

# F9TM

## M51

### M51a / FAV22

### M51b

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This profile is a compilation of various articles that Valeriano Martin, Fritz Nusser and Ary Boender have written in Numbers & Oddities over the years. A special "THANKS" goes to all the dxers who sent their logs to WUN, UDXF and Spooks.

### F9TM

Réseaux F9TM (F9TM network) is another related network. F9TM is a Radio Amateur network that is affiliated with the military stations FAV22 and M51. In the early days radio-amateurs could contact FLE, FYD or FLJ after the courses were broadcasted. After the war, in 1948, the courses resumed using the F9TM callsign. The frequencies are different from those of FAV22. Further proof that F9TM is affiliated with FAV22 and M51 was given on 25-1-2007 when F9TM took over from M51 with a CQ call and a short note about its Morse training transmission at 1830 UTC on 3536 kHz the same day.

#### F9TM schedules in local time:

Thursday: 1930-2015 on 3536 kHz.  
Sunday: 0930-1020 on 7025//3536 kHz (sked not confirmed).

Info partly derived from the RÉSEAU DES ÉMETTEURS FRANÇAIS website

[http://www.r-e-f.org/index.php?option=com\\_content&view=article&id=715&Itemid=444](http://www.r-e-f.org/index.php?option=com_content&view=article&id=715&Itemid=444)

### FAV22 (M51a)

#### History

The history of FAV22 goes back to 1935 when *Réseau des Émetteurs France* organized the first Morse training transmissions. Many French radio amateurs were former radio operators of the 8th Regiment of the Engineering Corps. One of the officers was general Gustave Ferrié. He gave France a first class military radio-electrical organisation in 1914. In December 1927 the REF became a Société Agréé Guerre -War Approved Society- (SAG N°12 744). This was the result of the permanent training program that REF organised for its members and also for military personnel. The training transmissions were sent by FLE on 4436 kHz before 1939. After that, transmissions were shared between FLE (Eiffel Tower), FYD (Pontoise) and FLJ (Issy-les-Moulineaux). The transmissions were interrupted in 1939 and resumed in 1947 with two more stations (Paris 6830 kHz, Lyon la Doua 6285 kHz).

Transmissions are then sent from the transmitter site of Vernon and controlled from Mont Valérien until May 1st, 1982. After 1 May the transmissions are controlled from the Bicêtre Fort. In July 2005, CSTEI takes over. (Centre Spécialisé des Télécommunications et de l'Informatique -Specialised Centre for Telecommunications and Computer Science-). The service started to use an unique callsign in the 1970's: "FAV22". The FAV22 transmissions used to take place from Monday to Friday at 2100 hrs on 3881 kHz and at 0900 and 1010 hrs on 6825 kHz. Both frequencies are still being used.

According to the 2013 update on the FAV22 website, the service is now implemented by the DIRIS, these courses are controlled by the CNMOTSR / CCF. The transmitters are in Vernon (Departement 27). Depending on the propagation, 1, 5 or 10 KW are used.

DIRIS - Direction Interarmées des Réseaux d'Infrastructure et des systèmes Informatiques  
(Joint Directorate of Infrastructure Networks and Computer Systems)

CNMOTSR / CCF - Centre National de Mise en oeuvre Télécommunications Spatiales et Radio/Centre de Contrôle des Fréquences  
(National Center for Implementation of Space Communications and Radio / Frequency Control Center).

### Schedules

Monday-Friday:0830-0900 UTC and 1130-1200 UTC  
Saturday: 0700-0730 UTC and 0820-0855 UTC  
Sunday: 0700-0730 UTC and 0820-0855 UTC

### Frequencies

3881 and 6825 kHz (simultaneous)

### Morse speed

Monday 420 groups / h  
Tuesday 600 groups / h  
Wednesday 720 groups / h  
Thursday 840 groups / h  
Friday 960 groups / h  
Saturday and Sunday 420 groups / h: 0900-0930z  
Saturday and Sunday 600 groups / h: 1020-1040z  
Saturday and Sunday 1,200 groups / h: 1040-1055z

The transmission speeds are slightly higher than those announced.

### Notes

- The complete course cycle has 162 different lessons (120 for the week + 42 for the Sundays);
- The lessons are different each day;
- The afternoon program is the repetition of the morning show;
- The Saturday and Sunday morning broadcasts are specifically intended for amateur radio and include, in coded form, punctuation;
- At the beginning of each lesson, the indication of the speed and the number of the lesson are indicated;
- Broadcasts are normally provided in July and August and all holidays.

### Composition of the lessons

Monday to Friday includes: coded - clear - coded – clear messages.

