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DX News, Loggings and
Information for FM & TV
DXers



Issue No. 116 – November 2006

Hello and welcome to Skywaves 116.

Leonids Meteor Shower

is due to make its annual display this week. The following article is from the Armagh Observatory website and is one of the best explanations I've seen.

Trail encounter

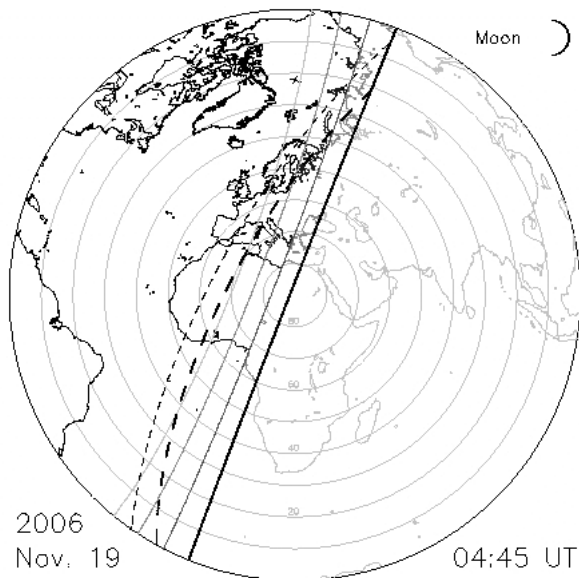
The Leonids are the debris of Comet 55P/Tempel-Tuttle. Every 33 years or so, the comet returns to the inner solar system and releases material that forms into a new dust trail. The Earth's passage right through the centre of trails is associated with the most spectacular meteor displays (studies show that, as well as how close to the centre of the trail you are, the strength of the display also depends on how far along a trail's length you are). For example, in 2001 November and again in 2002 November, the Earth passed very near the centre of the trail released at the 1866 return (i.e. 4 revolutions of the comet ago), as well as near other trails, producing meteor storms.

In 2006, on November 19th, the Earth passes very close to the centre of the trail created at the comet's 1932 return (i.e. 2 revolutions ago), as can be seen in the schematic plot by David Asher. More detail of the Leonid stream's cross section encountered by the Earth in 2006 can be found from Jeremie Vaubaillon's computer modelling. The encounter with the 1932 trail will lead to enhanced meteor activity: a nice outburst, but below storm level.

Time of maximum on November 19th

The calculated peak time of the outburst is 04:45 UT (Universal Time = Greenwich Mean Time). It will probably not last very long (i.e. meteor activity will rise and fall quite sharply) and so to see it you need to be in the right part of the world. You need it to be night-time, and you need the radiant (the point in the constellation Leo where the meteors radiate from) to be above the horizon.

In the following diagram, created by Robert H. McNaught (Australian National University), the regions shown are facing the radiant. However, the right hand half of the map is in daytime and the three bands down the middle are (right to left) civil, nautical and astronomical twilight. (The dashed lines denote moonrise and "lunar civil twilight", but in any case, the moon, being close to new, will not be a problem for this year's Leonids.)



The closer you are to the centre of the map (without being so close that it is daytime), the better, as Leo will be higher in your sky. So regions well over to the west of Europe and the west of Africa are favoured, although the outburst can also be seen from some east parts of North and South America. The peak time 04:45 UT is for the geocentre. Approximate corrections for various locations are as follows:

E Brazil	-7 mins
W Africa	-2 mins
S Spain	0 mins
UK	+4 mins
NE Canada	+5 mins
Scandinavia	+6 mins

This topocentric correction is described by McNaught and Asher (1999); see paper 332 of Armagh Observatory Reprint Series. These adjustments (a few to several minutes) are not enough to affect when you should observe, but if there are accurate observations it will be scientifically interesting to assess observed times of maximum. Overall, the prediction of the peak time should be accurate to +/-10 mins and more likely +/- 5 mins. You may like to start observing an hour before the peak, or more for keen people, less for the extremely lazy (and all depending on what your local conditions allow).

Expected meteor rates

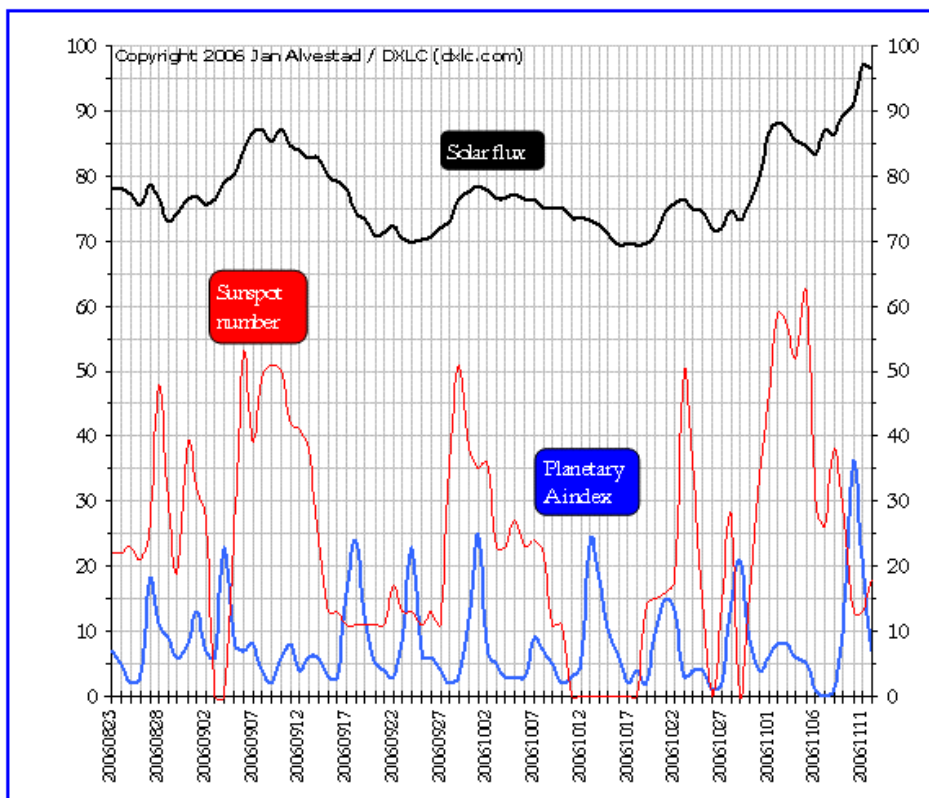
The closest parallel is a Leonid outburst in 1969. Based on this, McNaught and Asher (1999), paper 330 of Armagh Observatory Reprint Series (note that this is a different 1999 paper from the topocentric correction paper described above) predicted the peak ZHR (Zenithal Hourly Rate = number of meteors visible to someone who has perfect observing conditions; real rates are usually somewhat smaller) for the 2006 outburst as 150. We seem to have inadvertently publicised the value 100 many times in the last few years; note that 150 was the intended value. In fact, owing to rounding errors, to uncertainty in the exact ZHR seen in 1969, and to other sources of uncertainty, it cannot really be said that 150 will be right and 100 will be wrong. In fact an empirical correction for how much the trail diffuses during each revolution (this correction means the data are fitted better) reduces the value of 150 to around 120. We can adopt 120 (or, less precisely, 100 to 150) as the best estimate. For comparison, "meteor storm level" is often conventionally regarded as ZHR above 1000.

Apart from the encounter with the 1932 Leonid trail, there is a background to the Leonid shower for more than a week, at rather low rates (e.g. ZHR of 10 or so). Serious enthusiasts can observe for at least a few nights before and after the outburst, starting when Leo rises, in the middle of the night, until morning twilight.

Meteors in the outburst are expected to be quite faint, as in 1969; this makes it even more important than usual to be well away from artificial light pollution.

