GEN 2. TABLES AND CODES

GEN 2.1 MEASURING SYSTEM, AIRCRAFT MARKINGS, HOLIDAYS

☛GEN 2.1.1 Units of measurement

The table of units of measurement show below will be used by aeronautical stations within MONTEVIDEO FIR for air and ground operations.

For measurement of	*Units used*
Distance used in navigation, position reporting, etc. – generally in excess of 2 nautical miles	Kilometres; Nautical Miles and tenths
Relatively short distances such as those relating to aerodromes (e.g. runway lengths)	Metres
Altitudes, elevations and heights	Metres; Feet
Horizontal speed including wind speed	Kilometres/Hour; Knots
Vertical speed	Metres/Second; Feet per minute
Wind direction for landing and taking off	Degrees Magnetic
Wind direction except for landing and taking off	Degrees True
Visibility including runway visual range	Kilometres or metres
Altimeter setting	Hectopascals
Temperature	Degrees Celsius
Weight	Metric tones or Kilogrammes
Time	Hours and minutes, beginning at midnight UTC

☛GEN 2.1.2 Temporal reference system

General

Co-ordinated Universal Time (UTC) is used by air navigation services and in publications issued by the Aeronautical Information Service. Reporting of time is expressed to the nearest minute, e.g. 12:40:35 is reported as 1241.

☛
Local time in Uruguay is UTC less 3 (UTC – 3).

☛GEN 2.1.3 Horizontal reference system

3.1 *Name/designation of datum*

All published geographical coordinates indicating latitude and longitude are expressed in terms of the World Geodetic System – 1984 (WGS-84) geodetic reference datum.

☛3.2 *Parameters of the Projection*

☛Projection is expressed in term of Lambert Conic Conformal.

☛3.3 *Ellipsoid*

☛An ellipsoid is expressed in terms of the World Geodetic System — 1984 (WGS-84) ellipsoid.

☛3.4 *Datum*

☛The World Geodetic System — 1984 (WGS-84) is used.

☛3.5 *Area of application*

The area of application for the published geographical coordinates coincides with the area of responsibility of the Aeronautical Information Service, i.e. the entire territory of Uruguay as well as the airspace over the high seas encompassed by the MONTEVIDEO Flight Information Region in accordance with the regional air navigation agreement.

☛3.6 *Use of an asterisk to identify published geographical coordinates*

An asterisk (*) will be used to identify those published geographical coordinates which have been transformed into WGS-84 coordinates but whose accuracy of original field work does not meet the requirements in Annex 11, Chapter 2 and Annex 14, Volumes I and II, Chapter 2. Specifications for determination and reporting of WGS-84 coordinates are given in Annex 11, Chapter 2 and in Annex 14, Volumes I and II, Chapter 2.

☛GEN 2.1.4 Vertical reference system

☛4.1 *Name/designation of datum*

☛The vertical reference system corresponds to mean sea level (MSL).

☛4.2 *Geoid model*

☛The geoid model used is the Earth Gravitational Model 1996 — (EGM-96)

☛GEN 2.1.5 Aircraft nationality and registration marks

The nationality mark for aircraft registered in Uruguay is the letter CX. The nationality mark is followed by a hyphen and a registration mark consisting of 3 letters, e.g. CX-AAA.

☛GEN 2.1.6 Public holidays

Name	*Date/Day*
New Year's Day	01 JAN
Children Day	06 JAN *
Carnival	40 days before Easter (Monday and Tuesday)
Easter	(From Monday to Friday)
Disembarkation of the 33 Orientals	19 APR
Labour Day	01 MAY
Las Piedras Battle	18 MAY
Artigas birthday	19 JUN
Constitution day	18 JUL *
Independence day	25 AUG
America's day	12 OCT
All Soul's day	02 NOV
Christmas Eve	25 DEC

Note: The public holidays are not labor days, but for private companies the ones marked by asterisk (*) are optional.

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GEN 2.2 ABBREVIATIONS USED IN AIS PUBLICATIONS

A	
A	Amber
AAA	*(or AAB, AAC, ... etc., in sequence)* Amended meteorological message *(message type designator)*
A/A	Air-to-air
AAD	Assigned altitude deviation
AAIM	Aircraft autonomous integrity monitoring
AAL	Above aerodrome level
☛AAR	Air to air refuelling
ABI	Advance boundary information
ABC	Abbreviations and codes
ABM	Abeam
ABN	Aerodrome beacon
ABT	About
ABV…	Above ...
AC	Altocumulus
ACARS†	*(to be pronounced "AY-CARS")* Aircraft communication addressing and reporting system
ACAS†	Airborne collision avoidance system
ACC+	Area control centre *or* area control
ACCID	Notification of an aircraft accident
ACFT	Aircraft
ACK	Acknowledge
ACL	Altimeter check location
ACN	Aircraft classification number
ACP	Acceptance *(message type designator)*
ACPT	Accept *or* accepted
ACT	Active *or* activated *or* activity
AD	Aerodrome
ADA	Advisory area
ADC	Aerodrome chart
ADDN	Addition *or* additional
ADF+	Automatic direction-finding equipment
ADIZ†	*(to be pronounced "AY-DIZ")* Air defence identification zone
ADJ	Adjacent
ADO	Aerodrome office *(specify service)*
ADR	Advisory route
ADS*	The address *(when this abbreviation is used to request a repetition, the question mark (IMI) precedes the abbreviation, e.g. IMI ADS) (to be used in AFS as a procedure signal)*
ADS-B+	Automatic dependent surveillance - broadcast
ADS-C+	Automatic dependent surveillance - contract
ADSU	Automatic dependent surveillance unit
ADVS	Advisory service
ADZ	Advise
AES	Aircraft earth station
AFIL	Flight plan filed in the air
AFIS	Aerodrome flight information service
AFM	Yes *or* affirm *or* affirmative *or* that is correct
AFS	Aeronautical fixed service
AFT …	After . . . *(time or place)*
AFTN+	Aeronáuticas Aeronautical fixed telecommunication network
A/G	Air-to-ground
AGA	Aerodromes, air routes and ground aids
AGL	Above ground level
AGMC	Aerodrome Ground Movement Chart
AGN	Again
AIC	Aeronautical information circular
AIDC	Air traffic services interfacility data Communications
☛AIM	Aeronautical information management
AIP	Aeronautical information publication
AIRAC	Aeronáutica Aeronautical information regulation and control
AIREP†	Air-report
AIRMET†	Information concerning en-route weather phenomena which may affect the safety of low-level aircraft operations
AIS	Aeronautical information services
ALA	Alighting area
ALERFA†	Alert phase
ALR	Alerting *(message type designator)*
ALRS	Alerting service
ALS	Approach lighting system
ALT	Altitude
ALTN	Alternate *o* alternanting (l*ight alternates in colour*)
ALTN	Alternate (*aerodrome*)
AMA	Area minimum altitude
AMD	Amend or amended *(used to indicate amended meteorological message; message type designator)*
AMDT	Amendment (*AIP Amendment*)
AMS	Aeronautical mobile service
AMSL	Above mean sea level
AMSS	Aeronautical mobile satellite service