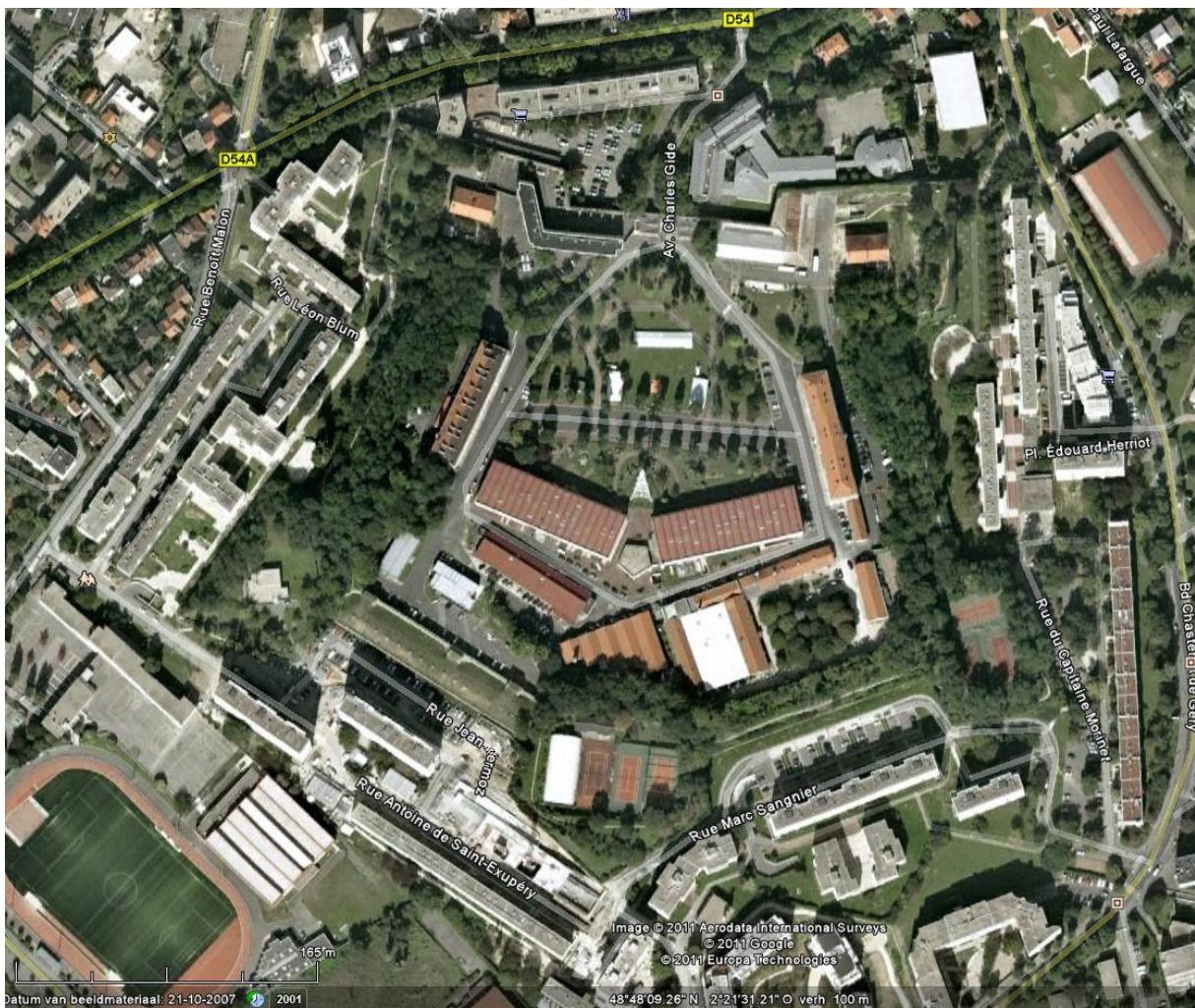
Saturday and Sunday: 9 hours = coded - clear. coded - clear. coded – clear messages.

Website: [http://www.r-e-f.org/index.php?option=com\\_content&view=article&id=715&Itemid=444](http://www.r-e-f.org/index.php?option=com_content&view=article&id=715&Itemid=444)

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### **M51b**

This variant mainly transmits continuous 5 character strings (letters, numbers, punctuations) for often 24h a day on 3881 and 6825 kHz. It also uses parts of the FAV22 lessons. First found in June 215 but silent since August 2018. The strings were interrupted by the FAV22 lessons. Was M51b for real or did they use these endless transmissions to occupy the frequencies?



**Fort de Bicêtre**



**Vernon**

## **M51 (defunct)**

From June 1996 until July 2005 M51's services began every Monday at dawn until Friday evening.