Last Revised: 2006 August 22nd

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Solar Chart courtesy of
Jan Alvestad
DX Listeners Club
Norway
www.dxlc.com

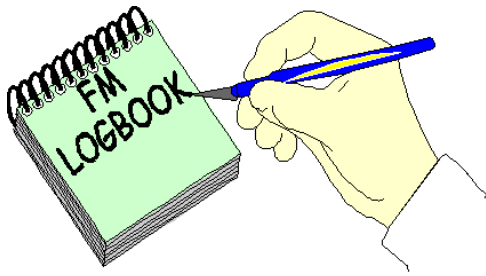
Edited by –



VACANCY

Deadline – 1st of every month

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Standard Deadline – 1st of every month

Sporadic E logbook

FREQ	TIME	DATE	ITU	STATION	RDS CODE	SIGNAL	M	RP
87.5	1020	21/10	E	Evolution FM, Valdemoro. Music RT:**EVO*** *LUTION*	E0E1	good	E	MF
87.5	1218	23/10	E	Hispanidad Radio, Huelva. Talking	A03C	Hispanid	strong	E WK
87.5	1110	24/10	E	Radio Pinomar, Alhaurín de la Torre. Talks RT:RPINOMAR EMISORA CULTURAL MALAGA	5158	good	E	MF
87.5	1109	25/10	E	Radio Pinomar, Alhaurín de la Torre. Ads & jingle ID RT:RPINOMAR EMISORA CULTURAL MALAGA	5158	good	E	MF
87.5	1113	25/10	E	Evolution FM, Valdemoro. Music RT:**EVO*** *LUTION*	E0E1	good	E	MF
87.5	1137	25/10	E	Evolution FM, Valdemoro. Music and Talking	E0E1	**EVO**_	v strong	E WK
87.5	1140	25/10	E	Radio Pinomar, Alhaurín de la Torre. Talking	5158	RADIO____ RPINOMAR	v strong	E WK
87.5	1145	25/10	E	Hispanidad Radio, Huelva. Music	A03C	good	E	MF
87.5	1153	25/10	E	Hispanidad Radio, Huelva. Talking	A03C	**_HR_**	v strong	E WK
87.5	1405	29/10	I	Radio Norba, Casacalenda. Music	5353	R-NORBA_	v strong	E WK
87.5	1428	29/10	I	Radio Subasio, Monte Cucco. Music and Talking	53FD	_SUBASIO	v strong	E WK
87.5	1511	29/10	I	Radio Universal, Verona. Talking	5171	strong	E	WK
87.6	1156	29/10	???	???, ????. Unattended rx Part PS:??DS_??	A000	good	E	MF
87.6	1155	21/10	ALG	Radio Essouhoub / Chaîne 3, Afrou. Talks/music //Internet		good	E	MF
87.6	1415	22/10	ALG	Radio Essouhoub / Chaîne 3, Afrou. Talks/music //Internet		good	E	MF
87.6	1125	25/10	ALG	Chaîne 3, Kef El Khal. Music		v strong	E	WK
87.6	1005	21/10	E	RNE 1, Benidorm. Talks	E211	RNE_1____	good	E MF
87.6	1005	21/10	E	SER Mora d'Ebre, Mora d'Ebre. Music	E039	__SER____	good	E MF
87.6	1100	21/10	E	Cadena 100, Córdoba-Lagar de la Cruz. Music/Talks	E0CB	good	E	MF
87.6	1110	21/10	E	Kiss FM, Plasencia. Music	E2EC	KISS_FM_	good	E MF
87.6	1105	24/10	E	RNE 5, Sierra Elvira. Talks	EB15	RNE_5____	good	E MF
87.6	1110	24/10	E	Cadena 100, Córdoba-Lagar de la Cruz. Music RT:CAD-100_ CORDOBA	E0CB	good	E	MF
87.6	1110	25/10	E	RNE 5, Sierra Elvira. News	EB15	RNE_5____	good	E MF
87.6	1126	25/10	E	Kiss FM, Plasencia. Music and Talking	E2EC	KISS_FM_	v strong	E WK
87.6	1130	25/10	E	Catalunya Informació, Soriguera. Talking	E234	CATINFO_	v strong	E WK
87.6	1140	25/10	E	Kiss FM, Plasencia. Music	E2EC	KISS_FM_	good	E MF
87.6	1145	25/10	E	Candil Radio, Huercal de Almeria. Talking	EB02	Candil__	v strong	E WK
87.6	1030	22/10	GRC	Laikos FM, Thessaloniki. Traditional Greek music foll. by voice ID		good	E	MF
87.6	1415	22/10	GRC	Laikos FM, Thessaloniki. Folk music		good	E	MF
87.6	1039	29/10	GRC	Radio Stagon, Kalambaka. Unattended rx	10C3	good	E	MF
87.6	1342	29/10	I	Radio Speranza, Pescara. Music and Talking	A000	RADIO____ SPERANZA	v strong	E WK
87.6	1437	29/10	I	M20, Bari. Music and Talking	5233	_M_DUE_0	v good	E WK
87.6	1050	21/10	POR	Seixal FM, Seixal. Talks	8042	_R_D_S_	good	E MF
87.6	1128	23/10	POR	Seixal FM, Seixal. Music	8042	_R_D_S_	good	E MF
87.6	1221	23/10	POR	Seixal FM, Seixal. Music and Talking	8042	_R_D_S_	strong	E WK
87.6	1135	24/10	POR	Seixal FM, Seixal. Music and Talking	8042	strong	E	WK
87.6	1213	25/10	POR	Seixal FM, Seixal. Ads & jingle ID	8042	_R_D_S_	good	E MF
87.6	1226	25/10	POR	Seixal FM, Seixal. Music and Talking	8042	_R_D_S_	v strong	E WK
87.6	0958	22/10	S	SR 1. Unknown. Talking	E201	SR_P1____	v strong	E WK
87.7	1155	21/10	ALG	Radio Chlef / Chaîne 3, Chlef. Talks/music //net stream		good	E	MF
87.7	1210	23/10	ALG	Radio Chlef / Chaîne 3, Chlef. Discussion prog		good	E	MF
87.7	1130	24/10	ALG	Radio Chlef, Ain Nsour. Music and Talking		strong	E	WK
87.7	1050	21/10	E	Europa FM, Alcalá de Henares. Music	E5ED	good	E	MF
87.7	1055	21/10	E	Kiss FM, Jerez de la Frontera. Music	E200	KISS_FM_	good	E MF
87.7	1110	24/10	E	Europa FM, Alcalá de Henares. Music	E2ED	EUROPAFM	good	E MF
87.7	1115	24/10	E	Kiss FM, Jerez de la Frontera. Music	E200	KISS_FM_	good	E MF
87.7	1113	25/10	E	Kiss FM, Jerez de la Frontera. Music	E200	KISS_FM_	good	E MF
87.7	1142	29/10	I	R Venere, Spechia. Music and Talking	5A4A	v good	E	WK

