home pages on the Internet.
- 5) Many radiostations broadcast in Real Audio via the Internet which makes Shortwave broadcasting old fashioned.

- 6) Generally, the DX-information on the Internet is free of charge.
- 7) Most European DX-ers have access to the Internet.
- 8) A majority of these DX-ers spend more time in front of their Personal Computer and less time in front of their DX-receiver.
- 9) Several DX-ers find the free DX-information available on the Internet sufficient for their personal DX-ing and they quit paying membership in a DX-Club.

(Lecture given on August 6, 2000 in Oaxaca, Mexico, at the 6th National Mexican DX Meeting)



It's Radio, But Not as We Know It

by **Quentin Howard**

IBOC, DRM, Satellite, Eureka - The Chief Executive of Digital One Calls for a Combination of Technologies to Satisfy Market Needs. The author is CEO of Digital One, the national commercial digital radio multiplex in the United Kingdom.

Who would dare predict the future in print? Nostradamus for one. And me. I predict that analog FM and AM radio will appear a pretty thin offering in 10 years' time when compared to other media and delivery platforms emerging now and yet to come.

Radio has served us well since 1922. It has survived the onslaught of talking movies, television, LPs, cassettes, CDs, MiniDiscs, cable, satellite, DVD and MP3. People like radio, and listen for more than 20 hours a week. Radio as a device is the most ubiquitous of consumer products - every household has around six sets. Eighty million new radios sell each year in the United States, and a similar number across Europe.

It is a century since Marconi received Morse code across the Atlantic, and 80 years since public broadcasting began. Radio is undoubtedly the mass communications medium of the 20th century - influential, cultural, politically powerful, entertaining and informative. In fact, radio is so popular you'd think it would figure centrally in every debate about media. It doesn't.

Ignoring radio

In December 1997, the EU Green Paper on Convergence almost completely ignored radio, concentrating instead on television and the internet. In the UK, the current White Paper on communications regulation and media ownership devotes only one percent of its pages to the subject of radio.

In France last yea, a similar thing happened, and elsewhere radio is consistently undervalued, both as a medium in its own right and as a consumer item.

Little wonder, then, that whilst politicians are busy helping industry to shape the future of television, satellite, mobile phones and the Internet, radio broadcasters - who face exactly the same issues in going digital - are left to struggle alone. The results are unclear business models, slow uptake and a consequent wavering of commitment.

Dateline spring 1991, the National Association of Broadcasters convention, Atlanta. Eureka 147 is unveiled to the world and everyone applauds. NAB President Eddie Fritts declares that Europe is five years ahead of America and NAB recommends the United States accepts the Eureka system.

Three months later and NAB rescinds this, claiming equal transmission areas for all stations on a multiplex would damage individual marketing abilities. Cynics have a different interpretation: U.S. broadcasters don't like the thought of more radio channels or competition, and U.S. consumer equipment manufacturers would stand to gain nothing from European-owned royalties and IP.

Different approaches

Largely as a result of misinformation, the gulf between the U.S. view of digital radio and the Eureka view has grown over time.

Europe and the United States take very different approaches to radio as an industry. Europe is a mix of state-run public broadcasters and private commercial radio in various degrees of maturity. Competition is still on the increase and the concept of more radio channels is seen as an opportunity, not a threat.

Contrast this to the United States, where station owners rejected Eureka's opportunity largely to protect the status quo.

In 1994, the world shared out new spectrum for terrestrial digital radio, which could mean worldwide conformity and compatibility. Most countries signed up to this new spectrum, including all of Europe, Asia and Canada. But U.S. broadcasters favor re-using existing FM spectrum for a system - unproven at the time - called IBOC.

Throughout the 1990s, NAB conferences on the respective merits of digital came close to degenerating into playground name-calling: "My system's better than your system." The only practical outcome of these squabbles was to unnerve Japanese receiver manufacturers, who prefer a single world market and a common standard.

Consequently, although more than 20 manufacturers have made and sold digital radios to the Eureka format, the critical mass necessary for volume manufacturing, which in turn leads to rapid falls in silicon cost, has not yet happened.

Fast-forward to the year 2000: Eureka 147 DAB is rolled out in over 30 countries with more than 400 digital radio services on-air and 300 million people within range of multiplex transmission. Of those countries committed to a digital radio system, only the USA and Japan have not adopted Eureka.

After eight years searching for a viable US alternative, the main contenders developing IBOC - USA Digital Radio and Lucent Digital Radio - merge their efforts to form iBiquity Digital, a company owned by broadcasters as a vehicle to exploit the IBOC technology IP.

IBOC's marginal benefits

There is no doubt that IBOC has clear advantages for a U.S. broadcaster who, by adding a digital exciter to an existing FM transmitter, can simulcast a digital version of his service. Providing the interference caused to and by other FM services works out, IBOC is likely to prove the cheapest way to go digital.

Where the argument gets muddled is in the assumption that what works in the United States will work everywhere else. FM frequencies and transmitter powers are planned to very different criteria on either side of the Atlantic and this, amongst other things, may prevent IBOC getting a look in.