Since July 2005 M51 transmits from early Monday morning until early Friday morning, usually on six parallel frequencies that change every week. The schedules are quite unpredictable. The same frequencies may be on the air for up to 9 hours.

Typical broadcasts consist of series of training messages numbered from 01-90, each one being composed of 100 5-letter groups. Each message is preceded by a header like this:

= NR 38 N 30 08:13:28 1999

NR 38	message number, from 01-90
N	first letter of the month in French
30	date
08:13:28	Central European Time (UTC +2 Summer, UTC+1 in Winter)
1999	year

The station has been transmitting on a huge number of frequencies, the majority below 8 MHz. When a frequency change occurs, the transmission starts again in the exact place it left off at. This fact, which has been seen over and over again in frequency changes without interruption, has not been confirmed for those other transmissions in which a time lapse of no transmissions between schedules has occurred (like between 0930-1100 or 1530-1630 UTC).

Statistical analysis of available intercepts demonstrates that there is a daily loss of about an hour, but that it is slightly different for each day of the week: the greatest on Monday and Wednesday; and the least on Thursday. Week after week, this same pattern is repeated with almost identical figures.

The following table shows the daily deficit of transmission hours deduced from analyzing message headers, and is separated by number of messages and hours.

	Mon	Tue	Wed	Thu	Fri(AM)	Fri(PM+Sat/Sun)
Messages	12,9	9,5	11,4	8,3	5,1	594,9
Hours	1:20	0:59	1:11	0:51	0:32	62:47

To try to throw more light on the subject, it is necessary to go back to the last week of October 1998. At that time, the clock that controlled transmission was out of adjustment, probably caused by the shift to winter time. As a consequence of this mistake, the time sent in the message headers did not correspond to local time. On the morning of the 26th, normal transmissions were occurring on 6940 kHz and 6963 kHz, but the time transmitted in the message header was two hours ahead of local time. Until 0800 UTC, (0900 local time, 1100 transmitted time), an unexpected morse lesson was transmitted on the frequencies by callsign FAV22.

FAV22 is a French Army transmitter in the service of the French Amateur Radio Union for teaching morse. Each week, a daily lesson is offered at 1100 local time [1000 UTC], and is repeated in the afternoon at 1545 UTC. Both are simultaneously transmitted in parallel on 3881 and 6825 kHz and last approximately a half-hour. Supplemental lessons are transmitted on Sunday mornings. That FAV22 appeared unexpectedly on frequencies occupied by the M51 transmission makes one think there is a link between both stations, an impression that is strengthened by the observation of the incorrectly set control clock used to time the morse lesson. In my opinion, that revealing incident demonstrated the automation of both transmitters was done by the same equipment. On this point, one can go back and see that the FAV22 morse lessons only occur during those periods when the M51 transmission is inactive: the two daily gaps or during the weekend.

Each FAV22 morse session consists of four lessons daily: the 1st and 3rd, with characteristic 5-figure or 5-letter groups, while the other two are clear French plaintexts that include accented characters. Transmission speed goes up as the week goes on, reaching 960 characters per minute on Fridays. The length of these lessons also varies with ability level, and considering these two factors together, gives the characteristic of having the same type of session on each day of the week. After timing the FAV22 transmissions for more than a month, the following averages were noted:

The following table shows lesson duration divided by weekdays and separated by individual lesson and total lesson time. The table includes a call-up of 278 seconds' duration, which is the same for each day of the week.

	Mon	Tue	Wed	Thu	Fri
Individual session	0:39:26	0:28:43	0:35:02	0:25:03	0:32:09
Total sessions	1:18:52	0:57:27	1:10:05	0:50:07	1:04:18

Later, there exists a perfect correlation between the deficit observed in the M51 transmission and that of the morse lessons. (Compare for yourselves the two tables) Is there a need for more indications that the two transmitters share the same installation and transmission time? For he who still doubts it, I recommend tuning up to 6825 KHz at 0930 or 1530 UTC (one hour less in summer) at just the moment when M51 ends its transmission on its usual frequencies. With almost complete certainty, one can still hear some groups being sent by the M51 transmission just minutes before VVV DE FAV22 appears on the frequency.

According the pages of the French Radio Amateur Union, control of FAV22 is done by the Center for Control of Northern Frequencies by the French Army Fort at Kremlin-Bicetre, on the periphery of Paris, and that the transmitter, of 1 KW, is located in Vernon, 65 km to the northwest. These same installations, according to the aforementioned source, are those utilized each Thursday (not on Sundays anymore since January 1999) as a platform for morse exercises that comes from the collaboration between the French Army and Radio Amateurs' Union, in this case, the F9TM network. But, while the FAV22 morse lessons are on the air while M51 is inactive, the F9TM Thursday lessons take place at 1900 UTC during the M51 activity. There are few and insufficient data to confirm this with total confidence, but it is observed that M51 momentarily abandons its second parallel frequency during execution of the F9TM lessons.