ANC…	Aeronautical chart - 1:500.000 *(followed by name/title)*
ANCS…	Aeronautical navigation chart — small scale *(followed by name/title and scale)*
ANS	Answer
AOC …	Aerodrome obstacle chart *(followed by type and name/title)*
☛AO	Aircraft operator
AP	Airoport
APAPI †	*(to be pronounced "AY-PAPI")* Abbreviated precision approach path indicator
APC	Aircraft parking/docking chart
APCH	Approach
APDC…	Aircraft parking/docking chart *(followed by name/title)*
APN	Apron
APP	Approach control office *or* approach control *or* approach control service
APR	April
APRX	Approximate *o* approximately
APSG	After passing
☛APU	Auxiliary power unit
☛APV	Approach procedure with vertical guidance
ARC	Area chart *(followed by the area represented)*
ARFOR	Area forecast (*aeronautic meteorologic key)*
ARNG	Arrange
ARO	Air traffic services reporting office
ARP	Aerodrome reference point
ARP	Air-report *(message type designator)*
ARQ	Automatic error correction
ARR	Arrival *(message type designator)*
ARR	Arrive or arrival
ARS	Special air-report *(message type designator)*
ARST	Arresting *(specify (part of) aircraft arresting equipment)*
AS	Altostratus
☛ASAP	As soon as possible
ASC	Ascend to *or* ascending to
ASDA	Accelerate-stop distance available
ASE	Altimetry system error
ASHTAM	Special series NOTAM notifying, by means of a specific format, change in activity of a volcano, a volcanic eruption and/or volcanic ash cloud that is of significance to Aircraft operations
ASPH	Asphalt
AT...	At (followed by time at which weather change is forecast to occur)
ATA+	Actual time of arrival
ATC+	Air traffic control *(in general)*
ATCSMAC…	Air traffic control surveillance minimum altitude chart *(followed by name/title)*
ATD+	Actual time of departure
ATFM	Air traffic flow management
ATIS†	Automatic terminal information service
ATM	Air traffic management
ATN	Aeronautical telecommunication network
ATP …	At... *(time or place*)
ATS	Air traffic services
ATTN	Attention
AT-VASIS†	*(to be pronounced "AY-TEE-VASIS")* Abbreviated T visual approach slope indicator system
ATZ	Aerodrome traffic zone
AUG	August
AUTH	Authorized *or* authorization
☛AUTO	Automatic
AUW	All up weight
AUX	Auxiliary
AVBL	Available *or* availability
AVG	Average
AVGAS†	Aviation gasoline
☛AWOS	Automated Weather Observation System
AWTA	Advise at what time able
AWY	Airway
AZM	Azimuth

B

B	Blue
BA	Braking action
BARO-VNAV†	*(to be pronounced "BAA-RO-VEENAV")* Barometric vertical navigation
BASE†	Cloud base
BCFG	Fog patches
BCN	Beacon *(aeronautical ground light)*
BCST	Broadcast
BDRY	Boundary
BECMG	Becoming
BFR	Before
BKN	Broken
BL...	Blowing *(followed by DU = dust, SA = sand or SN = snow)*
BLDG	Building
BLO	Por debajo de nubes
BLW …	Below . . .