87.7	1340	29/10	I	R Italia Anni 60, Volturino Foggia. Talking	5495	R.NI_60_	v strong	E	WK
87.7	1438	29/10	I	Radio Capital, Ancona. Music and Talking	5219	_CAPITAL	v strong	E	WK
87.7	1145	25/10	POR	RDP Antena 1, Serra do Mendro. Talks	8201	ANTENA_1	good	E	MF
87.7	1204	25/10	POR	RDP 1, Serra do Mendro. Talking	8201	ANTENA_1	v strong	E	WK
87.8	1155	21/10	ALG	Chaîne 1, Mecheria. Talks /Net stream			good	E	MF
87.8	1115	24/10	ALG	Chaîne 1, Mecheria. Eid celebrations//web stream			good	E	MF
87.8	1010	21/10	E	Si Ràdio, Perentxissa. Music	E504		good	E	MF
87.8	1150	25/10	E	RNE 3, Baza-Cerro del Jabalcón. Talking	E213	RNE_3___	v strong	E	WK
87.8	1442	29/10	I	Lattemiele Radio, Corato - Monte Ripanno. Talking	5355	LATMIELE	v strong	E	WK
87.9	1105	21/10	E	Canal Extremadura Radio, Mérida. Music	E30A	Canal_EX	good	E	MF
87.9	1105	21/10	E	RNE 5, ????. Talks	E215		good	E	MF
87.9	1159	25/10	E	Canal Extremadura, Mérida. Talking	E30A	Canal_EX	v strong	E	WK
88.0	1110	21/10	E	RNE 5, Punta Umbría. Talks	E615		good	E	MF
88.0	1120	24/10	E	RNE 5, Sierra de Mijas-Mt.Viego. Talks	E215	RNE_5___	good	E	MF
88.0	1136	25/10	E	RNE 5, Sierra de Mijas. Talking	E215	RNE_5___	v strong	E	WK
88.0	1149	25/10	E	SER Tarancón, Tarancón. Talking	E239	__SER__	v strong	E	WK
88.0	1439	29/10	I	Studio24, Ancona. Music and Talking	55D6	STUDIO24	v strong	E	WK
88.1	1100	21/10	E	Canal Fiesta Radio, Jerez-San Cristóbal. Music	E331	C.FIESTA	good	E	MF
88.1	1120	24/10	E	???, ????. Talks	E861		good	E	MF
88.2	1140	25/10	E	RNE 1, Madrid-Torrespaña. Talks	E211	RNE_1___	good	E	MF
88.3	1125	24/10	E	SER Radio Coca, Ronda. Music	E039	__SER__	good	E	MF
88.7	1130	24/10	E	???, ????. Talks	E727		good	E	MF
88.8	1040	21/10	E	Cadena 100, Jáen. Music	E2CE		good	E	MF
88.8	1130	24/10	E	Onda 8 Málaga, Cártama. Music	E001	_ONDA_8_	good	E	MF
88.8	1135	24/10	E	Radio Marca, Sevilla. Music	B002	MARCA___	good	E	MF
88.8	1115	25/10	E	Radio Marca, Sevilla. Music	B002	MARCA___	good	E	MF
88.8	1145	25/10	E	Cadena 100, Cáceres. Talks	E2CE	CAD-100_	good	E	MF
88.8	1155	25/10	E	RNE 5, Zamora-El Viso. News	E215	RNE_5___	good	E	MF
88.9	1135	24/10	E	Cadena Dial, Ronda. Music	E231	__DIAL__	good	E	MF
88.9	1115	25/10	E	Radiolé de la Frontera, Arcos de la Frontera. Music (despite the PS this stn IS on 88.8) RT: RADIOLE OLE-88.8	E278		good	E	MF
89.3	1040	21/10	E	COPE Guadalajara, Guadalajara. Music	E2CA		good	E	MF
89.3	1150	25/10	E	Radiolé Tierra de Barros, Villafranca de los Barros. Music	E238	_RADIOLE	good	E	MF
89.5	1140	24/10	E	???, ????. Talks	E63A		good	E	MF
89.5	1150	25/10	E	Canal Fiesta Radio, Almonaster la Real. Music	E331		good	E	MF
89.8	1140	24/10	E	COPE Málaga, Sierra de Mijas-Mt.Viego. Music	E2CA		good	E	MF
89.8	1138	25/10	E	COPE, Ceuta-Tajo. Talking	E2CA	__COPE__	v strong	E	WK
89.9	1140	24/10	E	Andalucía Radio, Huelva. Talks/voice ID			good	E	MF
89.9	1508	29/10	I	RAI 3, Monte Venda. Talking	5203	RADIO3__	v strong	E	WK
90.0	1152	25/10	E	RNE Rado Clásica, Javalambre. Classical Music	E212	RNE-CLAS	strong	E	WK
90.1	1135	25/10	E	Piraña FM, Polígono Valdonaire. Music and Talking	E429	PIRANAFM	v strong	E	WK
90.1	1155	25/10	E	Piraña FM, Polígono Valdonaire. Talking	E429	_MADRID_ 90.1_FM_	v strong	E	WK
90.4	1150	25/10	E	Onda Cero, Mérida. Music	E2EE	ONDACERO	good	E	MF
90.5	1010	21/10	E	???, ????. Music	E0FE		good	E	MF
90.5	1012	21/10	E	RadioOne, València. Music	E4E9	RADIOONE	good	E	MF
90.5	1030	21/10	E	Andalucía Información, Pechina-Sierra Alhamilla. Talks	E333		good	E	MF
90.5	1120	25/10	E	Andalucía Información, Pechina-Sierra Alhamilla. News	E333		good	E	MF
90.5	1120	25/10	E	Radio One, València. Music Part RT:MONFORTE	E4E9		good	E	MF
90.6	1125	25/10	E	COPE Onda Naranja, Tossal Gros. Ads & jingle ID	E300	__COPE__	good	E	MF
90.8	1040	21/10	E	Onda Cero, Sierra de Mijas-Mt.Viego. Music/Talks	E2EE		good	E	MF
91.1	1145	25/10	POR	RDP Antena 1, Serra do Mendro. Music	8202	ANTENA_2	good	E	MF
91.6	1130	25/10	E	Kiss FM, Huesca. Music	E2EC		good	E	MF
92.0	1506	29/10	F	France Musique, Rouen. Classical Music	F203	MUSIQUE_	v strong	E	WK
93.3	1155	25/10	E	RNE 3, Plasencia. Music	E213	RNE_3___	good	E	MF
93.3	1145	24/10	MRC	Radio 2M, Rabat. Talks/music	120A	RADIO_2M	good	E	MF
94.3	1130	25/10	E	RNE 3, Santa Pola. News	E213		good	E	MF
94.9	1513	29/10	I	Radio Blu, Ancona. Talking	531B	RADIOBLU	v strong	E	WK
95.6	1015	21/10	E	Cadena 100, Alicante RT:CAD-100_ ALICANTE	E0CE		good	E	MF
95.6	1045	21/10	E	Kiss FM, Córdoba. Talks	E2EC	KISS_FM_	good	E	MF
96.3	1017	21/10	E	Los 40 Principale, Alcoy. Music	E035	40_ALCOY	good	E	MF
96.3	1145	24/10	E	Europa FM, Antequera. Talks	389E	EUROPAFM	good	E	MF
97.4	1150	24/10	E	Onda Cero, Marbella-Montes. Music	E2EE	ONDACERO	good	E	MF
97.7	1135	25/10	E	Radio 97.7, València. Music	E08B	__97.7__	good	E	MF
100.4	1135	25/10	E	???, ????. Talks	E236		good	E	MF

Meteor Scatter logbook

<u>FREQ</u>	<u>TIME</u>	<u>DATE</u>	<u>ITU</u>	<u>STATION</u>		<u>RDS CODE</u>	<u>SIGNAL</u>	<u>M</u>	<u>RP</u>
87.6	0800	24/10	ALG	Radio Essouhoub / Chaîne 3, Aflou. News			good	M	MF
87.6	1205	21/10	BUL	Radio Shumen, Shumen - Venez. Talks/Voice ID			good	M	MF
87.6	1043	18/10	CZE	Radio Impuls, Brno. Unattended rx	2203	_IMPULS_	good	M	MF
87.6	0235	24/10	CZE	Radio Impuls, Brno. Unattended rx	2203	_IMPULS_	good	M	MF
87.6	0750	27/10	CZE	Radio Impuls, Brno. Unattended rx	2203	_IMPULS_	good	M	MF
87.6	1917	24/10	D	Bayern 4 Klassik, Dillberg. Music	D314	BAYERN_4	good	M	MF
87.6	1400	26/10	D	Bayern 4 Klassik, Dillberg. Unattended rx	D314	BAYERN_4	good	M	MF
87.6	0850	24/10	E	Catalunya Informació, Soriguera-Pic de l'Orri. Talks	E234	CATINFO_	good	M	MF
87.6	1235	21/10	HNG	Slager Radio, Győr - Szabad hegy. Talks	B206	_SLAGER	good	M	MF
87.6	0015	18/10	POR	Seixal FM, Seixal. Talks	8042	_R_D_S_	good	M	MF
87.6	0219	17/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.6	1950	17/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.6	0332	18/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.6	0612	22/10	TUN	Radio Tataouine, Zarzis. YL singing	7205	TATAOUIN	good	M	MF
87.6	2246	22/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.6	0826	23/10	TUN	Radio Tataouine, Zarzis. Music	7205	TATAOUIN	good	M	MF
87.6	1101	23/10	TUN	Radio Tataouine, Zarzis. Talks	7205	TATAOUIN	good	M	MF
87.6	0213	24/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.6	1013	24/10	TUN	Radio Tataouine, Zarzis. Music	7205	TATAOUIN	good	M	MF
87.6	1100	24/10	TUN	Radio Tataouine, Zarzis. News	7205	TATAOUIN	good	M	MF
87.6	0807	25/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.6	0812	25/10	TUN	Radio Tataouine, Zarzis. Music	7205	TATAOUIN	good	M	MF
87.6	0855	25/10	TUN	Radio Tataouine, Zarzis. Quranic reading	7205	TATAOUIN	good	M	MF
87.6	0028	26/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.6	0700	26/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.6	1750	26/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.6	0036	29/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.6	0210	30/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.6	0658	31/10	TUN	Radio Tataouine, Zarzis. Unattended rx	7205	TATAOUIN	good	M	MF
87.7	1436	21/10	F	France Culture, Strasbourg (67). Talks	F202	_CULTURE	good	M	MF
87.7	0944	23/10	I	Radio Venere, Specchia. Music/talks	5A4A		good	M	MF
87.9	1205	21/10	GRC	ERA Sport, ????. Talks	1204	ERASPORT	good	M	MF
90.9	1249	01/10	CZE	CRO 1 Radiozurnal, Usti nad Labem - Bukova hora. Unattended rx	232F	_CR_1_	good	M	MF
94.9	2314	22/10	SRB	RCG1, Lovcen. Talking	63C1		strong	M	WK
96.3	0602	01/10	POL	PR Radio Opole, Kluczbork. Unattended rx	3401	_OPOLE_	good	M	MF
						_MUZJA			
99.8	1540	06/10	F	France Culture, Perpignan. Talking	F202	_CULTURE	strong	M	WK
99.8	1020	17/10	F	Europe 2 Corsica, Coti-Chiavari. Talking	F219	EUROPE_2	strong	M	WK
99.8	2124	20/10	F	France Inter, Metz. Talking	F201	_INTER_	v strong	M	WK
99.8	0847	28/10	F	France Inter, Metz. Talking	F201	_INTER_	v strong	M	WK
99.8	1140	28/10	F	France Inter, Metz. Talking	F201	_INTER_	strong	M	WK
99.8	2358	12/10	I	RAI 3, Udine-Baldasseria. Talking	5203	RADIO3_	strong	M	WK
100.5	1504	04/10	E	Europa FM, Zaragoza. Unattended rx	E2ED	EUROPAFM	good	M	MF
100.5	0350	05/10	F	France Bleu Corse Freqenza Mora, Coti-Chiavari/Punta di Pense. Unattended rx	FF05	BLEURCFM	good	M	MF
100.5	1139	05/10	F	France Bleu Corse Freqenza Mora, Coti-Chiavari/Punta di Pense. Unattended rx	FF05	BLEURCFM	good	M	MF
100.5	0935	04/10	HNG	Danubius Radio, Kabhegy. Unattended rx	B205	DANUBIUS	good	M	MF
100.5	0009	05/10	HNG	Danubius Radio, Kabhegy. Unattended rx	B205	DANUBIUS	good	M	MF
100.5	0752	04/10	HRV	HRT-HR3, Ucka. Unattended rx	6343	HRT-HR_3	good	M	MF
100.5	0229	05/10	HRV	HRT-HR3, Ucka. Unattended rx	6343	HRT-HR_3	good	M	MF
100.5	0537	13/10	S	SR P4, Västerås/Lillhärad. Unattended rx	F724	SR_P4_	good	M	MF
100.7	1041	06/10	S	SR P4, Karlskrona/Bryggareberget. Unattended rx	E524	SR_P4_	good	M	MF
105.0	0439	02/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Unattended rx	4104	VATICANA	good	M	MF
105.0	0625	08/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Talks Part RT:ONEOFIVE	4104		good	M	MF
105.0	0502	11/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Unattended rx	4104	VATICANA	good	M	MF
105.0	0628	11/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Unattended rx	4104	VATICANA	good	M	MF
105.0	1117	11/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Unattended rx	4104	VATICANA	good	M	MF
105.0	1420	11/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Unattended rx	4104	VATICANA	good	M	MF
105.0	2002	11/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Unattended rx	4104	VATICANA	good	M	MF
105.0	0212	16/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Unattended rx RT:VATICANA ONEOFIVE	4104		good	M	MF
105.0	0610	21/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Unattended rx RT:VATICANA ONEOFIVE	4104		good	M	MF