As far as we know M51 is operated by the CSTEI 8th Signal Regiment which has transmitter sites Vernon and Favières with HQ in Fort Mont-Valérien in Suresnes, near Paris and operating center in Fort de Bicêtre, also near Paris. The Center for Control of Northern Frequencies has actually confirmed a M51 transmission. According to the QSL card the station was aired from Favières.

## **TRANSCRIPTS**

### **F9TM transcript**

CQF DE F9TM F9TM RESEAU NATIONAL FRANCAIS A 19:30 LOC QRG LIBRE APPRECIEE CQF CQF DE F9TM  
F9TM FRENCH NATIONAOL NETWORK AT 19:30 LOC CLEAR FREQUENCY APPRECIATED BSR ET 73 A TOUS LES  
YL, OM ET SWL. L'OP EST : FRANCAIS LA QRG EST 3536.005 KHZ. LES STATIONS FRANCAISES NE FIGURANT  
PAS SUR LA LISTE SUIVANTE ET DESIRANT QRG PRECISE DOIVENT ATTENDRE LE CQF AVANT DE  
EE'ANNONCER. VOICI LA LISTE D'APPEL.

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### **FAV22 transcripts**

= Leçon 03-2/1 Vitesse 720 codé =  
GDFSQ BWCXV SDARF STYUI QLOMA YTGDF RTGSR ZCWVS QNHNB VCGFT  
PMAIK NCVXG QJKIH KAUER SQFZR ATGDT 45273 KQLAP MOAUJ BCNGY  
YHTGF DJSUY RTZWX QCAVB 20197 HNDVX RYEGH DKJBD CNBVX WJQUW  
YHDGE ZUSHQ WNBXV ZUJAI KQLAP MQNHJ WKJIU YDHGF ETSFZ WMAPL  
YHUGF XBWHZ QJAHU WKQLM 37265 WVSDA BWNJK QLAPM OLQJH NWJIO  
TGETS WVXCQ AMPJU WNLQI KQLHJ 46276 WCXVD QGBNH AZUJK QLAMP  
PMLKJ NWBVF CHERZ AYHSU WNBHU YHSDQ WGBDV 34269 WNBDG QJAKI  
IKJHB CVXFE ZRSFQ AWNHJ QKALI NWBCG RTFSV 18056 XCDVF 25472  
YHDGX WNBQJ AUJGD WJNKL QMAPO LUJKD XCWVS ZRFAT WHQJY BUHFS

= LEÇON 03-2/2 VITESSE 720 CLAIR =

VALÉRY ÉTAIT LÀ, ET SON REGARD ME FAIT ENCORE SONGER À LA PRÉSENCE BLEUE, À LA CIRCULATION  
ÉMOUVANTE DU COURANT ÉLECTRIQUE DANS LE PETIT HUBLOT DES COMPTEURS. QUELQUE QUESTION  
ÉTAIT DANS L'AIR: LA MUSIQUE. LA FRATERNITÉ DES PEUPLES. LA RESTRICTION DES MOYENS DE  
DESTRUCTION. UN BOUQUIN DE KEYSERLING. LA VALEUR DES THÉORIES EN MATIÈRE LITTÉRAIRE. LE RÔLE  
DES FEMMES . QUE SAIS-JE? L'ASSEMBLÉE DONNAIT SON OPINION DE PLUS AUDACIEUX CERVEAUX  
PROPOSAIENT, DES AMENDEMENTS.

= Leçon 03-2/3 Vitesse 720 codé =

YUTGD SGQHA ZBWHP QMAOL KQIAH DVXCW GERSF HQJUK XNWHR 37628  
PMLAY DGCVX WNHYE XYCJV DHSRZ AYHSF QUJWC XLOKQ WVDFT UJXVE  
AOLCG WUJFO QLKAY 45201 XBWHR SYHFU AJLQO WBCVF DOLSM TGCVX  
WNQJA 28927 CVDJR TYDIO QLKAG CBVXH QXWRF ZJQKL APMWN OLHYT  
XBVXH SHNWJ QKALP MQJNH BCVFR STGZU QJNAI QKALP QMAYN UYTFG  
CVXGR CWOLA 37287 XBWNG SHQUJ ZUJSK WXSCG CLPMA ZNJUK YHNBG  
XBCFR SJKAY LCGDO WPMJH NXCDT ZUJSF AWJKL QPMAU JKQCV YHMLO  
VCGRT SDZJK AHNBX 36829 WNBGD RTSGZ 25617 XVCHD WJKQI UJHTG  
BCNDR SFZCW QHJKA LWOKY NCGRF XFLFL DFERS MFMFM