People are amazed that whilst a New York City FM station may boast 50,000 or 100,000 watts, the equivalent FM in London is limited to 4,000 watts. And whereas the USA has 9,000 FM transmitters, across Europe, more densely packed and smaller geographically, there are 23,000 FM transmitters.

IBOC as currently engineered would probably make the existing European FM spectrum plan unworkable.

Whilst Eureka has been building its networks and, as some would have it, waiting for manufacturers to honor their supply promises, and whilst the United States is still waiting for IBOC to happen Big Time, new rival digital radio platforms, which may yet prove how fragile the radio ecosystem really is, have already arrived.

Perhaps IBOC and Eureka 147 should take stock for a moment and realise that they both have more in common than either would like to admit.

For a start, both need to persuade manufacturers to invest significantly in research and development, and to manufacture new radio receivers.

To achieve mass market penetration there is only one issue: the retail price of a digital radio. Consumers have a perception that radio is already almost a zero cost addition, or that a stand-alone radio is low-ticket, sub \$50 item. So why would anyone purchase an expensive digital radio?

The IBOC content proposition means digital radio offers exactly the same as analog and the only marketable difference is the quality upgrade of AM stations, plus data. It is doubtful that consumers will value this at more than a few dollars, insufficient to meet the delta cost of adding IBOC technology to any audio device.

The challenge for the United States is to make IBOC radios for essentially the same price as existing FM/AM devices.

The role of DRM

This same challenge faces Digital Radio Mondiale too, the digital shortwave and AM replacement system.

Whilst DRM's audio quality doesn't bear too close scrutiny, and finding simulcast spectrum for a dual-mode AM transition strategy will be a task in itself, there is possibly a role for DRM in long-distance and domestic rural broadcasting, provided the receiver cost is not prohibitive. But DRM is unlikely to be successful as the sole digital replacement technology.

Unlike IBOC and DRM, which essentially offer listeners "the same only different," the Eureka proposition offers perhaps twice as many radio channels as current analog availability, plus multimedia data applications and flexible digital audio quality. This is ultimately more compelling and therefore may be able to command a premium on the final consumer price, but still there is a big gap between current DAB component costs and the relatively small retail premium attainable.

The subsidy debate

With both IBOC and Eureka, the question of subsidy of receivers to kick-start the market arises.

Any broadcaster contemplating subsidy, other than for a marketing stunt, would be mad. Subsidy is like a drug - once started, it's hard to come off, and it serves little purpose other than to allow the retailer/manufacturer to maintain margins which the broadcaster pays for through the nose.

The plain fact is that subsidy is only applicable where there is a subscription income stream from the end user to pay for it. One of radio's great virtues is that it is, for the main part, free to air.

Yet without intervention, the receiver market will be very slow for both Eureka and IBOC. Meanwhile, alternative platforms are emerging, some overhyped and ultimately inconsequential, others which should be taken more seriously.

For \$10 a month, U.S. consumers can subscribe to either XM Satellite Radio or Sirius Satellite Radio, which promise to deliver 100 channels apiece. The subscription income immediately allows in-car receivers to be subsidized and, with additional substantial investment from car manufacturers, it is likely that satellite radio receivers will emerge more quickly than other digital radio devices in the United States.

Whether people will quickly get bored with DJ-free music services is debatable, and my money is on a gradual return to real radio with announcers and DJs doing what's been working well since the 1920s.

Limited capacity

WorldSpace receivers are appearing in discount electronic retailers in London and in abundance in duty free shops. Simultaneously, we wonder if the WorldSpace satellite is having trouble with its on-board guidance controls? Suddenly it appears that its beams are receivable in Europe - not bad for a service aimed at continental Africa!

Proponents of satellite radio in Europe seem to have glossed over the obvious shortcoming that whatever capacity exists has to be shared between 20 nations, each with its own language and culture. Unlike U.S. satellite radio, the offering relevant to one country will be severely limited.

Critics of satellite radio point to the need for terrestrial repeaters to provide adequate city coverage and any hope of in-building penetration, and this requires yet more spectrum. Some would go as far as to label it a back door means of achieving conventional terrestrial radio with the bonus of a satellite repeater.

Internet or UMTS?

The Internet is losing its gloss all round, including as a viable alternative means of delivering radio. Broadcasters who rushed to set up audio streams and stake a claim to cyberspace now realize that it is limited and expensive.

Broadband connection is essential, and even then the share of radio listening by Internet is minimal compared to traditional radio reception. The commercial value of a Los Angeles listener to a radio station in Paris, France, is nil. I.T. managers hate it when corporate networks clog up with multiple radio feeds, and ADSL backbones congest when too many users access high bandwidth content.

One of the world's largest broadcasters reckons its maximum capacity of 30,000 simultaneous Internet streams costs up to \$30,000 per hour (including server, throughput and licensing). Compare that to the \$100 per hour of a national digital transmitter network reaching unlimited millions, and it

isn't hard to see that the efficiency of the broadcast model is way ahead of Internet streaming.

The same limitations apply to mobile phones which, for all the promise and hype of UMTS, cannot provide even a fraction of a percent of the capacity terrestrial radio broadcasters need. Moreover, listening to radio on a mobile phone connection is never going to be free to air.

