

## ENR 4 AIDES/SYSTEMES DE RADIONAVIGATION

## RADIO NAVIGATION AIDS/SYSTEMS

## ENR 4.1 AIDES DE RADIONAVIGATION EN-ROUTE

## RADIO NAVIGATION AIDS EN-ROUTE

Les aides à la navigation utilisées pour les opérations en cheminement libre (FRA) sont présentées selon leur fonction. Une aide à la navigation peut avoir une ou plusieurs fonctions dans un ou plusieurs volumes FRA. La fonction abrégée entre parenthèses est indiquée dans la colonne "Observations" après le volume FRA concerné.

NavAids used for Free Route operations (FRA) are categorized according their function. One nvaaid may have one or more functions in one several FRA volumes. The function is shown in column "Remarks" abbreviated in parentheses after the FRA volume concerned.

|         |                                                                   |
|---------|-------------------------------------------------------------------|
| FRA (A) | Point de connexion d'arrivée FRA / FRA arrival connecting point   |
| FRA (D) | Point de connexion de départ FRA / FRA departure connecting point |
| FRA (E) | Point d'entrée horizontale FRA / FRA horizontal entry point       |
| FRA (I) | Point intermédiaire FRA / FRA intermediate point                  |
| FRA (X) | Point de sortie horizontale FRA / FRA horizontal exit point       |

| Station                 | Service     | ID  | FREQ                     | HOR | Coordonnées<br>Portée Coverage                                 | ALT     | Situation<br>Location | Exploitant<br>Operator | Observations<br>Remarks                                                                                                                                                                                                                                                   |
|-------------------------|-------------|-----|--------------------------|-----|----------------------------------------------------------------|---------|-----------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ABBEVILLE               | DME         | ABB | 108.45<br>MHz<br>Ch 21Y  | H24 | 50°08'06.5"N 001°51'16.9"E<br>60NM FL500                       |         |                       |                        |                                                                                                                                                                                                                                                                           |
| AGEN-Gaudonville        | DME         | AGN | 114.8<br>MHz<br>Ch 95X   | H24 | 43°53'16.9"N 000°52'22.3"E<br>120NM(315°..75°) 100NM<br>FL500  | 896 ft  |                       |                        | FRA(I): LFFRASW;<br>FRA(A): LFFRASW, LEPP,<br>LERJ, LESO, LFBA, LFBD,<br>LFBE, LFBM, LFBP, LFBT,<br>LFBZ, LFCC, LFCG, LFCL,<br>LFCN, LFCQ, LFCW, LFCX,<br>LFDA, LFDB, LFDH, LFDJ,<br>LFDX, LFMW;<br>FRA(D): LFFRASW, LFBA,<br>LFBD, LFBM, LFCC, LFCN,<br>LFDA, LFDH, LFDJ |
| AJACCIO-Coti Chiavari   | VOR-<br>DME | AJO | 114.8<br>MHz<br>Ch 95X   | H24 | 41°46'13.9"N 008°46'28.8"E<br>200NM(90°..270°) 100NM<br>FL500  | 2142 ft |                       |                        | FRA(IA): LFFRASE, LIRJ,<br>LIRP, LIRS, LIQS, LFKB,<br>LFKC, LIEA, LIEO , FL195-<br>660;<br>FRA(ID): LFFRASE, LFKB,<br>LFKC, LIEO, FL195-660                                                                                                                               |
| AMBOISE                 | DME         | AMB | 113.7<br>MHz<br>Ch 84X   | H24 | 47°25'44.1"N 001°03'52.0"E<br>80NM FL500                       | 387 ft  |                       |                        | Pas de VOR associé.<br>No associated VOR.                                                                                                                                                                                                                                 |
| ANGERS                  | DME         | ANG | 111.05<br>MHz<br>Ch 47Y  | H24 | 47°32'12.7"N 000°51'06.6"W<br>150NM FL500                      | 304 ft  |                       |                        | Pas de VOR associé.<br>No associated VOR.                                                                                                                                                                                                                                 |
| AVIGNON CAUMONT         | NDB         | CM  | 369 kHz                  | H24 | 43°54'29.8"N 004°54'19.4"E<br>20NM                             | 160 ft  | 143°/750m<br>DTHR 17  |                        |                                                                                                                                                                                                                                                                           |