105.0	0706	21/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Unattended rx RT:VATICANA ONEOFIVE	4104		good	M	MF
105.0	1028	21/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Unattended rx RT:VATICANA ONEOFIVE	4104		good	M	MF
105.0	0311	22/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Unattended rx RT:VATICANA ONEOFIVE	4104		good	M	MF
105.0	0433	22/10	CVA	Radio Vaticana 105 Live, Città Vaticana. Religious service RT:VATICANA ONEOFIVE	4104		good	M	MF
105.0	0032	09/10	HNG	MR3 Bartok Radio, Kabhegy. Unattended rx	B202	_BARTOK_	good	M	MF
105.0	1741	14/10	HNG	MR3 Bartok Radio, Kabhegy. Unattended rx	B202	_BARTOK_	good	M	MF
105.0	0652	11/10	HRV	HRT Radio Dubrovnik, Srd. Unattended rx	644F	R.DUBROV	good	M	MF
105.0	1022	16/10	HRV	HRT Radio Dubrovnik, Srd. Unattended rx	644F	R.DUBROV	good	M	MF
105.0	2100	20/10	HRV	HRT Radio Dubrovnik, Srd. Unattended rx	644F	R.DUBROV	good	M	MF
105.0	0630	21/10	HRV	HRT Radio Dubrovnik, Srd. Unattended rx	644F	R.DUBROV	good	M	MF
105.0	0821	21/10	HRV	HRT Radio Dubrovnik, Srd. Unattended rx	644F	R.DUBROV	good	M	MF
105.0	0331	20/10	POL	Radio Zet, Gdansk - Chwaszczyno. Unattended rx	3205	RadioZET	good	M	MF
105.0	0555	20/10	POL	Radio Zet, Gdansk - Chwaszczyno. Unattended rx	3205	RadioZET	good	M	MF
105.0	0022	21/10	POL	Radio Zet, Gdansk - Chwaszczyno. Unattended rx	3205	RadioZET	good	M	MF
105.0	0918	21/10	POL	Radio Zet, Gdansk - Chwaszczyno. Unattended rx	3205	RadioZET	good	M	MF

Tropospheric logbook

FREQ	TIME	DATE	ITU	STATION		RDS CODE	SIGNAL	M	RP
87.6	2028	16/10	BEL	RTBF Classic21, Léglise-Vlessart. Music	6354	CLASS.21	good	T	MF
87.6	0532	28/10	BEL	RTBF Classic21, Léglise-Vlessart. Music	6354	CLASS.21	good	T	MF
87.6	1151	08/10	D	HR3, Biedenkopf. pop music			good	T	PT
87.6	0752	14/10	D	NDR2, Hamburg. Talking	D382	_NDR_2__	fair	T	WK
87.6	1750	14/10	D	NDR2, Hamburg. Pop Music	D382		fair	T	WK
87.6	0635	29/10	D	hr3, Biedenkopf/Sackpfeife. Music/talks	D363	__hr3__	good	T	MF
87.6	0930	15/10	HOL	CAZ!, Smilde. Pop Music	83D2	_CAZ_NL_	fair	T	WK
87.6	1648	15/10	HOL	CAZ! Still very strong sigs, Smilde. Pop Music	83D2	_CAZ_NL_	v strong	T	WK
87.7	1005	15/10	HOL	CAZ!, Lelystad. Pop Music	83D2	_CAZ_NL_	good	T	WK
87.7	1656	15/10	HOL	CAZ! Still strong sigs. Better on 87.60MHz, Lelystad. Pop Music	83D2	_CAZ_NL_	strong	T	WK
87.7	0131	16/10	S	SR1. Un-attended reception RX on 87.80MHz, Halmstad. Talking	E705		v strong	T	WK
87.7	0252	16/10	S	SR1. Un-attended reception RX on 87.80MHz, Halmstad. Talking	E705		v strong	T	WK
87.8	1905	13/10	F	Radio Courtoisie, Cherbourg (50) (0.5kW). Classical music/voice ID			good	T	MF
87.8	0605	28/10	F	France Inter, Paris/Tour Eiffel (75). News	F201	__INTER_	good	T	MF
87.8	1626	29/10	F	France Inter, Paris. Talking	F201	__INTER_	strong	T	WK
87.8	0614	15/10	NOR	NRK Program 1, Hovdefjell. Music and Talking	F201	NRK_P1__	v strong	T	WK
87.8	1831	15/10	NOR	NRK Program 1. Still very strong, Hovdefjell. Music	F201	NRK_P1__	v strong	T	WK
87.8	0307	16/10	NOR	NRK Program 1, Hovdefjell. Music and Talking	F201	NRK_P1__	v strong	T	WK
87.9	1359	08/10	D	MDR Figaro, Inselberg. om talk	D3C3		v good	T	PT
87.9	1808	15/10	D	MDR Figaro, Inselberg. classical mx			good	T	PT
87.9	0955	07/10	F	France Culture, Parthenay/Amailloux (79). Talks			fair/good	T	MF
87.9	1501	29/10	F	Fun Radio, Yvetot-Autretot. Pop Music	F217		strong	T	WK
87.9	0458	31/10	F	France Culture, Parthenay/Amailloux (79). Talks	F202	_CULTURE	good	T	MF
88.0	1042	08/10	D	SR1, Grottelborner Hohe. pop music			good	T	PT
88.0	2105	30/10	D	SR 1 Europawelle, Götterborner Höhe. Music	D3B1	__SR_1__	good	T	MF
88.0	1517	29/10	F	France Culture, Alencon. Talking	F202	_CULTURE	v strong	T	WK
88.0	1147	14/10	HOL	Radio 2, Smilde. Talking	8202		fair	T	WK
88.0	1758	14/10	HOL	Radio 2, Smilde. Talking	8202		strong	T	WK
88.0	0712	15/10	HOL	Radio 2, Smilde. Music and Talking	8202	R2_AVRO_	v strong	T	WK
88.0	1013	15/10	HOL	Radio 2, Smilde. Talking	8202	R2_KRO__	v strong	T	WK
88.0	1545	15/10	HOL	Radio 2. Still going strong, Smilde. Talking	8202	RADIO_2_	v strong	T	WK
88.0	2024	15/10	HOL	Radio 2, Smilde. Music	8202	RADIO_2_	v strong	T	WK
						R2_VARA_			
88.3	0550	14/10	F	France Culture, Laval/Mont Rochard (53). Current Affairs	F202	_CULTURE	good	T	MF
88.3	0505	31/10	F	France Culture, Laval/Mont Rochard (53). Talks	F202	_CULTURE	good	T	MF
88.5	2119	29/10	F	France Culture, Bourges. Talking	F202	_CULTURE	v strong	T	WK
88.6	0550	14/10	F	France Culture, Gavray (50) (0.1kW). Current Affairs			poor	T	MF
88.6	1550	15/10	HOL	3 FM, Smilde. Music and Talking	8203	__3FM__	strong	T	WK
88.7	1031	14/10	F	France Musique, Lille. Classical Music	F203	MUSIQUE_	strong	T	WK
88.7	1136	15/10	NOR	NRK Program 1. Still present at RDS levels, Oslo. Music	F201	NRK_P1__	good	T	WK
88.9	2021	29/10	LUX	RTL Radio Lëtzebuerg, Dudelange/Ginsterberg. Music	7210		good	T	MF
88.9	2110	30/10	LUX	RTL Radio Lëtzebuerg, Dudelange/Ginsterberg. Music	7210		good	T	MF