= LEÇON 03-2/4 VITESSE 720 CLAIR =

UN CAVALIER SEUL FAISAIT ENTENDRE UNE VOIX D'OR, LA BELLE ANNA, DE SES MYSTÉRIEUSES GROTTES,  
RETIRAIT LES GERBES D'UNE TROUVAILLE À L'AIGRETTE DEDIAMANTS. VALÉRY HOCHAIT LA TÊTE,  
ATTENDAIT UNE NAPPE DE SILENCE ET PLAÇAIT SON MERVEILLEUX GRAIN DE SEL AVEC POLITESSE AUX  
COUDÉES FRANCHES QUI ÉTAIT  
PRESQUE TOUT SON CHARME. CE QU'IL DISAIT ALORS ÉTAIT PARFOIS D'UNE SIMPLICITÉ DÉSARMANTE ET IL  
SE TROUVAIT TOUJOURS QUELQU'UN POUR PROTESTER SOIT CONTRE LANUDITÉ DU PARADOXE.

VVV VVV VVV DE FAV22 FAV22 FAV22 QLH 3881/6825 KHZ

LECON 21-1/2 V EZEE CLAIRE WUS ERRIONS ENSEMBLE DANS LES RUES, TROITES DU VIEUX MONTPEI E D  
POURRAIS-JE L AO7 I EN S ESTANT OBJETE IE EEL EIIUEF HEZ LUI N'ATTRAIT L'AI IENTIOTE. CP DTAII L SA  
COQUETTERIE, DE PASSER E NAIE NUZE ES S IENUE, COMME EN SES GESTES. AR ECE E ?E16 OE W COD, BT  
GDA F WHQGF XVCHR LAHJD XJHDG QLAMO MAJKF YHDJS WBSKA UJDHS LAPMD WJE XV DGRTS AUJDK

56287 E AJHDU 78352 WBXVTN NAHDGS WBXLA PMQKU YHDQK LAPOI BXNWJ THSUZ QHAGU JDKSI 67389  
UJDHS YHLPA WJQKA MLGHD JQT E?H XVWOL YHSJE 63528 HNXJD SKZUA MAW

= LEÇON 25-1/4 VITESSE 960 CLAIR

LES MATHÉMATIQUES FOURNISSENT À NOS ENTRETIENS DE LA RUE URBAIN V LES SUJETS LES PLUS INTÉRESSANTS; JE ME RÉJOUSSAIS DE VOIR PAUL PRENDRE EN AFFECTION LES MODES DE PENSÉE DU GÉOMÈTRE. SANS POUR CELA RÉPUGNER MALLARMÉ, EDGARD POE. DÈS SON JEUNE AGE, PAUL FUT L'ENNEMI DE TOUTE CLASSIFICATION SCHOLASTIQUE. ET, À MON SENS, ON NE PEUT LE SUIVRE DANS SA MÉDITATION, QU'EN SUPPRIMANT LES FRONTIÈRES QUI ARTIFICIELLEMENT SÉPARENT LE DOMAINE SCIENTIFIQUE DE CELUI DES LETTRES ET AUSSI L'ABSTRAIT DU CONCRET, LA SYNTHÈSE DE L'ANALYSE, LE FOND DE LA FORME. LES SPÉCULATIONS DU MATHÉMATICIEN LE SÉDUISENT DÈS LEUR ABORD. LA THÉORIE DES FONCTIONS. AR CQ DE FAV22 VA

## M51 transcript

bt nr 83 o 09 12:37:29 1984 bt  
tnctr anudh zavmb ewixo mgqm yqoge xdrif iolbw qjbkk cazfz  
gdsrc etzuk pwixu uxdzm rkilw jemkn dqkbu cosha uijan izhln  
qxytd yhfv kyiota laxoz uvigli aepvy jjjvj draqc wscie tcxwv  
nrgaf lgntx orsbg pizfs qexwm eubpq wwwte ydnfl smafw pkvdo  
rtlmk lmmuz ykvui awuvk jbmpu zrmfk aiprq bqtxo qzclq smlel  
nibvh oahjr dpcrh vckym mthdn nkway srxdt niroc otvwk coigo  
znnull kbyiy jlrya cbgqh yhhud yvbza ucjbk xkmxo uikay ojcwi  
meeah jywgb tqyeb quqew ttisy szpum akaql ynslz kssog lbzga  
kwpkq brnbv ofrju gxz??k vxynk csbne anklz aopfo zykrd kfctl  
nsqnk eyfts wniqc nrmdw aafii ytays ucsii yghgs isnqe ydraj