| AVIGNON Pujaut          | VOR-<br>DME | AVN | 114.6<br>MHz<br>Ch 93X   | H24 | 43°59'43.3"N 004°44'47.0"E<br>60NM FL500                       | 159 ft  |                       |                        |                                                                                                                                                                                                                                                                           |
| AVORD                   | NDB         | AVD | 288.5<br>kHz             | H24 | 47°07'14.4"N 002°47'58.6"E<br>50NM FL500                       | 695 ft  |                       |                        |                                                                                                                                                                                                                                                                           |
|                         | TACAN       | AVD | Ch 43X                   | H24 | 47°03'29.1"N 002°37'47.5"E<br>150NM FL600                      | 578 ft  |                       |                        |                                                                                                                                                                                                                                                                           |
| BALE-MULHOUSE           | VOR-<br>DME | BLM | 117.45<br>MHz<br>Ch 121Y | H24 | 47°37'58.1"N 007°29'58.2"E<br>100 NM(270°..360°) 60NM<br>FL500 | 886 ft  | 333°/1 NM<br>THR 15   |                        | FRA(A): LFFRAE, LSMD,<br>LSZH                                                                                                                                                                                                                                             |
| BASTIA PORETTA          | VOR-<br>DME | BTA | 114.15<br>MHz<br>Ch 88Y  | H24 | 42°34'24.9"N 009°28'29.4"E<br>80NM FL500                       | 36 ft   | 340°/1170m<br>THR 16  |                        | FRA(ID): LFFRASE, LFKF,<br>LFKJ, LFKO, FL195-660                                                                                                                                                                                                                          |
| BIARRITZ PAYS<br>BASQUE | VOR-<br>DME | BTZ | 114.15<br>MHz<br>Ch 88Y  | H24 | 43°27'59.9"N 001°30'37.0"W<br>100NM(315°..45°) 60NM<br>FL500   | 276 ft  | 198°/223m<br>THR 27   |                        | FRA(I): LFFRASW;<br>FRA(AD): LFFRASW, LEPP,<br>LERJ, LESO, LFBM, LFBP,<br>LFBT, LFCN, LFDA                                                                                                                                                                                |

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| Station                             | Service | ID  | FREQ                  | HOR | Coordonnées<br>Portée Coverage                                                    | ALT     | Situation<br>Location  | Exploitant<br>Operator | Observations<br>Remarks                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------|---------|-----|-----------------------|-----|-----------------------------------------------------------------------------------|---------|------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DIJON-LONGVIC                       | VOR-DME | DJL | 111.45 MHz<br>Ch 51Y  | H24 | 47°16'14.8"N 005°05'50.4"E<br>80NM(015°..75°),<br>100NM(105°..165°) 60NM<br>FL500 |         |                        |                        |                                                                                                                                                                                                                                                                                                                                                 |
| DINARD PLEURTUIT<br>SAINT MALO      | VOR-DME | DIN | 114.3 MHz<br>Ch 90X   | H24 | 48°35'09.8"N 002°04'56.4"W<br>80NM FL500                                          | 213 ft  | 337°/899m<br>THR 35    |                        | Radial 338 hors tolérances                                                                                                                                                                                                                                                                                                                      |
| EPERNON                             | VOR-DME | EPR | 115.65 MHz<br>Ch 103Y | H24 | 48°37'32.5"N 001°39'23.6"E<br>60NM FL500                                          |         |                        |                        |                                                                                                                                                                                                                                                                                                                                                 |