In any analysis, terrestrial radio remains the most powerful and compelling consumer proposition. Digital radio adds considerable value to the proposition, yet keeps all the attributes of existing radio.

IBOC will be made to work and may be successful if the consumer appreciates the marginal benefits. Satellite is dependent on geography and subscription. DRM may find favor in limited markets, starting perhaps with international broadcasters. The internet and mobile phones are extension platforms, not replacements.

Meanwhile, Eureka has already gained considerable momentum and commitment which will ensure its continuance.

Combine technologies

So is there a clear way forward without confusion? One realistic option is to encourage a combination of technologies to satisfy market needs.

In countries like Australia, DRM would be ideal for the outback and Eureka for its metropolitan cities. Such a strategy could work with other system hybrids too, and with a big change in attitudes to system rivalry, a successful roadmap can be built which sees receiver manufacturers making worldwide devices with standardized optional modules inside for IBOC, Eureka, DRM.

This could ensure the success of all the digital radio systems rather than the damaging and expensive likelihood of market failure for one or more of them. Ultimately the consumer isn't driven by the best technology, he just wants a radio that works and we should be capable of delivering that to him.

(From Radio World Online at <<http://www.rwonline.com/reference-room/trans-2-digital/rwf-digital.shtml>>, April 4th 2001, via Horacio A. Nigro, Uruguay <hanigro@movinet.com.uy>)

☆☆

Worldspace Satellite and the Receivers Available by Mike Barraclough



Worldspace was founded in 1990 by Ethiopian born Noah Samara. He explains the companies vision: "The Worldspace goal is to create a new form of electronic media. But our vision is an ancient one: to spread knowledge for the good of mankind. Worldspace began with the vision of using direct audio broadcasts via satellite to stop the spread of AIDS in Africa but that horizon quickly expanded. Clearly the Worldspace system could be a powerful tool for spreading knowledge for the sake of making

people healthier, better educated and more aware of the precious environment in which they live. In addition to making countless millions more productive on farms, and in factories and offices, Worldspace can bring to these people the gift of the best music and literature of their native cultures along with those from the great cultures of faraway lands. Worldspace is working tirelessly to illuminate Africa, the Middle East, Asia, Latin America and the Caribbean with digital satellite audio. The system may bring the light of knowledge to four billion people and may diminish the darkness of

ignorance, disease and despair."

Worldspace satellites are geostationary orbiting above the earth in fixed positions more than 35000 kilometres above the equator. Using powerful spot beams, each of which can support more than 50 services per beam, the satellites transmit to three overlapping coverage areas approximately 14 million square kilometres each. The Afristar satellite was launched in October 1998, Asiastar in March 2000 and Ameristar is scheduled for launch in 2001. If this launch is successful the company will have a spare fourth satellite available for future launch. The service delivers digital audio and multi media programming directly to listeners using specially manufactured personal portable receivers giving crystal clear digital reception. The satellites are using the L band, 1452-1492 MHz, allocated to digital broadcasting at the World Administrative Radio Conference. Service providers can choose to broadcast at data rates of from 16 kilobits/second(monophonic AM broadcast) to 128 kilobits/second (comparable to CD stereo).

The satellite that will interest European listeners is Afristar. When the satellite was launched it was expected that it would just cover parts of Southern England. In fact the satellite broadcasts can be received as far North as Reyjavik. And as with all digital technology if you can receive the signal it is perfect. They are now promoting the system and its receivers in Europe though their licence, and thus programming, is for Africa.

So what can you receive through a Worldspace receiver. The Afristar beam we can receive in Europe is currently carrying the following channels, all stereo unless indicated: BBC World Service: this is the African programme stream including occasional French features. Mono. Bloomberg: This network focuses on finance, business and economics but also has news and lifestyle programmes. They have an English, French, Italian and Spanish channel. Mono. Canal Educative Francophone: Education channel in French. Mono. Capital Radio: Based in Ankara transmits in Turkish and English, current hit music with news and sports. CNN International: This is the audio feed of the CNN News Channel. I have been following the unfolding US election dramas on this channel, not been able to see the picture generally makes very little difference I find. Egyptian Radio Channels One, Two and Three: Channel Two is interesting as it includes the 2115 English Service to Europe. No more listening to bad audio on 9990. Mono but infinitely better than their shortwave output! Golfe FM: A top rated station from Cotonou, Benin. Excellent local music, news and talk, mostly French and local languages but have noted some English at times. Kaya FM: English news, information and urban music station from Johannesburg. Kenya Broadcasting Company: News and information in Swahili and English LA7: This Senegalese station is owned by by worldwide star Youssou N'Dour and broadcasts the best in African music along with some regional information and magazines in French. Medi1: Top independent station in Morocco, in Arabic and French. Metro East FM: Station is in Nairobi, Kenya and is aimed at the Indian/Asian population, English and Indian languages with much Indian popular music. Radio Asia: Based in Paris and aimed at the Tamil speaking community. Radio Exterior de Espana: News, information and entertainment in Spanish Radio France International: Includes the English segment at 1200. Mono. Radio One: Pop music station based in Beirut, English. Radio Voyager: Adult contemporary pop in English, this station evolved from the VOA MusicMix service. US based. RBC: Asian station located in New York, Bollywood music and English announcers. SudFM: FM station in Senegal, only channel that has poor quality audio. Sunrise Radio: Relay of the London station aimed at the Asian community WALF FM: Senegalese broadcaster in French and Wolof World Radio Network: WRN1 and WRN2 channels. WRN1 is a hybrid with some programming from Euromax and some from their African channel, all in English. Broadcasters on the channel at various times of the day are Radio Australia, Radio Slovakia, UN Radio, China Radio International, Radio Sweden, RTE Ireland, Radio Polonia, Radio Budapest, Radio New Zealand, Radio Finland, Swiss Radio International, Radio Canada International, Channel Africa, Voice of Russia, Radio Prague, Radio Vlanaderen International,