BOMB	Bombing
BR	Mist
BRF	Short *(used to indicate the type of approach desired or required)*
BRG	Bearing
BRKG	Braking
BS	Commercial broadcasting station
BTL	Between layers
BTN	Between
BUFR	Binary universal form for the representation of meteorological data
C	
... C	Centre (preceded by runway designation number to identify a parallel runway)
C	Degrees Celsius *(Centigrade)*
CA	Course to an altitude
CAA	Civil Aviation Authority or Civil Aviation Administration
CAT	Category
CAT	Clear air turbulence
CAVOK†	*(to be pronounced "KAV-OH-KAY")* Visibility, cloud and present weather better than prescribed values or conditions
CB+	*(to be pronounced "CEE BEE")* Cumulonimbus
CC	Cirrocumulus
CCA	*(or CCB, CCC . . . etc., in sequence)* Corrected meteorological message *(message type designator)*
CCO	Continuous climb operations
CD	Candela
CDN	Coordination *(message type designator)*
CDO	Continuous descent operations
CDR	Conditional route
CF	Change frequency to . . .
CF	Course to a fix
CFM*	Confirm or I confirm *(to be used in AFS as a procedure signal)*
CGL	Circling guidance light(s)
CH	Channel
CH#	This is a channel-continuity-check of transmission to permit comparison of your record of channelsequence numbers of messages received on the channel *(to be used in AFS as a procedure signal)*
CHEM	Chemical
CHG	Modification *(message type designator)*
CI	Cirrus
CIDIN†	Common ICAO data interchange network
CIV	Civil
CK	Check
CL	Centre line
CLA	Clear type of ice formation
CLBR	Calibration
CLD	Cloud
CLG	Calling
CLIMB-OUT	Climb-out area
CLR	Clear(s) *or* cleared to . . . *or* clearance
CLRD	Runway(s) cleared *(used in METAR/SPECI)*
☛CLRD	Clearance delivery
CLSD	Close *or* closed *or* closing
CM	Centimetre
CMB	Climb to *or* climbing to
CMPL	Completion *or* completed *or* complete
CNL	Cancel *or* cancelled
CNL	Flight plan cancellation *(message type designator)*
CNS	Communications, navigation and surveillance
COLD	Long Distance Operational Control
COM	Communications
CONC	Concrete
COND	Condition
CONS	Continuous
CONST	Construction *or* constructed
CONT	Continue(s) *or* continued
COOR	Coordinate *or* coordination
COORD	Coordinates
COP	Change-over point
COR	Correct *or* correction *or* corrected *(used to indicate corrected meteorological message; message type designator)*
COT	At the coast
COV	Cover *or* covered *or* covering
CPDLC+	Controller-pilot data link communications
CPL	Current flight plan *(message type designator)*
CRC	Cyclic redundancy check
CRM	Collision risk model
CRP	Compulsory reporting point
CRZ	Cruise
CS	Call sign
CS	Cirrostratus
CTA	Control area
CTAM	Climb to and maintain
CTC	Contact
CTL	Control
CTN	Caution
CTR	Control zone
CU	Cumulus
CUF	Cumuliform
CUST	Customs

CVR	Cockpit voice recorder
CW	Continuous wave
CWY	Clearway
D	
D	Downward *(tendency in RVR during previous 10 minutes)*
D...	Danger area *(followed by identification)*
DA	Decision altitude
D-ATIS†	*(to be pronounced "DEE-ATIS")* Data link automatic terminal information service
DCD	Double channel duplex
DCKG	Docking
DCP	Datum crossing point
DCPC	Direct controller-pilot communications
DCS	Double channel simplex
DCT	Direct *(in relation to flight plan clearances and type of approach)*
DE*	From *(used to precede the call sign of the calling station) (to be used in AFS as a procedure signal)*
DEC	December
DEG	Degrees
DEP	Depart *or* departure
DEP	Departure *(message type designator)*
DEPO	Deposition
DER	Departure end of the runway
DES	Descend to *or* descending to
DEST	Destination
DETRESFA†	Distress phase
DEV	Deviation *or* deviating
☛DF	Direct to a fix
DF	Direction finding
DFDR	Digital flight data recorder
DFTI	Distance from touchdown indicator
DH	Decision height
DIF	Diffuse
DINACIA	Dirección Nacional de Aviación Civil e Infraestructura Aeronáutica (Civil Aviation Authority)
DIST	Distance
DIV	Divert or diverting
DLA	Delay *or* delayed
DLA	Delay *(message type designator)*
DLIC	Data link initiation capability
DLY	Daily
DME+	Distance measuring equipment
DNG	Danger *or* dangerous
DOF	Date of flight
DOM	Domestic
DP	Dew point temperature
DPT	Depth
DPTAL	Departamental (political-administrative division)
DR	Dead reckoning
DR ...	Low drifting *(followed by DU = dust, SA = sand or SN = snow)*
DRG	During
DS	Duststorm
DSB	Double sideband
DTAM	Descend to and maintain
DTG	Date-time group
DTHR	Displaced runway threshold
DTRT	Deteriorate *or* deteriorating
DTW	Dual tandem wheels
DU	Dust
DUC	Dense upper cloud
DUPE#	This is a duplicate message *(to be used in AFS as a procedure signal)*
DUR	Duration
D-VOLMET	Data link VOLMET
DVOR	Doppler VOR
DW	Dual wheels
DZ	Drizzle
E	
E	East *or* eastern longitude
EAT	Expected approach time
EB	Eastbound
EDA	Elevation differential area
EDTO	Extended diversion time operations
EC	En-Route chart
EEE#	Error *(to be used in AFS as a procedure signal)*
EET	Estimated elapsed time
EFC	Expect further clearance
EFIS†	*(to be pronounced "EE-FIS")* Electronic flight instrument system
EGNOS†	*(to be pronounced "EGG-NOS")* European geostationary navigation overlay service
EHF	Extremely high frequency [30 000 to 300 000 MHz]
ELBA†	Emergency location beacon — aircraft
ELEV	Elevation
ELR	Extra long range
ELT	Emergency locator transmitter
EM	Emission
EMBD	Embedded in a layer *(to indicate cumulonimbus embedded in layers of other clouds)*
EMERG	Emergency
END	Stop-end *(related to RVR)*
ENE	East-north-east
ENG	Engine
ENR	En route

ENRC…	Enroute chart *(followed by name/title)*
EOBT	Estimated off-block time
EQPT	Equipment
☛	
ESE	East-south-east
EST	Estimate *or* estimated *or* estimation *(message type designator)*
ETA*+	Estimated time of arrival *or* estimating arrival
ETD+	Estimated time of departure *or* estimating departure
ETO	Estimated time over significant point
EUR RODEX	European regional OPMET data exchange
EV	Every
EVS	Enhanced vision system
EXC	Except
EXER	Exercises *or* exercising *or* to exercise
EXP	Expect *or* expected *or* expecting
☛EXTD	Extend *or* extending *or* Extended