| EPINAL MIRECOURT                    | VOR     | EPL | 113 MHz               | H24 | 48°19'04.2"N 006°03'33.9"E<br>60NM FL500                                          | 1154 ft |                        |                        | FRA(IA): LFFRAE, EDDR, EDDS, EDFH, EDFM, EDHL, EDRZ, EDSB, EDSE, EDTD, EDTL, EDTM, ELLX, ETAD, LFQA, LFJL, LFPB, LFPG, LFPN, LFPO, LFPT, LFPV, LFQP, LFSI, LFST;<br>FRA(ID): LFFRAE, EDDS, EDHL, EDSB, EDSE, EDTD, EDTL, EDTM, ETAR, LFEP, LFQA, LFGF, LFGJ, LFGI, LFGQ, LFJL, LFJY, LFLH, LFOK, LFQB, LFQE, LFQP, LFSD, LFSI, LFSN, LFSO, LFST |
| EVREUX FAUVILLE                     | TACAN   | EVX | Ch 71X                | H24 | 49°01'42.7"N 001°12'50.6"E                                                        | 450 ft  |                        |                        |                                                                                                                                                                                                                                                                                                                                                 |
| GAILLAC-Castelneau de<br>Montmirail | DME     | GAI | 108.5 MHz<br>Ch 22X   | H24 | 43°57'14.6"N 001°49'27.0"E<br>130NM FL500                                         | 979 ft  |                        |                        | FRA(I) : LFFRASW ;<br>FRA(A) : LFFRASW, LFCC, LFCI, LFCK, LFCR, LFCU, LFDJ, LFDS, LFGM, LFGN, LFHA, LFHO, LFHP, LFHQ, LFHY, LFKM, LFLC, LFLN, LFLO, LFLV, LFLW, LFLZ, LFME, LFMI, LFMK, LFMP, LFMS, LFMT, LFMU, LFNG, LFQF, LFSL, LFTW, LESU ;<br>FRA(D) : LFFRASW, LFBA, LFCC, LFCI, LFCK, LFCR, LFDJ, LFMK, LFMP, LFMU                        |
| GROSTENQUIN                         | VOR-DME | GTQ | 111.25 MHz<br>Ch 49Y  | H24 | 48°59'11.2"N 006°42'58.4"E<br>100NM(135°..225°) 60NM<br>FL500                     | 1057 ft |                        |                        | FRA(IA): LFFRAE, LFEP, LFEV, LFQA, LFGF, LFGI, LFGJ, LFGQ, LFLH, LFOK, LFQB, LFQM, LFQW, LFSA, LFSD, LFSI, LFSM, LFST, LFSX;<br>FRA(ID): LFFRAE, EDDK, EDFH, EDSB, EDTL, ELLX, LFST, LFQA                                                                                                                                                       |
| HERICOURT                           | NDB     | HR  | 289 kHz               | H24 | 47°33'42.0"N 006°43'56.1"E<br>30NM                                                |         |                        |                        | FRA(D): LFFRAE, LSGC, LSGK, LSMA, LSME, LSMP, LSTS, LSZB, LSZC, LSZG, EVEN FL                                                                                                                                                                                                                                                                   |
| HYERES LE<br>PALYVESTRE             | TACAN   | HYE | Ch 27X                | H24 | 43°06'01.1"N 006°08'51.5"E<br>100NM FL500                                         | 7 ft    | 020°/353 m<br>ARP      |                        |                                                                                                                                                                                                                                                                                                                                                 |
| ISTRES LE TUBE                      | TACAN   | ITR | Ch 104X               | H24 | 43°31'33.9"N 004°55'36.9"E<br>FL600                                               | 77 ft   | 026°/463 m<br>ARP      |                        |                                                                                                                                                                                                                                                                                                                                                 |
| JERSEY                              | VOR-DME | JSY | 112.2 MHz<br>Ch 59X   | H24 | 49°13'16.0"N 002°02'46.2"W                                                        |         |                        |                        | FRA(EX): LFFRANW, FL195-660;<br>voir AIP U.K / see AIP U.K                                                                                                                                                                                                                                                                                      |
| L' AIGLE                            | VOR-DME | LGL | 112.7 MHz<br>Ch 74X   | H24 | 48°47'26.2"N 000°31'49.0"E<br>60NM FL500                                          | 971 ft  |                        |                        |                                                                                                                                                                                                                                                                                                                                                 |