89.2	1918	15/10	D	NDR2, Osnabruck. Elton John songs			good	T	PT
89.5	1816	15/10	D	HR 3, Hoher Meissner. Kim Wilde songs	D363		v good	T	PT
89.8	1929	15/10	D	MDR Jump, Chemnitz. pop mx			good	T	PT
89.9	2106	15/10	NOR	NRK Program 3, Geilo. Music and Talking	F203		weak	T	WK
90.0	1939	15/10	D	NDR kultur, Aurich. om talk			v good	T	PT
90.2	1938	15/10	D	NDR Kultur, Lingen. om talk			good	T	PT
90.2	1413	29/10	F	France Musique, Neufchatel-en-Bray. Classical Music	F203	MUSIQUE_	v strong	T	WK
90.5	0700	29/10	BEL	RTBF Vivacité, Liège-Bol dAir. News	6352	VIVALG_	good	T	MF
90.5	2115	30/10	BEL	RTBF Vivacité, Liège-Bol dAir. Music/talks	6352	VIVALG_	good	T	MF
90.6	1947	15/10	D	WDR 5, Teutoburger Wald. om talking	D395	WDR_5_	v good	T	PT
90.6	0510	31/10	F	France Inter, Nantes (44). Talks	F201	__INTER_	good	T	MF
90.7	1401	08/10	D	Bayern 1, 2 listed. om talk	D311		fair	T	PT
90.9	1125	01/10	F	Chante France, Paris (75). Music			good	T	MF
91.0	1638	08/10	D	HR 1, Biedenkopf. music			good	T	PT
91.0	0640	29/10	D	hr1, Biedenkopf/Sackpfeife. Talks	D361	__hr1__	good	T	MF
91.1	1821	15/10	D	NDR1, Steinkimmen. mx	D381	NDR1_NDS	v good	T	PT
91.1	0650	29/10	D	SWR1 Rheinland-Pfalz, Daun-Kirchweiler/Scharteberg. Music //web stream			good	T	MF
91.1	2115	30/10	D	SWR1 Rheinland-Pfalz, Daun-Kirchweiler/Scharteberg. Music //web stream			good	T	MF
91.2	0705	29/10	BEL	RTBF Musiq 3, Bruxelles-Tour Finance. News	6353	MUSIQ_3_	good	T	MF
91.5	2125	30/10	BEL	RTBF Vivacité, Léglise-Vliessart. Music	6352	VIVALG_	good	T	MF
91.7	1448	08/10	D	MDR1 Thuringen, Sonneberg. music	D6F1		v good	T	PT
91.8	0908	15/10	HOL	Radio 1, Smilde. Talking	8201	RADIO_1_	v strong	T	WK
91.8	1546	15/10	HOL	Radio 1, Smilde. Talking	8201	_NOS_	v strong	T	WK
91.8	0628	15/10	NOR	NRK Program 3, Bjerkreim. Music	F203	RADIO_1_			
91.8	1139	15/10	NOR	NRK Program 3. Still at RDS levels, Bjerkreim. Music	F203	NRK_P3__	v strong	T	WK
91.8	2133	15/10	NOR	NRK Program 3. Still very strong sigs, Bjerkreim. Music	F203	NRK_P3__	v strong	T	WK
92.0	1949	15/10	D	WDR5, Munster. comedy	D395		v good	T	PT
92.2	0510	31/10	F	France Musique, Tours (37). Music	F203	MUSIQUE_	good	T	MF
92.2	1704	15/10	HOL	Omrop Fryslan, Smilde. Pop Music	8411	Fryslan_	v good	T	WK
92.3	1642	15/10	NOR	NRK Program 2, Skien. Music	F202	NRK_P2__	v strong	T	WK
92.4	1822	15/10	D	NDR 1, Osnabruck. mx			v good	T	PT
92.4	1931	29/10	F	France Culture, Mantes. Talking	F202	_CULTURE	v strong	T	WK
92.5	1405	08/10	D	MDR 1 Thuringen, Inselsberg. music			good	T	PT
92.5	1247	15/10	NOR	NRK Program 2, Greipstad. Talking	F202	NRK_P2__	good	T	WK
92.5	1643	15/10	NOR	NRK Program 2. Still very strong, Greipstad. Music	F202	NRK_P2__	v strong	T	WK
92.8	1449	08/10	D	SWR 3, Bad Marienberg. music			v good	T	PT
92.8	1823	15/10	D	NDR1, Schwerin. mx	D381		good	T	PT
93.0	1923	15/10	D	BFBS 1, Braunschweig. rock mx	D390		v good	T	PT
93.0	1900	13/10	F	France Bleu Breiz Izel, Brest (29). News	FF05	BLEU.BRE	good	T	MF
93.0	1535	29/10	F	France Inter, Alencon. Talking	F201	__INTER_	fair	T	WK
93.2	0708	29/10	BEL	RTBF Classic21, Bruxelles-Tour Finance. News	6354	CLASS.21	good	T	MF
93.2	0620	14/10	F	France Inter, Angers (49). Current Affairs	F201	__INTER_	good	T	MF
93.2	0510	31/10	F	France Inter, Angers/Rochefort Loire (49). Talks	F201	__INTER_	good	T	MF
93.5	1824	08/10	D	WDR 2, Nordhelle. music			good	T	PT
93.8	2130	30/10	D	SWR2, Saarburg-Schoden/Geisberg. Talks	D4A2	SWR2_RP_	good	T	MF
93.8	0515	31/10	F	France Inter, Parthenay/Amailoux (79). Talks	F201	__INTER_	good	T	MF
94.0	1841	29/10	F	France Culture, Rouen. Talking	F202	_CULTURE	v strong	T	WK
94.2	0619	15/10	NOR	NRK Program 1, Bjerkreim. Talking	F201	NRK_P1__	v strong	T	WK
94.2	1140	15/10	NOR	NRK Program 1. Still at RDS levels, Bjerkreim. Talking	F201	NRK_P1__	v strong	T	WK
94.2	1845	15/10	NOR	NRK Program 1. Still very strong sigs, Bjerkreim. Talking	F201	NRK_P1__	v strong	T	WK
94.3	0515	31/10	F	France Bleu Creuse, Guéret/St.Leger (23). Talks	FB05	BLEU.CRE	good	T	MF
94.3	1633	15/10	HOL	Radio 4, Lopik. Music	8204	RADIO4NL	v strong	T	WK
94.4	1636	08/10	D	HR1, Gober Feldberg. music			fair	T	PT
94.4	1824	15/10	D	NDR kultur, Steinkimmen. yl talking	D383	NDR_kult	v good	T	PT
94.6	1825	15/10	D	MDR 1 Sachsen Anhalt, Brocken. mx	D4D1		v,good	T	PT
94.8	0914	15/10	HOL	Radio 4, Smilde. Music	8204	RADIO4NL	v strong	T	WK
94.8	1547	15/10	HOL	Radio 4. Still very strong, Smilde. Talking	8204	RADIO4NL	v strong	T	WK
94.9	2107	29/10	F	France Inter, Bourges. Music and Talking	F201	__INTER_	v strong	T	WK
95.0	1927	29/10	F	France Inter, Mantes-la-Jolie. Talking	F201	__INTER_	v good	T	WK
95.0	1233	15/10	NOR	NRK Program 3, Lyngdal. Pop Music	F203	NRK_P3__	good	T	WK
95.0	1646	15/10	NOR	NRK Program 3. Still very strong, Lyngdal. Pop Music	F203	NRK_P3__	v strong	T	WK
95.1	0620	14/10	F	France Inter, Laval/Mont Rochard (53). Current Affairs			fair	T	MF
95.2	1451	08/10	D	MDR Figaro, Sonneberg. classical mx			good	T	PT
95.5	2115	30/10	D	SR 3 Saarlandwelle, Göttelborner Höhe. Talks/voice ID			good	T	MF
95.6	0710	29/10	BEL	RTBF Classic21, Liège-Bol dAir. Music	6354	CLASS.21	good	T	MF
95.6	2115	30/10	BEL	RTBF Classic21, Liège-Bol dAir. Music	6354	CLASS.21	good	T	MF