F

F	Fixed
FA	Course from a fix to an altitude
FAC	Facilities
FAF	Final approach fix
FAL	Facilitation of international air transport
FAP	Final approach point
FAS	Final approach segment
FATO	Final approach and take-off area
FAX	Facsimile transmission
FBL	Light *(used to indicate the intensity of weather phenomena, interference or static reports, e.g. FBL RA = light rain)*
FC	Funnel cloud *(tornado or water spout)*
FCST	Forecast
FCT	Friction coefficient
FDPS	Flight data processing system
FEB	February
FEW	Few
FG	Fog
FIC	Flight information centre
FIR+	Flight information region
FIS	Flight information service
FISA	Automated flight information service
FIZ	Flight information zone
FL	Flight level
FLD	Field
FLG	Flashing
FLR	Flares
FLT	Flight
FLTCK	Flight check
FLUC	Fluctuating *or* fluctuation *or* fluctuated
FLW	Follow(s) *or* following
FLY	Fly *or* flying
FM	Course from a fix to manual termination *(used in navigation database coding)*
FM	From
FM…	From *(followed by time weather change is forecast to begin)*
FMC	Flight management computer
FMS+	Flight management system
FMU	Flow management unit
FNA	Final approach
FPAP	Flight path alignment point
☛FPL	Flight plan
FPM	Feet per minute
FPR	Flight plan route
FR	Fuel remaining
FREQ	Frequency
FRI	Friday
FRNG	Firing
FRONT†	Front *(relating to weather)*
FROST†	Frost *(used in aerodrome warnings)*
FRQ	Frequent
FSL	Full stop landing
FSS	Flight service station
FST	First
FT	Feet *(dimensional unit)*
FTE	Flight technical error
FTP	Fictitious threshold point
FTT	Flight technical tolerance
FU	Smoke
FZ	Freezing
FZDZ	Freezing drizzle
FZFG	Freezing fog
FZRA	Freezing rain

G

G	Green
G…	Variations from the mean wind Speedy (gusts) *(followed by figures in METAR/SPECI and TAF)*
GA	Go ahead, resume sending *(to be used in AFS as a procedure signal)*
☛GA	General aviation
G/A	Ground-to-air
G/A/G	Ground-to-air and air-to-ground

GAGAN†	GPS and geostationary earth orbit augmented navigation
GAIN	Airspeed or headwind gain
GAMET	Area forecast for low-level flights
GARP	GBAS azimuth reference point
GBAS†	*(to be pronounced "GEE-BAS")* Ground-based augmentation system
GCA+	Ground controlled approach system *or* ground controlled approach
GEN	General
GEO	Geographic *or* true
GES	Ground earth station
GLD	Glider
GLONASS†	*(to be pronounced "GLO-NAS")* Global orbiting navigation satellite system
GLS†	GBAS landing system
GMC ...	Ground movement chart *(followed by name/title)*
GND	Ground
GNDCK	Ground check
GNSS+	Global navigation satellite system
GOV	Government
GP	Glide path
GPA	Glide path angle
GPIP	Glide path intercept point
GPS+	Global positioning system
GPU	Ground power unit
GPWS+	Ground proximity warning system
GR	Hail
GRAS†	*(to be pronounced "GRASS")* Groundbased regional augmentation system
GRASS	Grass landing area
GRIB	Processed meteorological data in the form of grid point values expressed in binary form *(meteorological code)*
GRVL	Gravel
GS	Ground speed
GS	Small hail and/or snow pellets
GUND	Geoid undulation
H	
H	High pressure area or the centre of high pressure
H…	Significant wave height *(followed by figures in METAR/SPECI)*
H24	Continuous day and night service
HA	Holding/racetrack to an altitude
HAPI	Helicopter approach path indicator
HBN	Hazard beacon
HDF	High frequency direction-finding station
HDG	Heading
HEL	Helicopter
HF+	High frequency [3 000 a 30 000 kHz]
HF	Holding/racetrack to a fix
HGT	Height *or* height above
HJ	Sunrise to sunset
HLDG	Holding
HLS	Helicopter landing site
HM	Holding/racetrack to a manual termination
HN	Sunset to sunrise
HO	Service available to meet operational requirements
HOL	Holiday
HOSP	Hospital aircraft
HPA	Hectopascal
HLP	Heliport
HR	Hours
☛HS	Hot spot
HS	Service available during hours of scheduled operations
HUD	Head-up display
HUM	Humanitarian
HURCN	Hurricane
HVDF	High and very high frequency direction-finding stations *(at the same location)*
HVY	Heavy
HVY	Heavy *(used to indicate the intensity of weather phenomena, e.g. HVY RA = heavy rain)*
HX	No specific working hours
HYR	Higher
HZ	Haze
HZ	Hertz *(cycle per second)*
I	
IAC …	Instrument approach chart *(followed by name/title)*
IAF	Initial approach fix
IAO	In and out of clouds
IAP	Instrument approach procedure
IAR	Intersection of air routes
IAS	Indicated airspeed
IBN	Identification beacon
ICAO	International Civil Aviation Organization