| LA TOUR DU PIN-Lyon<br>Est          | DME     | LTP | 115.55 MHz<br>Ch 102Y | H24 | 45°29'20.3"N 005°26'20.6"E<br>80NM FL500                                          | 2165 ft |                        |                        |                                                                                                                                                                                                                                                                                                                                                 |
| LANDIVISIAU                         | TACAN   | LDV | Ch 98Y                | H24 | 48°31'41.8"N 004°09'22.7"W                                                        |         |                        |                        |                                                                                                                                                                                                                                                                                                                                                 |
| LANVEOC POULMIC                     | TACAN   | BST | Ch 94X                | H24 | 48°17'04.3"N 004°27'07.6"W                                                        |         |                        |                        |                                                                                                                                                                                                                                                                                                                                                 |
| LE LUC LE CANNET                    | VOR-DME | LUC | 113 MHz<br>Ch 77X     | H24 | 43°22'58.0"N 006°15'21.3"E                                                        |         | 267°/5,37 NM<br>THR 09 |                        |                                                                                                                                                                                                                                                                                                                                                 |
| LEMBEYE                             | VOR     | LMB | 111.8 MHz             | H24 | 43°28'00.0"N 000°01'06.3"W<br>60NM(135°..225°) 40NM<br>FL250                      | 980 ft  |                        |                        |                                                                                                                                                                                                                                                                                                                                                 |
| LILLE LESQUIN                       | VOR-DME | LEQ | 109 MHz<br>Ch 27X     | H24 | 50°33'42.4"N 003°05'21.0"E<br>40NM FL250                                          | 163 ft  |                        |                        |                                                                                                                                                                                                                                                                                                                                                 |

| Station                  | Service | ID  | FREQ                    | HOR | Coordonnées Coordinates<br>Portée Coverage                                      | ALT         | Situation<br>Location  | Exploitant<br>Operator | Observations<br>Remarks                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|---------|-----|-------------------------|-----|---------------------------------------------------------------------------------|-------------|------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LIMOGES                  | VOR-DME | LMG | 114.5<br>MHz<br>Ch 92X  | H24 | 45°48'57.3"N 001°01'32.1"E<br>80NM(315°.60°) 100NM<br>FL500                     | 1375 ft     |                        |                        | FRA(I): LFFRASW;<br>FRA(A): LFFRASW, LFBA,<br>LFBG, LFBF, LFBG, LFBK,<br>LFBU, LFBX, LFLX;<br>FRA(D): LFFRASW, LFBG,<br>LFBU, LFBG, LFBP, LFBT,<br>LFBX, LFCC, LFCK, LFCR,<br>LFDH, LFSL                                                                                                                                                                                  |
| LORIENT LANN BIHOUE      | TACAN   | LOR | Ch 105X                 | H24 | 47°45'41.3"N 003°26'28.2"W<br>100NM FL250                                       | 171 ft      | 320°/138 m<br>ARP      |                        |                                                                                                                                                                                                                                                                                                                                                                           |