## M51b transcript

**6825 kHz, 18-04-2018, 0930 UTC, i.p.**

EAALY VCGRY WNDHR QKNWJ AJAOK UJAOK QMAUJ YHDGT WVQHA ZUSHL AIKDH 35281 BXNDH QMAJK NBCGD  
XHETS QJSGZ UJGHC ETSCX WBCGZ AUJSK QKLWP 53829 NXBDJ SWBQK LAPMH NCJDU YHDIK 16738 NXDHZ  
UJQHW 1764/ NCJDU HQKAZ BXGDJ QKALI HNQGB IKJNH XVSHZ QBWNA YTDGS WBQJU AKHDK LQMAP NBXHD  
YHSJZ 53803 YHDGX //ZSP JNCGD XHNSJ AUJQL ZUYRT 37264 HBXND KAYSL QMAPO CDHDL WNQFG DFVXU  
ZJSKA SKWNV CHDUT YHSKL 37208 BXNVJ SKALD TGDJH WBQIL AMPKH BCNDH SJAUG BXVQH ZUJAL HNDJT  
YHSKA BWNSJ YHDKZ 28563 BXNDH SKAJY HSQKA UJDMP GBCJD XJSUH NWHER GBXVD QJAUD WNQMA QPLHJ  
FGCVR QKJHF VXBET SFQGA JKWR TGQLP YHDJZ BWNSJ AUJQK 28765 01753 GBCHS WBSJA WNQJK AIKSL  
QMAPH YUHDJ SJBSF VXHSF QHAUJ WNQKA IKDGV 63784 BGCJD XNSJR SJHQK HBCJD WVSJZ 3764/ WNHSF  
QJHAU RTDGC XMLQI KDHSB XNDGR SHGIM KJFH C XNWKS ZIJAK WKQLA YHDOL 67849 NXKDJ SHWBS IJDGZ  
WNBCN UJDKL WNBCG DFZRS WBWNU ZHSGQ AJHDU 78356 WBXVD QJHND UJDHB WCXVS QHAMQ WNHZI JQKAL  
HNBCJ DUJXB VWGDT ZRFSX WBHU UHFGC VXHSD WXCSF ZYHQK WNBHX ZUJAL KNJUH BXHDF 65382 BXNSH  
JQHBX WNBCY FGDHZ WJQKZ HBXKS IAJHF BXNDK SLKWH DYNHR SKZLF DHIQU VCGSH PELEO XAQEZ NCBDG  
MVNBNT PTOTI BVNYE SWREG 02589 ZBAQV =,/?/ NCBDH MNLHK CXIKW ASQWE CBXBW LGRPO CBHYW NVVMR  
45896 BSGWY ., '<SK>? BCDHE LHPOT BCNDW XMKWU ASQVS NJDEF MKFD VXS GW 47896 MBKIG .,+/  
MCDDU MVLOR ACQRZ NCDHE MBCND LGPRO SN4302 QOWIE ,<SK>'? NVBXC NSWPO NDEYJ DJKET AXZVS  
NVMRU NDPEJ WRSFU 43269 VCSWH .,=/? KDWIC SNSJW VZWPO LFMKR DREGN MCEIS MCKDO AFQTH 01658  
MNGKT /., ' NSYWP ASQEZ NXHWY MXWJK LFPEI CNMWI ZCVQT MVIEW 49635 DSQEF , .?/? MVLPE QADTD  
NDJEI CVDBE FKEIS QEAFY CBDFW VFLPE 41203 XCSAD ?, .= ASQRV NVDYE MCDEI BXBWH ALPQE BCDDY  
CBXBX NXWPO ?., '/ MCIWO 52901 SNIEWY BDGWT XWEUD NVLEO XWPCN ASKEO BGETQ CBNK 41123  
MOEPL +.<SK> , ' QPALO BCGEY MXNWU CXGAH NBHFE KGRL LBPOF VZAS QBYXY , .? '<SK> VXRAD 25893  
VXATG LGPRO DGURA JDIBR SLVIE MNAPQ BKHYX VLSDP HTFZI LAFGH INVRC SOPEF 62894 VSQZB .,=?/  
CXSAE IDGET NYUQ ASWOP FJEIR YGVDO PKFUC EXUNF 00511 BSYDH .,?// SOUPE KESYB MDGUC AQNRI  
SESOEPL CNDKE RWODK 85236 CAXWS .,<SK>' / XLASD RRBGI GBUDE FKHD TUYOP EDSWX WQAZX OPLMN  
25984 CARSD +, ? AQPON CNDKW XMAKW DLWPE RUGBY ODFRT BHGCD ORMWX 96547 CMVNR .,/ <SK>  
LAOSW JDIWH XZNSJ BMNEO RITOJ WEISJ SLAOJ TNBZMA 32698 LFOTP .,/ <SK> ' BUHDE MYJHG VDUNH  
WLODC TYHGB MILKY TUTUT NDCIN 98720 LGOHP , /.= AQPWO CNDJW ANDER MORN PLOFE XNSIW OPKJD  
EVGCT 63259 BCDGE , .? '<SK> MAGDA LTMRGH BIDUL WERTY ALPES HNIFE CMKSE XIOKE '///'. MCKOD  
12890 AQPOL CMVNE WJCME SWERP LFKHM IJNGR BCDFY DHBV 25168 VCFSG , .?+ ' VNMRO FKSWU GLOPE  
NCJSJ KFOGL AQEWF BCNDJ MNKTI PHLOR , .? '<SK> ' NXSFN 20398 BVNDJ FLWOJ ZAQCS JHFRD NJSDE  
ZPOYT QRWET IYUTO POLKJ ZCXVB MNJHB ASFDG 13957 VXSGW , .? '<SK> QDSSG LJPUO NVBFG YRTQW