National Public Radio, Copenhagen Calling, Radio Austria International, Radio France International, Vatican Radio and Israel Radio. VOA Communications World and Glenn Hausers World of Radio are also carried. WRN2 is the German network. Both in Mono. Worldspace also transmits its own channels on the satellite which I listen to a lot. All are in English. They are: 24/7: International Dance Music. Bob: Modern rock music. UpCountry: Country music featuring both contemporary and vintage artists. Maestro: Classical music, midway between Classic FM and Radio Three. Four decades of soul, r&b, hip-hop and jazz fusion Riff: A cool jazz channel with artists like Count Basie, Dizzie Gillespie, Ella Fitzgerald, music you do not hear these days on UK Radio and one of my favourites. Ritmo: Excellent channel with African pop as well as African influenced world music UltraPop: Worldwide contemporary pop music Earz: Childrens programming. Mono. Letterz: Spoken word programming including literature and radio drama. Mono. African Learning Channel: Educational channel.

Four receivers were made for Worldspace, two of which, the Sanyo and Hitachi are available in Europe. Panasonic and JVC sets have not got EC approval. I ordered the Hitachi set. It is 240x162x64 cm(wxhxd) and weighs 1.9kg with batteries. It comes with a 150x33x156cm antenna, like a smaller version of the old satellite squarial antennas you may remember. This can be attached to the set or can be placed away from the receiver on its own supplied stand, a 5m extension cable is supplied. There is a thorough operating guide in English, French, Spanish as well as some African and Asian languages. It took me just five minutes to set up the antenna and begin receiving the digital transmissions. It is line of sight reception. The antenna does need to point south though having locked on to the satellite signals it can be turned through seventy degrees. The antenna does not need to be vertical, you can tilt it to get the best line of sight as this will be affected by nearby buildings. It will work through glass though the newsgroups do report there is a problem with the toughened glass used in some highrise flats due to them having metal in them. I have the antenna in my lounge which faces west but I can swing the aerial round on the window ledge to face south and can also use the set in my south facing bedroom. The antenna does not have to be right up against the window and can be moved back up to as much as 1.5 metres in my case though this will depend on your individual location. An external yagi antenna for permanent mounting is available at extra cost. The set uses 4 D cells but comes with an AC adaptor and power cord and I usually run it from the mains. Reception through the loudspeaker is mono, the set has a line out and headphone jack, it is in stereo through the headphones and can, with a suitable lead, be hooked up to a hifi system. I run my set through my hifi system and the sound quality is stunning with real clarity and depth, sonically it is a clearer signal than FM with not the slightest hiss, near CD quality is an accurate description. To tune channels you just press a large button on the front of the set up or down, you can save 10 channels in the memory for one button press reception. The set has a facility to search by programme type or language. Note that the satellite channels are both in right and left polarisation. The antenna copes with this without adjustment however the left ones are slightly weaker in strength, these include BBC World Service and all the Worldspace music channels. When I first got the set I could receive most of the channels but not the left ones. By keeping the antenna in exactly the same position looking at the satellite and raising its elevation by putting it on copies of Passport to World Band Radio and the World Radio TV Handbook I could then receive all the satellite channels. The set also covers medium wave, FM and shortwave. There has been one report of poor reception on medium wave but on my set it is quite acceptable. FM reception for some reason is best with the aerial not in a vertical position but tilted slightly back. The internal loudspeaker distorts at high volume on FM, this is not found on the other modes of reception. Shortwave coverage is not continuous and there are some annoying gaps, 41mb is 7100-7300 and 31mb is 9500-9900 for example. This is not an issue for me as I rely on other sets for shortwave but it is surprising the manufacturer has not extended coverage somewhat for those who would buy the set as their sole source of radio. As I said there is another model available the Sanyo. This receives Worldspace only and is designed to be part of a hi fi system. The antenna is similarly compact but

years. So if those of you who were there find that your memory does not accord with mine, it is more than likely that mine has betrayed me.