95.8	1734	15/10	D	NDR 1, Aurich. pop music			v good	T	PT
96.0	0625	14/10	F	France Culture, Vannes/MoustoirAc (56). Current Affairs	F202	_CULTURE	good	T	MF
96.3	2025	06/10	F	France Inter, Sens (89). Ethnic music			fair/good	T	MF
96.4	2130	30/10	BEL	RTBF La Première, Léglise-Vlessart. Music	6351	PREMIERE	good	T	MF
96.4	1741	15/10	D	NDR Info, Aurich. yl & om talking			fair	T	PT
96.4	0630	14/10	F	France Culture, Niort-Melle-Maisonmay (79). News	F202	_CULTURE	good	T	MF
96.5	1522	29/10	F	France Inter, Rouen. Talking	F201	__INTER_	v strong	T	WK
96.6	2130	30/10	BEL	Pure FM, Anderlues. Music	6355	PURE_FM_	good	T	MF
96.6	0630	14/10	F	France Bleu Mayenne, Laval/Mont Rochard (53). Music	FC05	BLEU.MAY	good	T	MF
96.6	2030	29/10	F	France Bleu Mayenne, Laval/Mont Rochard (53). Music	FC05	BLEU.MAY	good	T	MF
97.5	0554	15/10	DNK	DR P4 Regionalen, Næstved-Kobanke. Talking	9902	DR-P4REG	good	T	WK
97.6	0655	15/10	NOR	NRK Program 1, Lyngdal. Music and Talking	F201	NRK_P1__	v strong	T	WK
97.6	1147	15/10	NOR	NRK Program 1. Still at RDS levels, Lyngdal. Music	F201	NRK_P1__	strong	T	WK
97.6	1647	15/10	NOR	NRK Program 1. Still very strong, Lyngdal. Talking	F201	NRK_P1__	v strong	T	WK
97.7	1414	08/10	D	You FM, Rimbürg. pop music	D366		fair	T	PT
98.0	1631	08/10	D	NDR 1, Harz. pop music, ID			good	T	PT
98.5	0520	31/10	F	France Musique, Parthenay/Amailloux (79). Music	F203	MUSIQUE_	good	T	MF
98.6	0715	29/10	BEL	VRT Radio 2, Egem. Talks	6302	RADIO_2_	good	T	MF
98.7	0624	15/10	NOR	NRK Program 2, Bjerkreim. Music	F202	NRK_P2__	v strong	T	WK
98.7	1142	15/10	NOR	NRK Program 2. Still at RDS levels, Bjerkreim. Music	F202	NRK_P2__	v strong	T	WK
98.7	2149	15/10	NOR	NRK Program 2. Still very strong signals, Bjerkreim. Classical Music	F202	NRK_P2__	v strong	T	WK
99.0	0525	31/10	F	Radio Latina, Paris-Bagnolet/Tour Mercuria (93). Music	FE37	_LATINA_	good	T	MF
99.1	0715	29/10	BEL	RTBF Classic21, Anderlues. Music	6354	CLASS.21	good	T	MF
99.1	2120	30/10	BEL	RTBF Classic21, Anderlues. Music	6354	CLASS.21	good	T	MF
99.2	1913	08/10	D	WDR 2, Langenberg. pop music			v good	T	PT
99.2	0635	14/10	F	France Inter, Orléans/Traînou (45). Talks			fair	T	MF
99.4	0635	14/10	F	France Inter, Niort-Melle-Maisonmay (79). Talks			fair	T	MF
99.5	0530	31/10	F	France Inter, Auxerre/Molesmes (89). Talks	F201	__INTER_	good	T	MF
99.6	1524	29/10	F	France Inter, Caen. Talking	F201	__INTER_	v strong	T	WK
99.8	2001	08/10	D	NDR 2, Steinkimmen. news			v good	T	PT
99.8	1812	15/10	D	NDR 2, Steinkimmen. pop mx	D382		v good	T	PT
99.8	0701	08/10	F	France Inter, Metz. Talking	F201	__INTER_	strong	T	WK
99.8	0449	09/10	F	France Inter, Metz. Talking	F201	__INTER_	v strong	T	WK
99.9	2035	29/10	F	France Inter, Tours (37). Music	F201	__INTER_	good	T	MF
100.0	2129	15/10	D	WDR4, Munster. music	D394		v good	T	PT
100.3	1505	08/10	D	DLF, Ochsenkopf. talk			fair	T	PT
100.5	0445	13/10	D	WDR4, Teutoburger Wald/Bielstein. Music //internet stream			fair	T	MF
100.7	1750	14/10	LUX	Soziokulturelles Radio, Dudelange/Ginsterberg. Talks	7212		good	T	MF
100.7	0540	28/10	LUX	Soziokulturelles Radio, Dudelange/Ginsterberg. Music	7212		good	T	MF
100.7	2120	30/10	LUX	Soziokulturelles Radio, Dudelange/Ginsterberg. Music/talks	7212		good	T	MF
100.8	1647	08/10	D	NDR 1, Stadthagen. pop music			good	T	PT
100.8	1745	15/10	D	NDR 1, Stadthagen. music			good	T	PT
100.9	1324	08/10	D	FFH, Rhon. pop music	D368		v good	T	PT
101.0	1915	08/10	D	WDR 2, Eifel Barbelkreuz. pop music			good	T	PT
101.1	0718	29/10	BEL	RTBF Pure FM, Wavre. Music	6355	PURE_FM_	good	T	MF
101.1	2130	30/10	BEL	RTBF Pure FM, Wavre. Music	6355	PURE_FM_	good	T	MF
101.1	1512	08/10	D	SWR3, Donnersberg. Talks	D3A3	__SWR3_	good	T	MF
101.1	2203	08/10	F	Radio Classique, Paris (75). Classical music	F221	CLASSIQ_	good	T	MF
101.2	1915	15/10	D	Bremen 4, Bremen. om talk	D344		good	T	PT
101.3	1956	08/10	D	WDR 4, Langenberg. country music			v good	T	PT
101.4	1748	15/10	D	R. SAW, Brocken. pop music			v good	T	PT
101.4	1811	15/10	D	R. SAW, Brocken. pop mx	D3D9		v good	T	PT
101.5	0530	31/10	F	Radio Nova, Paris/Tour Eiffel (75). Voice ID/Music			good	T	MF
101.7	2120	30/10	D	Radio Salù, Schoksborg. Music/talks	D3B8	_SALUE__	good	T	MF
101.8	0724	29/10	BEL	RTBF Vivacité, Tournai. Music	6352	VIVAHT__	good	T	MF
101.8	2130	30/10	BEL	RTBF Vivacité, Tournai. Music	6A52	VIVAHT__	good	T	MF
101.8	1500	08/10	D	WDR 2, Ederkopf. news			good	T	PT
101.9	1307	08/10	D	Antenne Bayern, Rhon. pop music			v good	T	PT
101.9	1914	15/10	D	FFN, Barsinghausen. pop mx			v good	T	PT
102.0	1751	15/10	D	DLF, Lingen?. yl talking			v good	T	PT
102.0	1649	15/10	NOR	Kanal 24, Lyngdal. Talking	F21A	KANAL_24	v strong	T	WK
102.6	0725	29/10	BEL	RTBF Musiq 3, Tournai. Music	6353	MUSIQ_3_	good	T	MF
102.6	2125	30/10	BEL	RTBF Musiq 3, Tournai. Music	6353	MUSIQ_3_	good	T	MF
102.6	1955	08/10	D	NDR 2, Stadthagen. pop music			v good	T	PT
102.7	1911	15/10	D	FFN, Dannenberg. pop mx			v good	T	PT
102.9	2205	14/10	F	Radio Cristal, Evreux (27). Music	FB39	CRISTAL_	good	T	MF
103.0	1910	15/10	D	BFBS 1, Bielefeld. rock mx			v good	T	PT
103.0	1657	12/10	F	RCF, Neufchatel/Croixdalle (76) (1kW). Talks	F851	_RCF_____	good	T	MF