| LUXEUIL                  | VOR     | LUL | 117.1<br>MHz            | H24 | 47°41'17.8"N 006°17'44.1"E<br>80NM                                              |             |                        |                        | FRA(IA): LFFRAE, LFEP,<br>LFGF, LFGJ, LFLG, LFGQ,<br>LFGW, LFGY, LFJL, LFJY,<br>LFLH, LFOK, LFQB, LFQE,<br>LFSD, LFSG, LFSI, LFSN,<br>LFSO, LFST, EDSB, EDTL;<br>FRA(ID): LFFRAE, LFEV,<br>LFGB, LFQM, LFQW, LFSB,<br>LFSM, LFSX, LSGC, LSGK,<br>LSMA, LSME, LSMP, LSZB,<br>LSZC, LSZG<br>EVEN FL from LSAGACC to<br>LFEECTA                                              |
| LUXEUIL SAINT SAUVEUR    | TACAN   | LXI | Ch 19X                  | H24 | 47°46'59.4"N 006°21'25.6"E<br>60NM FL250                                        | 883 ft      |                        |                        |                                                                                                                                                                                                                                                                                                                                                                           |
| LYON SAINT EXUPERY       | VOR-DME | LSE | 114.75<br>MHz<br>Ch 94Y | H24 | 45°44'43.9"N 005°05'26.1"E<br>140NM(135°.255°) 100NM<br>FL500                   | 820 ft      |                        |                        |                                                                                                                                                                                                                                                                                                                                                                           |
| MARSEILLE PROVENCE       | NDB     | OB  | 395 kHz                 | HO  | 43°13'47.4"N 005°39'55.5"E<br>50NM                                              | 1562 ft     |                        |                        | FRA(D): LFFRASE, LFME,<br>FL195-660                                                                                                                                                                                                                                                                                                                                       |
|                          | VOR-DME | MRM | 108.8<br>MHz<br>Ch 25X  | H24 | 43°22'38.4"N 005°19'35.2"E<br>60NM(270°.90°) 100NM<br>FL500                     | 771 ft      | 124°/5.6NM<br>DTHR 31R |                        | Fluctuation occasionnelle du<br>signal VOR dans le secteur<br>Sud du moyen. / Occasional<br>fluctuation of the VOR signal<br>in the southern sector of the<br>navaid.                                                                                                                                                                                                     |
| MARTIGUES                | VOR-DME | MTG | 117.3<br>MHz<br>Ch 120X | H24 | 43°23'10.7"N 005°05'12.6"E<br>200NM(135°.225°) 100NM<br>FL500                   | 650 ft      |                        |                        |                                                                                                                                                                                                                                                                                                                                                                           |
| MELUN VILLAROCHE         | VOR-DME | MLN | 113.6<br>MHz<br>Ch 83X  | H24 | 48°27'20.8"N 002°48'47.8"E<br>40NM FL250                                        | 104.36<br>m |                        |                        |                                                                                                                                                                                                                                                                                                                                                                           |
| MENDE-Nasbinals          | VOR-DME | MEN | 115.3<br>MHz<br>Ch 100X | H24 | 44°36'30.1"N 003°09'44.7"E<br>100NM FL500                                       | 4514 ft     |                        |                        | FRA(I): LFFRASW;<br>FRA(A): LFFRASW, LFHO,<br>LFME, LFMI, LFMS, LFMT,<br>LFMU, LFTW;<br>FRA(D): LFFRASW, LFBF,<br>LFBO, LFBP, LFCI, LFCK,<br>LFCR, LFLC, LFLW                                                                                                                                                                                                             |