ASZXA QPLIH BCVDN HDYEI 10369 VXSUW '?., TRYEU QEWAR BCXDS MJKHU RQEOP BGHVT XAZSQ MTEKHZ  
47850 BQTBS <SK>/?. XCZPQ MLHPI XASQW SCMEY RGSGW XCADQ PLKMO ZXCV 75301 XUWDAE ./?,= PLOIU BVDGW QTYRE ZXQWU PRUTY BDGRT XCSRW OKRYU 85247 GRWTJ /?.,' FBFBI PLOIU VZBQI ETFGR './? NVDME 52036 VDGFS SHGCD AZSQL MNEYH DJFVO ALKCJ QWIVJ BDGVX 50369 QAVNR '<SK>+.?  
CBXZN MLFKE CALSD ETFUB GDHQJ ZUSGQ WBXVD XNAIK QLANP XNWBD QJEUDI etc etc



SIGINT station Feucherolles, France

Numbers

## FREQUENCIES

F9TM: 3536 and 7025 kHz.

M51a / FAV22: 3881 and 6825 kHz.

M51 has been using a very large number of frequencies over the years.

2045	3182.5	3948	4495	4961	5193	5318	5479.5	5922	6924.5
2086.5	3183.5	3955.5	4496	4963	5193.5	5319	5520	5978	6925
2129.5	3188	3957	4498.5	4964	5194	5319	5598	5978	6929
2130.5	3239.5	3959	4501	5002.5	5200	5319.5	5685	6201	6930
2212.5	3246	3972	4511	5018	5206	5320	5686.5	6430	6931
2237	3253	4004	4524.5	5063	5207	5321	5713.5	6431	6932
2250	3255	4006	4525	5066.5	5208	5330	5740	6469	6933.5
2267.5	3341	4007	4526	5072	5212.5	5333	5746	6779	6934
2285.5	3381	4012	4552.5	5072.5	5213	5334	5748	6787	6934.5
2290.5	3502	4018.5	4577	5073.5	5213.5	5334.5	5762	6788	6939
2345.5	3528.5	4023	4579.5	5082	5214	5335	5764.5	6823	6940
2346.5	3608	4024	4597	5097	5214	5336	5765	6824	6941
2393.5	3611.5	4025	4597.5	5110	5220	5337	5765.5	6826	6942.5
2395.5	3615	4029	4626.5	5115	5223	5358	5767.5	6835	6944
2407	3616	4031	4627	5116	5224	5377	5768.5	6839	6946
2453	3618	4033	4628	5123	5225	5377.5	5770	6840	6947
2473	3638	4035	4629	5124	5226	5394.6	5771.5	6850	6950
2525	3640.5	4038	4630.5	5129	5230	5401	5774.5	6851	6951
2548	3640.5	4039	4639.5	5130	5230	5402	5780	6852	6955
2550	3643	4050	4774.5	5131	5231	5403	5785	6853	6956
2551	3670	4051	4796.5	5132	5233	5407	5787	6856.5	6957
2555	3685	4060	4797.5	5134	5235	5407.5	5797.5	6857.5	6963
2563	3687	4331	4798.5	5134.5	5240	5410	5798.5	6862.5	6964
2565	3692	4350	4825	5135	5243	5411	5798.5	6863	6965
2567	3708	4409	4827	5142	5246	5417	5818	6863.5	6974.5
2569.5	3710	4410	4832	5149	5247	5420	5819.5	6880	6976
2597.5	3730	4411	4833	5150	5248	5421	5827.5	6882	6976.5
2598	3740.5	4440	4840.5	5153	5250	5425	5828.5	6883	6980
2599	3745	4440.5	4855	5154	5254	5425	5837.5	6887	6981
2601.5	3753	4441	4856	5178.5	5255	5426	5838	6888	6982
2682	3757	4444	4874	5179	5256	5427	5838.5	6888.5	6983
2712	3758	4447	4875	5180	5256.5	5428	5869	6889.5	6984
2737	3761	4448	4885	5181	5257.5	5430	5870	6890	6984.5
2817	3770	4458.5	4892.5	5181.5	5262	5432	5877.5	6891	6985
2832.5	3771	4460	4895	5182	5263	5433	5881.5	6896	6986.5
2843	3800	4469	4898.5	5184	5272	5440	5885	6897	7141
2843.5	3819	4475.5	4899	5185	5277	5441.5	5886.5	6913	7315.5
2846	3824	4481	4899.5	5187	5279	5442	5889	6914	7317
2849.5	3827.5	4482	4910	5188	5285	5442.5	5892	6914.5	7317.5
3069	3838	4484	4911.5	5189.5	5286	5452	5893	6915	7330
3070.5	3846	4485	4923	5190	5301	5454.5	5904.5	6917.5	7331
3103.5	3861	4486	4930	5191	5302	5459	5905	6921	7336.5
3111.5	3871	4488	4931	5191	5309	5471	5907	6922.5	7340
3165	3882	4488.5	4935.5	5192	5310	5471.5	5907.5	6923.5	7342
3168	3898	4489	4948	5192.5	5311	5476.5	5911	6924	7342.5