ICE	Icing
ID	Identifier *or* identify
IDENT†	Identification
IF	Intermediate approach fix
IFF	Identification friend/foe
IFR+	Instrument flight rules
IGA	International general aviation
ILS+	Instrument landing system
IM	Inner marker
IMC+	Instrument meteorological conditions
IMG	Immigration
IMI*	Interrogation sign (question mark) *(to be used in AFS as a procedure signal)*
IMPR	Improve *or* improving
IMT	Immediate or immediately
INA	Initial approach
INBD	Inbound
INC	In cloud
INCORP	Incorporated
INCERFA†	Uncertainty phase
INFO†	Information
INOP	Inoperative
INP	If not possible
INPR	In progress
INS	Inertial navigation system
INSTL	Install *or* installed *or* installation
INSTR	Instrument
INT	Intersection
INTL	International
INTRG	Interrogator
INTRP	Interrupt *or* interruption *or* interrupted
INTSF	Intensify *or* intensifying
INTST	Intensity
IR	Ice on runway
IRS	Inertial reference system
IRU	Inertial reference unit
ISA	International standard atmosphere
ISB	Independent sideband
ISOL	Isolated
J	
JAN	January
JTST	Jet stream
JUL	July
JUN	June
K	
KG	Kilograms
KHZ	Kilohertz
KIAS	Knots indicated airspeed
KM	Kilometres
KMH	Kilometres per hour
KPA	Kilopascal
KT	Knots
KW	Kilowatts
L	
…L	Left *(preceded by runway designation number to identify a parallel runway)*
L	Locator *(see LM, LO)*
L	Low pressure area *or* the centre of low pressure
L	Litre
LAM	Logical acknowledgement *(message type designator)*
LAN	Inland
☛LAR	Latin american regulations
LAT	Lattitude
LCA	Local *or* locally *or* location *or* located
LDA	Landing distance available
LDAH	Landing distance available, helicopter
LDG	Landing
LDI	Landing direction indicator
LEN	Length
LF	Low frequency [30 to 300 kHz]
LGT	Light *or* lighting
LGTD	Lighted
LIH	Light intensity high
LIL	Light intensity low
LIM	Light intensity medium
LINE	Line *(used in SIGMET)*
LLZ	Locator, middle
LM	Radiofaro de localización, intermedio
LMT	Local mean time
LNAV†	*(to be pronounced "EL-NAV")* Lateral navigation
LNG	Long *(used to indicate the type of approach desired or required)*
LO	Locator, outer
LOC	Localizer
LONG	Longitude
LORAN†	LORAN *(long range air navigation system)*
LOSS	Airspeed or headwind loss
LPV	Localizer performance with vertical guidance
LR	The last message received by me was . . . *(to be used in AFS as a procedure signal)*
LRG	Long range

LS	The last message sent by me was . . . *or* Last message was . . . *(to be used in AFS as a procedure signal)*
☛LTA	Lower control area
LTD	Limited
LTP	Landing threshold point
☛	
LV	Light and variable *(relating to wind)*
LVE	Leave *or* leaving
LVL	Level
LVP	Low visibility procedures
LYR	Layer *or* layered
M	
… M	Metres *(preceded by figures)*
M …	Mach number *(followed by figures)*
M …	Minimum value of runway visual range *(followed by figures in METAR/SPECI)*
MAA	Maximum authorized altitude
MAG	Magnetic
MAHF	Missed approach holding fix
MAINT	Maintenance
MALSR	Medium-intensity Approach Lighting System with Runway Alignment Indicator Lights
MAP	Aeronautical maps and charts
MAPT	Missed approach point
MAR	At sea
MAR	March
☛	
MATF	Missed approach turning fix
☛MATZ	Military aerodrome traffic zone
MAX	Maximum
MAY	May
MBST	Microburst
MCA	Minimum crossing altitude
☛MCTR	Military control zone
MCW	Modulated continuous wave
MDA	Minimum descent altitude
MDF	Medium frequency direction-finding station
MDH	Minimum descent height
MEA	Minimum en-route altitude
☛MEDEVAC	Medical evacuation flight
MEHT	Minimum eye height over threshold *(for visual approach slope indicator systems)*
MET†	Meteorological or meteorology
METAR†	Aerodrome routine meteorological report *(in meteorological code)*
MET REPORT	Local routine meteorological report *(in abbreviated plain language)*
MF	Medium frequency [300 to 3 000 kHz]
☛MHA	Minimum holding altitude
MHDF	Medium and high frequency direction-finding stations *(at the same location)*
MHVDF	Medium, high and very high frequency direction-finding stations *(at the same location)*
MHZ	Megahertz
MID	Mid-point (related to RVR)
MIFG	Shallow fog
MIL	Military
MIN*	Minutes
MIS	Missing . . . *(transmission identification) (to be used in AFS as a procedure signal)*
MKR	Marker radio beacon
MLS+	Microwave landing system
MM	Middle marker
MNM	Minimum
MNPS	Minimum navigation performance specifications
MNT	Monitor *or* monitoring or monitored
MNTN	Maintain
MOA	Military operating area
MOC	Minimum obstacle clearance *(required)*
MOCA	Minimum obstacle clearance altitude
MOD	Moderate *(used to indicate the intensity of weather phenomena, interference or static reports, e.g. MODRA = moderate rain)*
MON	Above mountains
MON	Monday
MOPS†	Minimum operational performance standards
MOV	Move *or* moving *or* movement
MPS	Metres per second
MRA	Minimum reception altitude
MRG	Medium range
MRP	ATS/MET reporting point
MS	Minus
MSA	Minimum sector altitude
MSAS†	*(to be pronounced "EM-SAS")* Multifunctional transport satellite (MTSAT) satellite-based augmentation system
MSAW	Minimum safe altitude warning
MSG	Message
MSL	Mean sea level

MSR#	Message . . . *(transmission identification)* has been misrouted *(to be used in AFS as a procedure signal)*
MSSR	Monopulse secondary surveillance radar
MT	Mountain
☛MTOM	Maximum take-off mass
MTU	Metric units
MTW	Mountain waves
MVDF	Medium and very high frequency direction-finding stations *(at the same location)*
MWO	Meteorological watch office
MX	Mixed type of ice formation *(white and clear)*