103.2	0535	28/10	F	France Bleu Berry Sud, Bourges (18). Talks	F505	BLEU.BER	good	T	MF
103.6	0718	15/10	NOR	Kanal 24, Hovdefjell. Talking	F21A	KANAL_24	v strong	T	WK
103.6	1145	15/10	NOR	Kanal 24. Still at RDS levels, Hovdefjell. Talking	F21A	KANAL_24	v strong	T	WK
103.6	1651	15/10	NOR	Kanal 24. Still very strong sigs, Hovdefjell. Talking	F21A	KANAL_24	v strong	T	WK
103.7	1905	15/10	D	NDR Info, Cloppenburg. om talk			v good	T	PT
103.7	1141	14/10	F	France Inter, Lille. Talking	F201	__INTER_	fair	T	WK
103.9	0500	31/10	F	RFM, Paris/Tour Eiffel (75). News	F212	__RFM__	good	T	MF
104.0	1917	08/10	D	Big FM, Koblenz. pop music			v good	T	PT
104.3	1303	08/10	D	HR 4, Biedenkopf. om talk	D364	__hr4__	v good	T	PT
104.3	0645	29/10	D	hr4, Biedenkopf/Sackpfeife. Talks	D364	__hr4__	good	T	MF
104.4	1755	14/10	F	Contact FM, Hesdin (62). Music	F931	CONTACT_	good	T	MF
104.6	1755	14/10	BEL	RTBF Classic21, Tournai. Music	6354	CLASS.21	good	T	MF
104.6	2125	30/10	BEL	RTBF Classic21, Tournai. Music	6354	CLASS.21	good	T	MF
104.8	1305	08/10	D	HR1, Rhon. yl talk			v good	T	PT
104.9	1705	15/10	D	Hit Radio Antenne, Aurich. yl ann. pop music			good	T	PT
104.9	1653	15/10	NOR	P4 R Hele Norge, Greipstad. Talking	F214	P4_NORGE	v strong	T	WK
105.0	0730	08/10	D	Deutschlandradio, Neunkirchen (Saar)/Kuchenberg. Talks			fair	T	MF
105.0	2100	30/10	D	Hit Radio FFH, Krehberg. Music RT: HITRADIO __F_F_H__	D368		good	T	MF
105.0	0730	02/10	F	France Bleu Touraine, Tours (37). Music	FD05	BLEU.TOU	good	T	MF
105.0	0800	08/10	F	France Bleu Touraine, Tours. Talks/music	FD05	BLEU.TOU	good	T	MF
105.3	1300	08/10	D	B5, Kreuzberg. news	D315		good	T	PT
105.5	0732	08/10	D	Eins Live, Teutoburger Wald/Bielstein. Talks			good	T	MF
105.5	1907	08/10	D	WDR eins live, 2 sites listed. pop music			good	T	PT
105.5	0450	13/10	D	Eins Live, Teutoburger Wald/Bielstein. Music //internet stream			good	T	MF
105.5	2100	30/10	D	WDR Eins Live, Teutoburger Wald/Bielstein. Talks			good	T	MF
105.5	0706	14/10	G	Palm FM, Beacon Hill Devon. Ads & jingle ID	C7B3	PalM_FM_	good	T	MF
105.6	0735	08/10	D	SWR4, Donnersberg. Talks			good	T	MF
106.0	2125	30/10	BEL	RTBF La Première, Tournai. Music	6351	PREMIERE	good	T	MF
106.3	1440	08/10	D	SWR 4, Bad Marienberg. music			fair	T	PT
106.4	2105	30/10	D	WDR Eins Live, Aachen-Stolberg/Donnerberg. Talks//105.5	D391	EINSLIVE	good	T	MF
106.7	1918	08/10	D	WDR eins live, Langenberg. pop music			good	T	PT
106.8	1901	15/10	D	Alster Radio, Hamburg. mx			good	T	PT
106.8	0555	28/10	F	France Info, Metz (57). News			fair	T	MF
106.8	2130	30/10	F	France Info, Metz (57). News	F206	__INFO__	good	T	MF
107.0	1439	08/10	D	WDR eins live, Olsberg. pop music			fair	T	PT
107.0	1809	15/10	D	WDR eins live, Olsberg. pop mx	D391		v good	T	PT
107.2	1258	08/10	D	WDR eins live, Ederkopf. pop music			v good	T	PT
107.3	1230	08/10	D	HR4, Rhon. music			v good	T	PT
107.3	1859	15/10	D	Ostseewelle, Scherin. nx			v good	T	PT
107.5	1800	15/10	D	BB Radio, Berlin. nx,wx,pop mx			v good	T	PT
107.6	1850	08/10	D	Antenne Thuringen, Remda. pop music oldies			v good	T	PT
107.6	1831	15/10	D	Antenne Thuringen, Remda. ID, wx, pop mx			v good	T	PT
107.8	1807	15/10	D	MDR Figaro, Brocken. classical mx			good	T	PT

WHO USED WHAT

MF	Mike Fallon	Saltdean, East Sussex	Kenwood KT 6050 (with filter mod), Triax FM8 (horizontal), RDSS
PT	Patrick Travers	Sheffield, South Yorkshire	Kenwood KT6040, Triax FM5 (Split reflector) Horizontal
WK	William F Kitching	Telford, Shropshire	Pioneer F737, Kenwood KTF 3010, 8 element horizontal Triax and 5 element Vertical. Conrads and DOS RDS software.

FM & Digital News Desk

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Standard Deadline – 1st of every month

UNITED KINGDOM

Changing the law to allow the use of low power transmitters for MP3 players

Ofcom today (5 October) published draft regulations that, when implemented, would legalise the use of low power FM transmitters, which can be used to connect MP3 players and other personal audio devices wirelessly to radios and in-car entertainment systems.

Low power FM radio transmitters such as the 'iTrip' are currently illegal to use in the UK and continental Europe because of the potential to cause interference to broadcast services. However, Ofcom is responding to consumer demand for the use of these devices and has led negotiations in Europe to develop a harmonised approach which will minimise the risk of interference.

Today's announcement follows a 10 week public consultation; draft amendments to the Wireless Telegraphy Exemption Regulations 2003 required to implement this change will be open for a further four weeks' consultation. Subject to consideration of the responses, Ofcom intends to bring the new regulations into force in early December 2006.

The publication of the draft regulations is part of Ofcom's overall approach to reducing the regulatory burden on stakeholders while encouraging the innovative use of the UK's finite spectrum resource.

CB radio and low power devices

As well as allowing the use of low power FM transmitters, the draft regulations propose to deregulate Citizens' Band services, allowing around 20,000 licensees to use short-range transmitters without the administrative and cost burden of an Ofcom licence.

The draft regulations will also make more spectrum available to meet consumer demand for other low power devices such as hearing aids, walkie-talkies, alarms systems, tracking and tracing systems and meter reading devices. Under the proposals, these will be able to operate in the 169.4 -169.8125 MHz band.

The deadline for responses to the draft regulations is 6 November and the full document can be found at: <http://www.ofcom.org.uk/consult/condocs/exemption/> (Ofcom)

Ofcom awards new FM commercial radio licence for Oxford and South Oxfordshire

Ofcom today (12 October) announces the award of the new FM local commercial radio licence for Oxford and South Oxfordshire.

By the closing date of 9 June 2006, Ofcom received five applications for the Oxford and South Oxfordshire licence. After giving careful consideration to each of the applications submitted, the Ofcom Radio Licensing Committee has decided to award the licence to:

- **Jack FM**, Absolute Radio International Limited, Suite 12, Pegaxis House, 61 Victoria Road, Surbiton, KT6 4JX
- Contact: Clive Dickens Tel: 020 7978 6529 Email: clive@jackfmoxford.com

Jack FM is wholly-owned by Absolute Radio International Limited. It will provide Oxford and South Oxfordshire's variety music station, particularly appealing to 35-54 adults, and offer a generally music-intensive theme, with regular news and information which is locally relevant.

The licence is for a service to cover Oxford and South Oxfordshire which has an adult population (aged 15+) of around 300,000. However, the exact coverage will be determined by the location of the transmission site and other technical characteristics.

Ofcom expects Jack FM to begin broadcasting at the earliest opportunity and no later than two years from this award date.

Ofcom will publish a statement setting out the key determining factors for the award of this licence shortly.

The licence will be issued for a twelve year period. (Ofcom)

Oxford's 107.9fm

is the latest station name for the ex-Passion ex-ex-Fusion ex-ex-ex Oxygen station in Oxford. PS: OXFORD (Mark Hattam)

Peak 107 becomes Peak FM

As they now have a relay on 102.4, Peak 107 have renamed themselves as Peak FM ... PS: PEAK_FM (John Faulkner)



BBC Southern Counties Radio

From Monday 16 October, BBC Southern Counties Radio will make two major changes to the way the station operates - which will result in audiences in Surrey and Sussex receiving a much more local service.