| MONTELMAR ANCONTE        | VOR-DME | MTL | 113.65<br>MHz<br>Ch 83Y | H24 | 44°33'17.8"N 004°46'47.5"E<br>100NM FL500                                       | 656 ft      |                        |                        |                                                                                                                                                                                                                                                                                                                                                                           |
| MONTMEDY-Dun sur Meuse   | VOR     | MMD | 109.4<br>MHz            | H24 | 49°23'28.5"N 005°07'27.9"E<br>100NM(45°.135°),<br>40NM(135°.225°) 60NM<br>FL500 | 1076 ft     |                        |                        |                                                                                                                                                                                                                                                                                                                                                                           |
| MONTPELLIER MEDITERRANEE | VOR-DME | FJR | 114.45<br>MHz<br>Ch 91Y | H24 | 43°34'42.1"N 003°58'29.0"E<br>80NM(225°.345°) 60NM<br>FL500                     | 7 ft        | 314°/868m<br>THR 30R   |                        | FRA(EX): LFFRASW                                                                                                                                                                                                                                                                                                                                                          |
| MOULINS                  | VOR-DME | MOU | 116.7<br>MHz<br>Ch 114X | H24 | 46°42'24.4"N 003°37'54.0"E<br>80NM FL500                                        | 699 ft      |                        |                        | FRA(I): LFFRAC;<br>FRA(A): LFFRAC, LFOK,<br>LFLA, LFQB, LFQA, LFGJ,<br>LFSD, LFLC, LFLD, LFOA,<br>LFGM, LFGN, LFHY, LFLN,<br>LFLO, LFQF, LFHJ, LFHS,<br>LFHV, LFHW, LFKL, LFKY,<br>LFLG, LFLI, LFLM, LFLS,<br>LFLU, LFLY, LFMH, LFXA;<br>FRA(D): LFFRAC, LFLD,<br>LFOA, LFOZ, LFOJ, LFOT,<br>LFGJ, LFSD, LFOK, LFLA,<br>LFQA, LFQB, LFHA, LFHQ,<br>LFKM, LFLC, LFLV, LFLZ |
| NANCY OCHEY              | TACAN   | NAY | Ch 115X                 | H24 | 48°35'01.1"N 005°57'06.6"E                                                      | 1063 ft     |                        |                        |                                                                                                                                                                                                                                                                                                                                                                           |

| Station                        | Service | ID  | FREQ                  | HOR | Coordonnées<br>Portée Coverage                                                    | ALT     | Situation<br>Location  | Exploitant<br>Operator | Observations<br>Remarks                                                                                                                                                                       |
|--------------------------------|---------|-----|-----------------------|-----|-----------------------------------------------------------------------------------|---------|------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NANTES ATLANTIQUE              | VOR-DME | NTS | 115.5 MHz<br>Ch 102X  | H24 | 47°09'39.1"N 001°36'46.7"W<br>100NM(315°.45°) 150NM<br>FL500                      |         | 252°/782 m<br>DTHR 21  |                        | DME NTS : possibles fausses indications sur courte finale ILS LOC Z et ILS LOC Y RWY 03 LFRS.<br>DME NTS : false indications are possible on short final ILS LOC Z and ILS LOC Y RWY 03 LFRS. |
| NICE COTE D'AZUR               | DME     | NIZ | 112.4 MHz<br>Ch 71X   | H24 | 43°46'14.3"N 007°15'15.8"E<br>200NM(135°.225°) 150NM<br>FL500                     | 2822 ft |                        |                        |                                                                                                                                                                                               |
|                                | NDB     | MUS | 428 kHz               | H24 | 43°23'04.5"N 006°36'22.9"E<br>40NM                                                | 1500 ft |                        |                        |                                                                                                                                                                                               |
| NIMES GARONS                   | NDB     | NG  | 354 kHz               | H24 | 43°51'25.9"N 004°24'22.6"E<br>25NM                                                | 249 ft  | 354°/5.34NM<br>THR 18  |                        | Situé à NIMES Courbessac.                                                                                                                                                                     |