7360	7537	7802	7968	8160.5	9167	10296	11084.5	13573.5	15899
7361	7550	7803	7971	8168.5	9178	10296.5	11086	13576	15911
7364.5	7551	7804	7983.5	8181	9201	10297	11101	13597	16051
7371	7561	7816	7988	8731	9226	10351	11102	13801	16066
7373.5	7585	7817.5	7991	8751.5	9231	10387	11103	13849	16077
7379	7586	7819	8008	8970	9231	10421	11136	13851	16241
7387.5	7596	7820	8010	8970.5	9254	10448	11138	13877	16263.5
7390	7603	7821	8011	8993	9260	10499	11174	13921.5	16292
7390	7614	7823	8015	9000.5	9269	10507.5	11446	13982.5	16314
7392	7615	7830	8032	9044	9271	10566	11482.5	13983	16340.5
7408	7622.5	7831	8043	9048.5	9273	10581	11511	14441	17481
7409	7623	7840	8070	9052	9273.5	10624.5	11573	14468	17485
7415	7623.5	7846	8071	9057	9296	10625.5	11615	14486	17535
7419.5	7624.5	7851	8091	9068	9305.5	10631	11831	14506	17993.5
7420	7635	7852	8095	9068.5	9316.5	10636	11856	14527	18273.5
7422.5	7672.5	7879	8095.5	9075.5	9338	10648.5	12136	14586	18305
7426.5	7674	7880	8106	9083	9381	10648.5	12168	14668	18309
7436	7688.5	7881	8120	9084.5	9407	10651	12202	14668.5	18311
7473	7712	7891	8121	9095.5	9501	10652	12225	14671.5	19086
7475	7713	7897	8128	9110	9901	10683.5	12225.5	14801	19343.5
7489	7717	7906.5	8129	9111	9960	10688	12686.5	14842.5	19831
7497	7740	7937.5	8143.5	9122	9968	10837	13457	14843	19877
7503	7740	7938	8144	9123.5	10115	10860	13464	14878	20813.5
7503.5	7762.5	7938.5	8148.5	9124.5	10241	10863	13501	14914	20835
7511	7773	7949	8154.5	9126	10261	10912	13547	14965	23189.5
7535	7789	7950	8155	9135	10261	10961	13549	14976	
7536	7793	7951	8156	9141	10262.5	11084	13552	15573	

M51b: 3881, 6825, 8566 kHz

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#### Notes:

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#### Links:

Utility DXers Forum [www.udxf.nl](http://www.udxf.nl)

Numbers & Oddities [www.numbersoddities.nl](http://www.numbersoddities.nl)

REF: [http://www.r-e-f.org/index.php?option=com\\_content&view=article&id=715&Itemid=444](http://www.r-e-f.org/index.php?option=com_content&view=article&id=715&Itemid=444)



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