How did it all begin? Surely in the mind of Sir Beresford Clark who has foreseen so many things. J. B. it was who told me that my wartime job was to organize and run a unit for listening to foreign broadcasts for the benefit of our own News Department and for the Ministry of Information, an embryonic organization which it was somehow supposed would arrange itself into departments capable of dealing efficiently and to the best purpose with the material we supplied. To help me I could have my own secretary, Norah Wadsley, and Oliver Whitley. I did not then know that this was the equivalent of ten ordinary people. In addition, as a nucleus of the actual monitoring staff, there was the imperturbable David Bowman, the BBC's only monitor who had been listening to Spanish and Portuguese broadcasts for the past year or so and whose knowledge was to prove invaluable. I don't remember when all this was first thought of but I would say that it was two or three months before the actual outbreak of war that we were given the 'go ahead' to recruit staff, and Oliver Whitley and began a whirlwind recruiting campaign.

The British do not find it easy to prepare for war in time of peace, and the Staff Administration Department was, to say the least, in no way ahead of the rest of the country in this respect. It was, of course, a much smaller department than it is now and had had no experience of rapid recruiting. The early months of the war were to try it sorely, but on this occasion it co-operated valiantly, and within a fortnight we had what we thought was the right number of monitors, whom we could not of course take on to the staff immediately but who were sent away to await a 'mobilization' telegram. I suppose the number of monitors must have been about thirty - at any rate I have it fixed in my head that the total size of the unit which had to move down to Wood Norton when the time came was sixty, including engineers, typists, teleprinter operators. Yet surely the whole unit, except myself who went in advance, went down to Wood Norton in one Green Line bus? Perhaps it was a double-decker. (Oliver Whitley says there were two buses and they were red!) Of the tests themselves, which we made the prospective monitors take, I remember only that they took place in the Council Chamber of Broadcasting House, the candidates taking down from a loudspeaker the bulletins we had previously recorded from the air. Although I think I could still name most of the successful candidates, the only face I can actually see working away at the green baize table is that of Andre Belosselsky, I suppose because he was the most easily identifiable as a Russian, and Russian speakers were rare birds not often seen in the BBC in those days. There must have been interviews afterwards with those who had made a reasonable fist of the test but again I can recall only one, with John Jarvis, and persuading the BBC to take on a blind man which I think it had never done before. I have never much liked appointments boards or believed that I had any special skill in selecting people, but I have always been rather proud of the inspired guesswork we did on that occasion because a very high proportion of those we chose became absolutely first-class monitors and some of them are working in the Monitoring Service to this day.

The decision to 'mobilize' and to move the unit to Wood Norton was taken a week before the outbreak of war. Who took the decision? Again it must have been Sir Beresford Clark, I suppose, and it can't have been an easy decision to take. In the event it could hardly have been better timed, for anything less would have found us in chaos when the war began and if the uncertainty had lasted much longer, morale would have been hard to sustain in that unwelcoming countryside. I think we were all praying for the war to begin, which is not as ghoulish as it sounds, because we had probably none of us been in agreement with appeasement at any stage and by that time it had become clear to practically everyone that war was inevitable.

Of those early days and weeks I will not try to recall individual incidents. Everyone will have his own special memories of the irruption of this polyglot group with its strange un-understandable functions into a complacent provincial town unprepared for war; of the billeting difficulties, two - or was it

three? - in a bed; of the queer little house called Mrs Smith's House, so totally unsuited for its new purpose; of the hut on the hill and the mud; of the bulletins missed and the wax cylinders cracked, lost, or inaudible; of the teleprinters that seemed always to be breaking down; of the confusion, exasperation, and, through it all, the enthusiasm. Generals, when they come to write their war memoirs, always seem able to convince themselves that they had thought of everything and that only the folly or malice of their allies prevented its being achieved. I wish I could feel the same; but looking back on it all I can't help feeling that I was hopelessly unprepared and had failed to do the thinking in advance which could have saved some of the confusion. Perhaps it didn't really matter and if I had known what was needed I might not have been able to get it done. Moreover, the existence of a completely efficient Monitoring Service at the outbreak of war was not essential; it was something which probably had to be fashioned out of experience and whose value was cumulative.

The most important oversight was the planning of how to handle the material we produced. We couldn't, of course, organize the Ministry of Information but we should have had some better idea of what was going to happen to our material at the other end of the teleprinter. There were two teleprinter circuits from Mrs Smith's House, each as temperamental as the other, one going to the organization which grew into The Political Warfare Department, but then known by the code name of B.H.; they were all right, they had plenty of people and not many other sources of information to begin with, they found our stuff useful and gave us plenty of help and encouragement; the other went to Broadcasting House. I don't believe there was a teleprinter in the Ministry of Information and if there was there was certainly nobody to attend it. The BBC News Department was ready enough to use the material we provided, but they could not possibly cope with the hundreds of thousands of words that came pouring over the teleprinter, and there was danger of it all piling up into dusty rubbish. This was where Malcolm Frost stepped in. He had been Head of the BBC's Overseas Intelligence Department and with some members of his own department, some programme staff who were at a loose end, and others recruited from outside (how he found the money to do this I don't know, but little things like that never troubled Frost), he formed an editorial group in the Duchess Street annex of Broadcasting House, and they licked the material into some sort of usable shape. This was in the form of a roneoed digest of the previous day's broadcasts, and a special telephone service of urgent information, the flash service as it was called. The debt that Monitoring owes to Malcolm Frost is incalculable, for he not only ensured that the monitoring reports from Wood Norton were put in a usable form, but he also succeeded in interesting and supplying the many other wartime intelligence departments for whom this was a new and valuable form of information. More than any other person, with his extraordinary gifts of improvisation and salesmanship, he can claim to be the real architect of the Service.