| ORLEANS SAINT DENIS DE L'HOTEL | NDB     | ORS | 322 kHz               | H24 | 47°56'14.6"N 002°14'33.5"E<br>25NM                                                | 432 ft  | 053°/3.45 NM<br>THR 23 |                        |                                                                                                                                                                                               |
| PERPIGNAN RIVESALTES           | VOR-DME | PPG | 116.25 MHz<br>Ch 109Y | H24 | 42°45'01.7"N 002°52'01.7"E<br>100NM(45°.135°) 80NM<br>FL500                       | 151 ft  | 131°/603 m<br>THR 15   |                        | ALT VOR 128<br>FRA(I): LFFRASW;<br>FRA(A): LFFRASW, LEGE;<br>FRA(D): LFFRASW, LFCI,<br>LFMK, LFMT, LFMU                                                                                       |
| POITIERS BIARD                 | DME     | PT  | 110.95 MHz<br>Ch 46Y  | H24 | 46°35'40.4"N 000°18'53.1"E<br>25NM FL250                                          | 413 ft  | 191°/375m<br>THR 21    |                        |                                                                                                                                                                                               |
|                                | VOR     | POI | 113.3 MHz             | H24 | 46°34'51.6"N 000°17'53.5"E<br>60NM FL500                                          | 424 ft  | 315°/213m<br>THR 03    |                        | FRA(I): LFFRASW;<br>FRA(A): LFFRASW, LFJR,<br>LFOC, LFOD, LFOQ, LFOR,<br>LFOT, LFOV, LFRM;<br>FRA(D): LFFRASW, LFBG,<br>LFJR, LFOD, LFRM                                                      |
| PONTOISE CORMEILLES EN VEXIN   | VOR     | PON | 111.6 MHz             | H24 | 49°05'45.9"N 002°02'09.2"E<br>60NM (314°.44°) 40NM<br>FL500                       | 318 ft  | 034°/1113m<br>THR 05   |                        |                                                                                                                                                                                               |
| QUIMPER PLUGUFFAN              | VOR-DME | QPR | 117.8 MHz<br>Ch 125X  | H24 | 47°57'26.2"N 004°11'05.0"W<br>150NM FL500                                         | 315 ft  | 229°/1.53 NM<br>THR 27 |                        | FRA(A): LFFRANW, LFRB,<br>LFRJ, LFEC, LFRL, LFRH,<br>LFRV, LFRQ;<br>FRA(D): LFFRANW, LFRB,<br>LFRJ, LFEC, LFRL, LFRO,<br>LFRU, LFRH, LFRV, LFRQ                                               |
| RAMBOUILLET-Les Bordes         | DME     | RBT | 114.7 MHz<br>Ch 94X   | H24 | 48°39'14.2"N 001°59'39.2"E<br>110NM(135°.225°) 60NM<br>FL500                      | 604 ft  |                        |                        |                                                                                                                                                                                               |
| REIMS                          | VOR     | REM | 112.3 MHz             | H24 | 49°18'41.9"N 004°02'43.3"E<br>60NM FL500                                          | 335 ft  |                        |                        |                                                                                                                                                                                               |
| RENNES SAINT JACQUES           | VOR-DME | REN | 109.25 MHz<br>Ch 29Y  | H24 | 48°04'09.3"N 001°44'30.0"W<br>150NM FL500                                         | 126 ft  |                        |                        |                                                                                                                                                                                               |
| ROANNE                         | VOR-DME | ROA | 110.4 MHz<br>Ch 41X   | H24 | 46°03'33.0"N 003°59'57.4"E<br>55NM                                                | 1079 ft | 223°/465m<br>THR 19    |                        |                                                                                                                                                                                               |
| ROLAMPONT                      | DME     | RLP | 117.3 MHz<br>Ch 120X  | H24 | 47°54'22.7"N 005°14'57.0"E<br>120NM(105°.165°) 60NM<br>FL500                      | 1490 ft |                        |                        | FRA(EX): LFFRAE, EVEN FL for entering aircrafts                                                                                                                                               |
| ROUEN VALLEE DE SEINE          | VOR     | ROU | 116.8 MHz             | H24 | 49°27'56.3"N 001°16'50.3"E<br>40NM FL250                                          | 560 ft  | 040°/5.9NM<br>THR 22   |                        |                                                                                                                                                                                               |