N

N	No distinct tendency *(in RVR during previous 10 minutes)*
N	North *or* northern latitude
NADP	Noise abatement departure procedure
NASC†	National AIS system centre
NAT	North Atlantic
NAV	Navigation
☛NAVAID	Navigation aid
NB	Northbound
NBFR	Not before
NC	No change
NCD	No cloud detected *(used in automated METAR/SPECI)*
NDB+	Non-directional radio beacon
NDV	No directional variations available *(used in automated METAR/SPECI)*
NE	North-east
NEB	North-eastbound
NEG	No *or* negative *or* permission not granted *or* that is not correct
NGT	Night
NIL*†	None *or* I have nothing to send to you
NM	Nautical miles
NML	Normal
NN	No name, unnamed
NNE	North-north-east
NNW	North-north-west
NO	No (negative) *(to be used in AFS as a procedure signal)*
NOF	International NOTAM office
☛NONSTD	Non-standard
NOSIG†	No significant change *(used in trend-type landing forecasts)*
NOTAM†	A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timelyknowledge of which is essential to personnel concerned with flight operations
☛NOTAMC	Cancelling NOTAM
☛NOTAMN	New NOTAM
☛NOTAMR	Replacing NOTAM
NOV	November
NOZ	Normal operating zone
NPA	Non-precision approach
NR	Number
NRH	No reply heard
NS	Nimbostratus
NSC	Nil significant cloud
NSE	Navigation system error
NSW	Nil significant weather
NTL	National
NTZ+	No transgression zone
NW	North-west
NWB	North-westbound
NXT	Next

O

OAC	Oceanic area control centre
OAS	Obstacle assessment surface
OAS	Organization of American States
OBS	Observe *or* observed *or* observation
OBSC	Obscure *or* obscured *or* obscuring
OBST	Obstacle
OCA	Obstacle clearance altitude
OCA	Oceanic control area
OCC	Occulting (light)
OCH	Obstacle clearance height
OCNL	Occasional or occasionally
OCS	Obstacle clearance surface
OCT	October
OFZ	Obstacle free zone
OGN	Originate *(to be used in AFS as a procedure signal)*
OHD	Overhead
OIS	Obstacle identification surface
OK*	We agree *or* It is correct *(to be used in AFS as a procedure signal)*
OLDI†	On-line data interchange
OM	Outer marker

OPA	Opaque, white type of ice formation
OPC	Control indicated is operational control
OPMET†	Operational meteorological *(information)*
OPN	Open *or* opening *or* opened
OPR	Operator *or* operate *or* operative *or* operating *or* operational
OPS†	Operations
O/R	On request
ORD	Order
OSV	Ocean station vessel
OTP	On top
OTS	Organized track system
OUBD	Outbound
OVC	Overcast
P	
P…	Maximum value of wind speed or runway visual range *(followed by figures in METAR/SPECI and TAF)*
P...	Prohibited area *(followed by identification)*
PA	Precision approach
PALS	Precision approach lighting system *(specify category)*
PANS	Procedures for air navigation services
PAPI†	Precision approach path indicator
PAR+	Precision approach radar
PARL	Parallel
PATC …	Precision approach terrain chart *(followed by name/title)*
PAX	Passenger(s)
☛PBC	Performance-based communication
PBN	Performance-based navigation
☛PBS	Performance-based surveillance
PCD	Proceed *or* proceeding
PCL	Pilot-controlled lighting
PCN	Pavement classification Lumber
☛PCT	Per cent
PDC+	Pre-departure clearance
PDG	Procedure design gradient
PER	Performance
PERM	Permanent
PIB	Pre-flight information bulletin
PJE	Parachute jumping exercise
PL	Ice pellets
PLA ☛	Practice low approach
PLVL	Present level
PN	Prior notice required
PNR	Point of no return
PO	Dust/sand whirls *(dust devils)*
POB	Persons on board
POSS	Possible
PPI	Plan position indicator
PPR	Prior permission required
PPSN	Present position
PRFG	Aerodrome partially covered by fog
PRI	Primary
PRKG	Parking
PROB†	Probability
PROC	Procedure
☛PROP	Propeller
PROV	Provisional
PRP	Point-in-space reference point
PS	Plus
PSG	Passing
PSN	Position
PSP	Pierced steel plank
PSR+	Primary surveillance radar
PSYS	Pressure system(s)
PTN	Procedure turn
PTS	Polar track structure
PWR	Power
Q	
QDL	Do you intend to ask me for a series of bearings? *or* I intend to ask you for a series of bearings *(to be used in radiotelegraphy as a Q Code)*
QDM+	Magnetic heading *(zero wind)*
QDR	Magnetic bearing
QFE+	Atmospheric pressure at aerodrome elevation *(or at runway threshold)*
QFU	Magnetic orientation of runway
QGE	What is my distance to your station? *or* Your distance to my station is *(distance figures and units) (to be used in radiotelegraphy as a Q Code)*
QJH	Shall I run my test tape/a test sentence? *or* Run your test tape/a test sentence *(to be used in AFS as a Q Code)*
QNH+	Altimeter sub-scale setting to obtain elevation when on the ground
QSP	Will you relay to . . . free of charge? *or* I will relay to . . . free of charge (to be used in AFS as a Q Code)
QTA	Shall I cancel telegram number . . .? *or* Cancel telegram number . . . *(to be used in AFS as a Q Code)*
QTE	True bearing