So the period of the phoney war passed. The editorial group in London criticized, complained, made demands that were sometimes reasonable and sometimes unreasonable, and generally harassed the monitors at Wood Norton so that it often seemed to them that the real enemy was in London and not in Berlin; but it was a necessary process and each part of the divided organization gradually improved its own techniques and learned to understand the needs and difficulties of the other. Frost was in command of the whole organization, I was responsible for the Monitoring Unit at Wood Norton, and what I remember best there is the combination of extraordinarily hard work and enthusiasm. The conditions were such as would shock the Association of Broadcasting Staff. I believe we only theoretically allowed for one day off each week and if someone fell ill someone else took his place; double shifts were worked; no one stood on his rights or thought of compensatory leave. I think this was only possible because so many of our members had suffered, as a direct or indirect result of the Nazi regime, a complete disruption of their normal lives and had not had time to build themselves a new peacetime life in this country, and for the first time they had an activity which had a real sense of purpose and an opportunity to fight against the common enemy.

The next important change in the organization of the Monitoring Service came in the spring or early

summer of 1940 when the Editorial Unit was moved down to Wood Norton. The huts, which provided very satisfactory working units, had by then been built in the grounds of Wood Norton. The M Unit, as it came to be called, was already installed in one; the Editorial Unit and its large duplicating section in two others; and a fourth was used for a new section under John Shankland called the Y Unit - another of Malcolm Frost's acquisitions before he left for other wartime duties - which dealt with what might be called off-beat radio interception. A daily transport service known as the 'Digest Car' was organized to take the Digest to London. The Information Bureau, dealing with urgent flashes, was divided into two parts, one in Wood Norton and one in London. The London end worked at first in Studio 3a Broadcasting House until this was destroyed by a bomb, which killed four members of the staff. From a temporary base in the basement of Broadcasting House it was again bombed out by a landmine, and moved to its last London home in Stratton Street in what had been, and is once more, a night club. It had, incidentally, one more direct hit, but the building was a stout one and we were no more than shaken. I haven't the space to tell of the effects of the London Editorial Unit and Wood Norton Monitoring Unit meeting face to face and working side by side, but it was an essential step in making a unified and efficient service, and by the end of 1940 the Monitoring Service was roughly organized in the shape which was going to endure. All it needed was a bigger and better operational base located much nearer to London, and plans were started to make the move to Caversham which took place in April 1943. By that time Oliver Whitley, John Shankland, and I had resigned from the Corporation. It is no secret that our resignations were made as a protest but not, in case there are misunderstandings about this, as a protest against moving from Wood Norton.

I have with one or two exceptions avoided mentioning names since where should I have been able to stop among all those varied individuals who made up such an extraordinarily interesting company? Nor have I conveyed any of the fascination of being specially placed to follow not merely the great events of the war as they unfolded themselves but also the shifts and changes in the alignment of policy from which impending action could be inferred. It was a kind of ringside seat which was some compensation for the doses of boring and repetitious propaganda.

BBC Monitoring Today

Monitoring today has the same job as it ever did - to report what the foreign news media are saying, comprehensively, accurately and without bias or comment.

In 1939 radio alone was monitored, soon followed by news agency transmissions. These formed Monitoring's staple diet for several decades. But the rapid development of communications technology over the last 25 years, along with changes in world politics, have had a major impact on the scope of Monitoring's coverage.

Television is now commonplace worldwide as a primary source of news. Much of the world's TV can be covered directly from Caversham, using satellite dishes at Caversham Park and the Crowsley receiving station. With large, steerable dishes, it is possible to pick up satellite TV from Siberia in the east to Argentina in the west. Monitoring has been covering television regularly since the early 1980s.

Satellite TV and International communications have made it possible for Monitoring to get closer to both new and traditional sources of news. The first overseas unit opened in Nairobi in 1961, to provide better coverage of broadcasts from East and Central Africa. Four new units have opened in the Former Soviet Union since 1994, providing good reception of medium and shortwave radio and access to local TV and FM radio in Moscow, Central Asia, Azerbaijan and Ukraine.

The Internet has seized the public imagination over the past few years. "The web" is virtually a new

0.48 wavelength. The dipole antenna has seen little use at medium wave because of its impractically large dimensions: about 883 feet / 269 m at the low end of the broadcast band (530 kHz). Furthermore, for the antenna to perform well, it has to be a minimum of a quarter-wave above the ground if mounted horizontally. If set up vertically, its top end is a half wave (or greater) above ground and if sloped at 45 degrees, the top end is at least 0.35 wavelength high.

