

DORIS station equipment / impact on the frequency

The DORIS Network is composed of **about 60 ground stations**.

Among these, most are defined as **Orbitography Beacons (BO)** which will be used as geographic references by orbit determination software.

Some of these Orbitography Beacons also play the role of **Time Beacons (BT)**. The Time-Beacon clocks are linked to atomic clocks. Clocks delays are precisely determined and monitored with respect to the International Atomic Time (TAI).

Some BTs are also **Master Beacons (BM)**: they also emit broadcast uploads.

1/ Orbitography Beacons (BO): There is a USO inside the beacon → the change of the beacon may lead to a frequency change.

2/ Master Beacons (BM): No USO in a master beacon, it is in the tracking Oscillator (itself fed by a 5 MHz external clock, a cesium for the long-term stability). → so the frequency change may occur when we change the tracking oscillator or the external clock (not when the beacon is changes).

3/ Time beacons (BT): No USO inside a time beacon, the beacon is linked to an external clock (Maser or equivalent) → an event on the external clock may have an impact on the frequency, not a beacon change.

List of Orbitography Beacons, Nov 2013:

AMSTERDAM	AMVB
AREQUIPA	ARFB
ASCENSION	ASEB
BADARY	BADB
BELGRANO	BEMB
BETIO	BETB
CACHOEIRA	CADB
CHATHAM	CHAB
CIBINONG	CIDB
COLD BAY	COBB
CROZET	CRQB
DIONYSOS	DIQB
DJIBOUTI	DJIB
EASTER ISLAND	EASB
EVEREST	EVEB
FUTUNA	FUUB
GREENBELT	GRFB
JIUFENG	JIVB
KAUAI	KOLB
KERGUELEN	KETB
KITAB	KIUB
KRASNOYARSK	KRBB
LA REUNION	REUB
LE LAMENTIN	LAOB
LIBREVILLE	LICB
MAHE	MAIB
MALE	MALB
MANILLE	MANB
MARION ISLAND	MATB
METSAHOVI	MEUB
MIAMI	MIAB
MOUNT STROMLO	MSPB
NOUMEA	NOXB
NY-ALESUND	SPJB
PONTA DELGADA	PDMB
PORT MORESBY	MOSB
REYKJAVIK	REZB
RIKITEA	RIMB
RIO-GRANDE	RIRB
ROTHERA	ROVB
SAINT JOHN'S	STKB
SAINTE-HELENE	HEMB
SAL	SALB
SANTA CRUZ	SCRB
SANTIAGO	SANB
SOCORRO	SODB
SYOWA	SYPB
THULE	THUB
TRISTAN DA CUNHA	TRJB
YARRAGADEE	YASB
YELLOWKNIFE	YEMB

List of Master Beacons (BM) and Time Beacons (BT), Nov 2013:

HARTEBEESTHOEK	HBMB	BM
KOUROU	KRWB	BM
PAPEETE	PAUB	BM
TERRE ADELIE	ADGB	BT
TOULOUSE	TLSB	BM