New Managing Editor of BBC Southern Counties Radio, Nicci Holliday, has announced that from 16 October the Reigate Hill transmitter will once more cover North East Surrey and a new three-hour drivetime show will launch for Surrey.

Following changes in spring of this year, parts of Surrey got a less local service than they had in previous years and this resulted in requests from all quarters of the audience to change the transmitter pattern back to what it had been previously.

Nicci Holliday explained: "The decision implemented earlier this year to switch Reigate Hill to the Sussex feed was taken in good faith by BBC management to ensure that listeners in Crawley had access to news and travel information for Sussex.

"However, the reaction from the audience has proved that this wasn't as popular a move as we'd anticipated, as those listening in North East Surrey felt they were receiving information that wasn't particularly relevant to them.

"After careful consideration and taking all factors into the equation, we do feel that the Reigate Hill transmitter should take the Surrey feed and that the public service duty to provide Surrey with a local service is the over-riding consideration.

"It also gives us an opportunity to provide a more dedicated service for both Sussex and Surrey and provide a stronger local news and information service to both counties.

"This, combined with the launch of a new three-hour drivetime show with presenter Mark Carter for the county, shows Southern Counties Radio's increasing commitment to Surrey."

The decision has been welcomed by Peter McCallum of the Local Radio Advisory Council, who said: "We welcome this decision as a sensible solution to listeners' concerns."

Listeners in Sussex outside of Crawley will continue to receive the Southern Counties Sussex schedule.

Details of all the programming for the two counties can be found on the website: bbc.co.uk/southerncounties. (BBC Press Office)

BBC Radio Guernsey

BBC Governor Ranjit Sondhi CBE visits Guernsey on Wednesday 4 October to sign a new BBC Broadcasting Agreement with the Bailiwick of Guernsey.

The agreement documents the BBC's provision of broadcasting services in the Bailiwick and accountability arrangements in the shape of a Listeners' Panel.

The current agreement was signed in 1998 and expires at the end of 2006.

The document agrees that BBC Radio Guernsey will continue to provide a range of programmes and services including comprehensive coverage of public meetings of the States of Deliberation.

It describes how the BBC will work with the States to provide public service information in the event of an emergency and the work of the Listeners' Panel whose role will be to advise the BBC on content of BBC programmes and performance generally.

BBC Guernsey has been broadcasting in the Bailiwick since 16 March 1982. (BBC Press Office)

BBC Radio Cornwall

BBC Radio Cornwall has attracted 6,000 new listeners over the last year, according to the latest audience figures issued by Rajar (Radio Joint Audience Research Ltd).

The figures show the station now has an average weekly audience of 161,000 listeners with 36.7% of the station's target area tuning in at some point during the week.

This is the highest reach of any BBC local radio station on the UK mainland.

Daphne Skinnard, Assistant Managing Editor, says: "We've been very busy this year travelling the length and breadth of Cornwall to meet our audience in their communities and will continue to do this.

"The whole team has worked hard to make our listeners central to everything we do. We're delighted with the figures."

The figures are from Rajar, an independent survey system which tracks radio listening for both BBC and commercial stations. The period measured was from March to September 2006. (BBC Press Office)

R S L U P D A T E

Updated 29 October 2006

Compiled by MARK PRATT (Devon, UK; e-mail: mark.pratt@skywaves.info)

This list is continually updated at the Skywaves website (www.skywaves.info), where email and web addresses for many of these stations can also be found.

Location	Freq	Station	Date On	Date Off	Telephone	Details (and contributor details)
Leeds	87.7	Akash Radio	25/10/06	21/11/06	0113 2956556	To celebrate the birthday of Guru Nanak Dev Ji
Brent Cross	87.7	BXFM	03/12/06	30/12/06	07956 811008	Christmas shopping information
South Craven	87.7	Drystone Radio	04/12/06	31/12/06	01535 635392	Community Radio trial
Eastbourne	87.7	EYR 87.7 FM	22/11/06	24/11/06	01243 573 409	Youth Broadcast
Norwich	87.7	Exchange Radio 87.7	05/11/06	09/11/06	01842 822007	School broadcast project
Kilbirnie	87.7	Garnock Valley FM	17/11/06	14/12/06	01294 468035	Local health project and community station

Clapham	87.7	Generation Radio	25/10/06	15/11/06	020 8678 5900	Clapham Park Project's Summer Festival
Cardiff	87.7	GlobeCast Rally FM	28/11/06	05/12/06	020 7753 3600	The 2006 Rally of Wales GB
Swansea	87.7	GlobeCast Rally FM	30/11/06	05/12/06	020 7753 3600	The 2006 Rally of Wales GB
Kendal	87.7	KYR 87.7 FM	13/11/06	14/11/06	01243 573409	Youth Broadcast
East Grinstead	87.7	Meridian FM	27/11/06	24/12/06	01342 317817	Community Radio trial
Staffordshire	87.7	Moorlands Radio	18/11/06	15/12/06	07766 986688	Community radio trial broadcast
Cheltenham	87.7	Open Radio	10/11/06	12/11/06	01280 820438	The Open Meeting - Horse racing
Barnsley	87.7	Radio Barnsley	28/10/06	24/11/06	01226 216319	Community Radio trial for Barnsley
Cheshire	87.7	Radio Lymm	01/12/06	09/12/06	07739 205320	Village community broadcast
Slough (Berks)	87.7	Radio Slough FM	28/10/06	24/11/06	07836 354611	Diwali
Salford	87.7	Shock Radio	03/11/06	30/11/06	07784 060257	Student Broadcast
Chorley	87.7	Southlands FM	13/12/06	15/12/06	01257 414455	School broadcast
Thornbury-Bristol	87.7	Thornbury FM	06/11/06	03/12/06	01454 413209	Community trial broadcast
Lewes	87.8	Rocket FM Lewes	20/10/06	05/11/06	01273 478198	Lewes Bonfire season and local interest programming
Smalley	87.9	Amber FM	02/12/06	29/12/06	07970 696076	Community Radio
Potton	87.9	Biggles FM	27/11/06	24/12/06	01797 260637	Christmas Community Broadcast
Bradford	87.9	Hajj FM	05/12/06	01/01/07	07779 336505	Hajj Festival
Gravesend	87.9	Khalsa Radio	15/10/06	11/11/06	01474 326464	To celebrate the birth of Guru Nanak Dev.
Preston & Blackpool	87.9	Preston FM	05/11/06	02/12/06	01772 880791	Community Radio Trial
Redditch	87.9	Radio Redditch	30/10/06	26/11/06	07790 007 589	Commercial Radio Trial Assessment
Leicester	95.1	Radio Kohinoor	16/10/06	12/11/06	0116 2701941	Celebrating the birth of Guru Nanak Dev Ji and Diwali
Oundle- Peterborough	96.3	OSCAR Radio	18/11/06	13/12/06	01832 277219	School broadcast
Bradford	96.7	Sabrang	16/10/06	12/11/06	01274 611644	Diwali
Leicester	97.5	Demon - FM	30/10/06	26/11/06	0116 255 5576	
Birmingham NEC	102.7	Gymnastics FM	25/11/06	25/11/06	01264 369369	Gymnastics at the NEC
Norwich	105.1	Future Radio	08/10/06	04/11/06	01603 250505	Community Radio service
Ballymena	106.3	Radio Cracker Ballymena	26/11/06	23/12/06	028 2565 6313	Charity Fundraiser at Christmas
Paisley	106.6	FPR	27/11/06	24/12/06	0141 889 2306	Community broadcast at Christmas
Huddersfield	107.2	Radio Hajj FM	17/12/06	13/01/07	0787 5142003	Hajj
Hartlepool	107.5	Radio Hartlepool	27/11/06	23/12/06	01429 275222	Christmas and Community trial

Membership: Skywaves is published monthly as an electronic e-zine, which can be downloaded by members via the Internet and read/printed on a computer using Adobe Acrobat Reader.

Subscriptions to the British FM & TV Circle, who publish Skywaves, now run from January to November/December, and are free.

There is also no charge by the BFMTVC to join the early DX warning system.

The Deadline for sections is the **1st of the month**, unless otherwise stated. Skywaves is currently compiled using Microsoft Word 98 for Mac. Electronic contributions can be sent in this, or any other Word format, as RTF, plain text, or as text within an e-mail. Written contributions are also welcomed, typed if possible. They should be sent to the relevant section editor by post or e-mail, or to the main address on the front page of Skywaves. Note - "On Screen" deadline is usually the 25th of the month.

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