In a quest for a compact omnidirectional passive antenna of reasonable dimensions, I did some measurements on vertical and sloping dipoles measuring only 33 ft. / 10 m total length (16.5 ft. / 5 m each side of the center feed point). This antenna is less than 0.02 wavelength at 530 kHz and 0.06 wavelength at 1700 kHz. Obviously, in this frequency range, such an antenna is a very poor match to direct 50 ohm feed.

The way to get a reasonable amount of signal capture out of such a compact antenna, without resorting to distortion and noise producing amplification, is through the use of passive devices to improve the match. A narrowband technique (a remotely adjustable inductive - capacitive (L-C) tank at the feed point) is ultimately the best approach in terms of efficiency, but it is difficult to implement and does not lend itself to frequency-agile DXing.

Matching with a broadband balun transformer is the other approach that can be used. The ratio to be used is fairly high because an electrically-short dipole presents a much higher impedance than 50 ohms. I did tests with two transformers: one had a 36:1 impedance ratio, the other a 16:1 ratio. The high impedance winding leads went to the antenna elements and the low impedance winding to the coaxial cable. I also had 9:1, 4:1, and 1:1 transformers available for testing if results indicated the 16:1 better than the 36:1 unit. This, however, was not necessary as the 36:1 transformer gave the better results across the medium wave dial. I set up a 10 m (total length) center-fed dipole in a nearly-vertical configuration suspended by a nylon rope over a high branch on a black locust tree in the backyard at my home location in Billerica, MA (GC = 71.221 W / 42.533 N). The bottom of the antenna was about 1.5 m off the ground and the coaxial feed ran about 20 m from the balun box (at the middle of the antenna) into the house: I tried to keep the feedline close to a right angle to the dipole as much as possible. Daytime signal measurements on some groundwave locals were made using the Drake R8A in PREAMP ON mode. Across the band, the 36:1 transformer showed a 4 to 8 dB advantage over the 16:1.

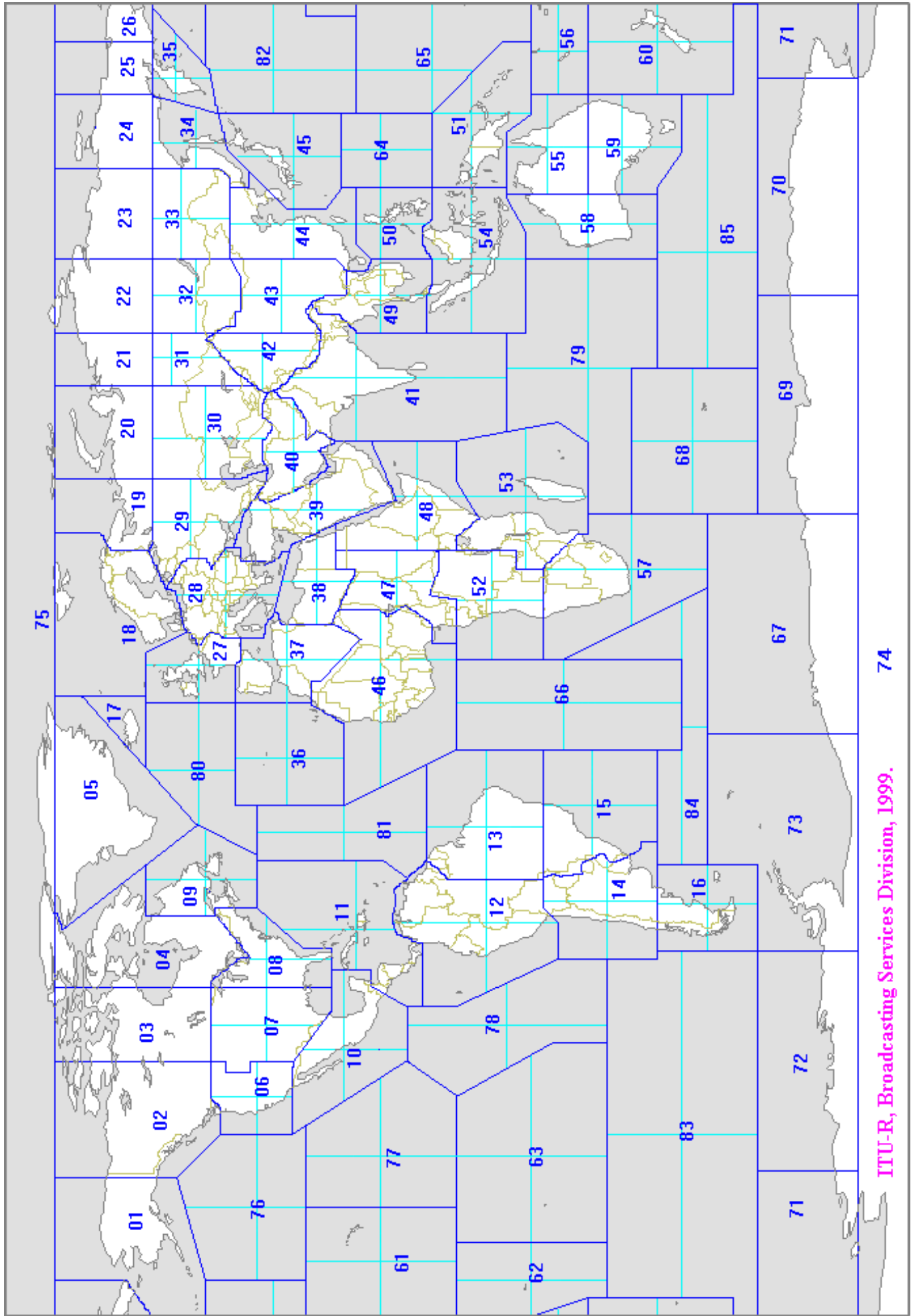
Measurements with the 16:1 transformer (Mini-Circuits T16-6T-X65)