| SAINT DIZIER ROBINSON          | TACAN   | SDI | Ch 87X                | H24 | 48°38'13.2"N 004°53'21.1"E                                                        | 447 ft  | 133°/507 m<br>THR 11   |                        |                                                                                                                                                                                               |
| SAINT TROPEZ                   | VOR-DME | STP | 116.5 MHz<br>Ch 112X  | H24 | 43°13'10.1"N 006°36'06.5"E<br>200NM(90°.270°) 60NM<br>FL500                       | 1089 ft |                        |                        | FRA(IA): LFFRASE, LFMA,<br>LFMI, LFML, LFMO, LFMQ,<br>LFMV, LFMY, LIMG, LIMJ,<br>FL195-660                                                                                                    |
| SAINTE LEOCADIE                | NDB     | SAL | 418 kHz               | H24 | 42°26'47.9"N 002°00'44.7"E<br>25NM                                                |         |                        |                        |                                                                                                                                                                                               |
| SAVERNE                        | VOR-DME | SAV | 110.45 MHz<br>Ch 41Y  | H24 | 48°47'46.5"N 007°26'52.7"E<br>60NM FL250                                          | 1021 ft |                        |                        |                                                                                                                                                                                               |
| SOLENZARA                      | TACAN   | SZA | Ch 87X                | H24 | 41°56'14.9"N 009°23'58.4"E<br>200/60 200NM FL500                                  | 10 ft   | 284°/476m<br>THR 18    |                        |                                                                                                                                                                                               |
| STRASBOURG ENTZHEIM            | VOR-DME | STR | 115.6 MHz<br>Ch 103X  | H24 | 48°30'19.4"N 007°34'19.1"E<br>150NM(135°.225°),<br>60NM(045°.135°) 100NM<br>FL500 | 577 ft  |                        |                        |                                                                                                                                                                                               |
| TARBES                         | VOR-DME | TBO | 113.9 MHz<br>Ch 86X   | H24 | 43°19'56.0"N 000°08'44.7"E<br>80NM FL500                                          | 1039 ft | 037°/10.6 NM<br>THR 20 |                        | FRA(I): LFFRASW;<br>FRA(D): LFFRASW, LEPP,<br>LERJ, LESO, LFBZ                                                                                                                                |



| Station          | Service     | ID  | FREQ                    | HOR | Coordonnées Coordinates<br>Portée Coverage                    | ALT     | Situation<br>Location | Exploitant<br>Operator | Observations<br>Remarks                                                                                                                           |
|------------------|-------------|-----|-------------------------|-----|---------------------------------------------------------------|---------|-----------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| THIERS           | DME         | TIS | 117.5<br>MHz<br>Ch 122X | H24 | 45°52'54.6"N 003°33'12.9"E<br>60NM FL250                      | 2258 ft |                       |                        | FRA(EX): LFFRASW, EVEN<br>FL for entering aircraft, ODD<br>FL for exiting aircraft                                                                |
| TOULOUSE BLAGNAC | VOR-<br>DME | TOU | 117.7<br>MHz<br>Ch 124X | H24 | 43°40'51.0"N 001°18'35.3"E<br>120NM(195°..255°) 70NM<br>FL500 | 574 ft  |                       |                        | FRA(I): LFFRASW;<br>FRA(A): LFFRASW, LFBA,<br>LFBF, LFCK;<br>FRA(D): LFFRASW, LFBM,<br>LFCG, LFCL, LFCQ, LFCW,<br>LFCX, LFDB, LFDH, LFDX,<br>LFMW |
| TOUSSUS LE NOBLE | VOR         | TSU | 108.25<br>MHz           | H24 | 48°45'13.4"N 002°06'08.5"E<br>100NM(134°..314°) 80NM<br>FL500 | 547 ft  | 043°/386m<br>THR 07L  |                        |                                                                                                                                                   |
| TROYES BARBEREY  | VOR         | TRO | 116 MHz                 | H24 | 48°15'04.4"N 003°57'47.3"E<br>60NM FL500                      | 861 ft  |                       |                        |                                                                                                                                                   |