QTF	Will you give me the position of my station according to the bearings taken by the D/F stations which you control? *or* The position of your station according to the bearings taken by the D/F stations that I control was . . . latitude . . . longitude *(or other indication of position)*, class . . . at . . . hours *(to be used in radiotelegraphy as a Q Code)*
QUAD	Quadrant
QUJ	Will you indicate the TRUE track to reach you? *or* The TRUE track to reach me is . . . degrees at . . . hours *(to be used in radiotelegraphy as a Q Code)*
R	
…R	Right *(preceded by runway designation number to identify a parallel runway)*
R	Rate of turn
R	Red
R...	Restricted area *(followed by identification)*
R…	Runway *(followed by figures in METAR/SPECI)*
R*	Received *(acknowledgement of receipt) (to be used in AFS as a procedure signal)*
☛R…	Radial from VOR *(followed by three figures)*
RA	Rain
RA	Resolution advisory
RAC	Rules of the air and air traffic services
RAFC	Regional area forecast centre
RAG	Runway arresting gear
RAG	Ragged
RAI	Runway alignment indicator
RAIM†	Receiver autonomous integrity monitoring
RASC†	Regional AIS system centre
RASS	Remote altimeter setting source
RAU	Reglamento Aeronáutico Uruguayo (Uruguayan Air Regulation)
RB	Rescue boat
RCA	Reach cruising altitude
RCC	Rescue coordination centre
RCF	Radiocommunication failure *(message type designator)*
RCH	Reach *or* reaching
RCL	Runway centre line
RCLL	Runway centre line light(s)
RCLR	Recleared
RCP+	Required communication performance
☛RDOACT	Radioactive
RDH	Reference datum height
RDL	Radial
RDO	Radio
RE	Recent *(used to qualify weather phenomena, e.g. RERA = recent rain)*
REC	Receive or receiver
REDDIG	Red de Comunicaciones Digitales (Digital Network)
REDL	Runway edge light(s)
REF	Reference to . . . or refer to . . .
REG	Registration
RENL	Runway end light(s)
REP	Report *or* reporting *or* reporting point
REQ	Request *or* requested
RERTE	Re-route
RESA	Runway end safety area
RF	Constant radius arc to a fix
☛RFFS	Rescue and fire fighting services
RG	Range *(lights)*
RHC	Right-hand circuit
RIF	Reclearance in flight
RIME†	Rime *(used in aerodrome warnings)* ☛
RL	Report leaving
RLA	Relay to
RLCE	Request level change en route
RLLS	Runway lead-in lighting system
RLNA	Request level not available
RMK	Remark
RNAV†	*(to be pronounced "AR-NAV")* Area navigation
RNG	Radio range
RNP+	Required navigation performance
ROBEX†	Regional OPMET bulletin Exchange *(scheme)*
ROC	Rate of climb
ROD	Rate of descent
RON	Receiving only
RPDS	Reference path data selector
RPI+	Radar position indicator
RPL	Repetitive flight plan
RPLC	Replace *or* replaced
RPS	Radar position symbol
RPT*	Repeat *or* I repeat *(to be used in AFS as a procedure signal)*
RQ*	Request *(to be used in AFS as a procedure signal)*
RQMNTS	Requirements
RQP	Request flight plan *(message type designator)*

RQS	Request supplementary flight plan *(message type designator)*
RR	Report reaching
RRA	*(or RRB, RRC . . . etc., in sequence)* Delayed meteorological message *(message type designator)*
RSC	Rescue sub-centre
RSCD	Runway surface condition
☛RSP+	Required surveillance performance
RSP	Responder beacon
RSR	En-route surveillance radar
RSS	Root sum square
RTD	Delayed *(used to indicate delayed meteorological message; message type designator)*
RTE	Route
RTF	Radiotelephone
RTG	Radiotelegraph
RTIL	Runway threshold identification lights
RTHL	Runway threshold light(s)
RTN	Return or returned or returning
RTODAH	Rejected take-off distance available, helicopter
RTS	Return to service
RTT	Radioteletypewriter
RTZL	Runway touchdown zone light(s)
RUT	Standard regional route transmitting frequencies
RV	Rescue Wessel
☛RVA	Radar vectoring area
RVR+	Runway visual range
RVSM+	Reduced vertical separation minimum (300 m (1 000 ft)) between FL 290 and FL 410
RWY	Runway
S	
S	South *or* southern latitude
S…	State of the sea *(followed by figures in METAR/SPECI)*
SA	Sand
SALS	Simple approach lighting system
SAN	Sanitary
☛	
SAR	Search and rescue
SARPS	Standards and Recommended Practices [ICAO]
SAT	Saturday
☛SATCOM†	Satellite communication (used only when referring generally to both voice and data satellite communication or only data satellite communication)
☛SATVOICE†	Satellite voice communication
SB	Southbound
SBAS†	*(to be pronounced "ESS-BAS")* Satellite-based augmentation system
SC	Stratocumulus
SCT	Scattered
SD	Standard deviation
SDBY	Stand by
SDF	Step down fix
SE	South-east
SEA	Sea *(used in connection with sea-surface temperature and state of the sea)*
SEB	South-eastbound
SEC	Seconds
SECN	Section
SECT	Sector
SELCAL†	Selective calling system
SEP	September
SER	Service or servicing or served
SEV	Severe *(used e.g. to qualify icing and turbulence reports)*
SFC	Surface
SG	Snow grains
SGL	Signal
SH...	Shower *(followed by RA = rain, SN = snow, PL = ice pellets, GR = hail, GS= small hail and/or snow pellets or combinations thereof, e.g. SHRASN = showers of rain and snow)*
SHF	Super high frequency [3 000 to 30 000 MHz]
SI	International system of units
SID†	Standard instrument departure
SIF	Selective identification feature
SIG	Significant
☛SIGMET†	Information concerning en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations
SIMUL	Simultaneous *or* simultaneously
SIWL	Single isolated wheel load
SKC	Sky clear
SKED	Schedule or scheduled
SLP	Speed limiting point
SLW	Slow
SMC	Surface movement control
SMR	Surface movement radar
SN	Snow
SNOCLO	Aerodrome closed due to snow *(used in METAR/SPECI)*