WEZE-590: S9+16
 WRKO-680: S9+51
 WEEI-850: S9+28
 WBZ-1030: S9+27
 WKOX-1200: S9+12
 WWZN-1510: S9+35

Measurements with the 36:1 transformer (Mini-Circuits T36-1-X65)

WEZE-590: S9+20
 WRKO-680: S9+55
 WEEI-850: S9+36
 WBZ-1030: S9+35
 WKOX-1200: S9+20
 WWZN-1510: S9+39

Homebrew transformers of various ratios may be tried in future experiments. One possible design is



CIRAF Zones

WORLDWIDE DX CLUB

WORLDWIDE DX CLUB, founded in 1966, does not claim to be the biggest or best DX club in the world. Nevertheless, it offers its members and subscribers a rather good monthly bulletin (mainly in English) entitled "DX MAGAZINE" with up-to-date information on most aspects of DX'ing at the reasonable price of DM 30.00, € 15.34, £12.00, US\$18.50, f33.00 or 15 International Reply Coupons (IRC's) per year (air mail: Europe: DM 33.00, € 16.87, £13.00, US\$20.50, f36.30 or 17 IRC's; Overseas: DM 39.00, € 19.94, £15.50, US\$24.00, f42.90 or 20 IRC's).

Since WORLDWIDE DX CLUB is the "International Department" of ARBEITSGEMEINSCHAFT DX (AGDX), the head organization of the German language DX clubs, it is able to offer its members and subscribers another DX publication in German entitled "Radio-Kurier - weltweit hören". This is jointly issued by the German DX organizations ADDX and AGDX and is available for DM 75.00, € 38.35, £28.50, US\$47.00, f82.50 or 38 IRC's per year (including air mail to countries outside Europe) or, if ordered together with "DX MAGAZINE", for DM 96.00, € 49.08, £36.00, US\$60.00, f105.60 or 48 IRC's per year (air mail: Europe: DM 99.00, € 50.62, £37.00, US\$62.00, f108.90 or 50 IRC's; Overseas: DM 105.00, € 53.69, £39.00, US\$65.00, f115.50 or 53 IRC's per year).

WORLDWIDE DX CLUB has currently the following publications available:

1. "REPORTING GUIDE", published by the EUROPEAN DX COUNCIL (DM 2.00 or 1 IRC; please enclose 1 additional IRC for air mail).
2. "EDXC RADIO COUNTRIES LIST 1998", published by the EUROPEAN DX COUNCIL (DM 6.00 or 3 IRC's; please enclose 1 additional IRC for air mail).
3. "WORLD RADIO TV HANDBOOK 2002", (DM 50.00, € 25.56, f52.50, US\$30.45 or 25 IRC's; extra for air mail: DM 18.00, € 9.20, f19.80, US\$11.00 or 9 IRC's).
4. "DAS OHR ZUR WELT" (Eine Einführung in den Rundfunk-Fernempfang, herausgegeben von der ARBEITSGEMEINSCHAFT DX e. V.) (DM 2.00 or 1 IRC's; please enclose 1 additional IRC for air mail).
5. "EMPFÄNGER-FIBEL 1995/96" (Ratgeber für den Empfänger-Kauf, herausgegeben von der ARBEITSGEMEINSCHAFT DX e. V.) (DM 4.00 or 2 IRC's; please enclose 1 additional IRC for air mail).

These prices include postage and packing. Delivery against advance payment by International Money Order, Euro-Cheque in DM or €, cash in any convertible currency, Postal Money Order, IRC's or transfer to our postal giro accounts Frankfurt/Germany No. 2890 10-605 or Arnhem/Netherlands No. 3822840. IRC's can only be accepted from countries, in which payments can not be made by any other means. (DM 1.00 = f1.10; 1 IRC = DM 2.00/f2.20; DM 1.00 = € 0.51129)

Diese Preise enthalten Porto und Verpackung. Lieferung gegen Vorauszahlung durch Überweisung, Scheck, Postanweisung, Bargeld oder IRC's. Postbankkonten: Frankfurt am Main/BRD Nr. 2890 10-605 [Bankleitzahl 500 100 60] und Arnhem/Niederlande Nr. 3822840. Bei Nachnahmelieferung: DM 6,00 Zuschlag. IRC's werden nur aus solchen Ländern akzeptiert, in denen eine Zahlung auf einem anderen Weg nicht möglich ist.