SNOWTAM†	Special series NOTAM notifying the presence or removal of hazardous conditions due to snow, ice, slush or standing water associated with snow, slush and ice on the movement area, by means of a specific format
SOC	Start of climb
SPECI†	Aerodrome special meteorological report *(in meteorological code)*
SPECIAL†	Local special meteorological report *(in abbreviated plain language)*
SPI	Special position indicator
SPL	Supplementary flight plan *(message type designator)*
SPOC	SAR point of contact
SPOT†	Spot wind
SQ	Squall
SQL	Squall line
SR	Sunrise
SRA	Surveillance radar approach
SRE	Surveillance radar element of precision approach radar system
SRG	Short range
SRR	Search and rescue region
SRY	Secondary
SS	Sandstorm
SS	Sunset
SSB	Single sideband
SSE	South-south-east
SSR+	Secondary surveillance radar
SST	Supersonic transport
SSW	South-south-west
ST	Stratus
STA	Straight-in approach
STAR†	Standard instrument arrival
STD	Standard
STF	Stratiform
STN	Station
STNR	Stationary
STOL	Short take-off and landing
STS	Status
STWL	Stopway light(s)
SUBJ	Subject to
SUN	Sunday
SUP	Supplement *(AIP Supplement)*
SUPPS	Regional supplementary procedures
☛SVC	Service (message type only)
SVCBL	Serviceable
SW	South-west
SWB	South-westbound
SWY	Stopway

T

T	Temperature
…T	True *(preceded by a bearing to indicate reference to True North)*
TA	Traffic advisory
TA	Transition altitude
TAA	Terminal arrival altitude
TACAN†	UHF tactical air navigation aid
TAF†	Aerodrome forecast *(in meteorological code)*
TA/H	Turn at an altitude/height
TAIL†	Tail wind
TAR	Terminal area surveillance radar
TAS	True airspeed
TAX	Taxiing *or* taxi
TC	Tropical cyclone
TCAC	Tropical cyclone advisory centre
TCAS RA†	*(to be pronounced "TEE-CAS-AR-AY")* Traffic alert and collision avoidance system resolution advisory
TCH	Threshold crossing height
TCU	Towering cumulus
TDO	Tornado
TDZ	Touchdown zone
TECR	Technical reason
TEL	Telephone
TEMPO†	Temporary *or* temporarily
TF	Track to fix
TFC	Traffic
TGL	Touch-and-go landing
TGS	Taxiing guidance system
THR	Threshold
THRU	Through
THU	Thursday
TIBA	Traffic information broadcast by aircraft
TIL†	Until
TIP	Until past . . . *(place)*
TKOF	Take-off
TL...	Till *(followed by time by which weather change is forecast to end)*
TLOF	Touchdown and lift-off area
TMA+	Terminal control area
TN…	Minimum temperature *(followed by figures in TAF)*
TNA	Turn altitude
TNH	Turn height
TO …	To . . . *(place)*
TOC	Top of climb
TODA	Take-off distance available

TODAH	Take-off distance available, helicopter
TOP†	Cloud top
TORA	Take-off run available
TOX	Toxic
TP	Turning point
TR	Track
TRA	Temporary reserved airspace
TRANS	Transmits *or* transmitter
TREND	Trend forecast
TRL	Transition level
☛TRG	Training
TROP	Tropopause
TS	Thunderstorm *(in aerodrome reports and forecasts, TS used alone means thunder heard but no precipitation at the aerodrome)*
TS...	Thunderstorm *(followed by RA = rain, SN = snow, PL = ice pellets, GR = hail, GS = small hail and/or snow pellets or combinations thereof, e.g. TSRASN = thunderstorm with rain and snow)*
TSUNAMI†	Tsunami *(used in aerodrome warnings)*
TT	Teletypewriter
TUE	Tuesday
TURB	Turbulence
T-VASIS†	*(to be pronounced "TEE-VASIS")* T visual approach slope indicator system
TVOR	Terminal VOR
TWIL FROM	Beginning of civil morning twilight
TWIL TO	End of civil evening twilight
TWR	Aerodrome control tower *or* aerodrome control
TWY	Taxiway
☛	
TX ...	Maximum temperature *(followed by figures in TAF)*
☛TXL	Taxilane
TXT*	Text *(when the abbreviation is used to request a repetition, the question mark (IMI) precedes the abbreviation, e.g. IMI TXT) (to be used in AFS as a procedure signal)*
TYP	Type of aircraft
TYPH	Typhoon

U

U	Upward *(tendency in RVR during previous 10 minutes)*
UA	Unmanned aircraft
UAB ...	Until advised by . . .
UAC	Upper area control centre
UAR	Upper air route
UAS	Unmanned aircraft system
UDF	Ultra high frequency direction-finding station
UFN	Until further notice
UHDT	Unable higher due traffic
UHF+	Ultra high frequency [300 to 3 000 MHz]
UIC	Upper information centre
UIR+	Upper flight information region
☛ULM	Ultra light motorized aircraft
ULR	Ultra long range
UN	United Nations
UNA	Unable
UNAP	Unable to approve
UNL	Unlimited
UNREL	Unreliable
UP	Unidentified precipitation *(used in automated METAR/SPECI)*
U/S	Unserviceable
UTA	Upper control area
UTC+	Coordinated Universal Time

V

…V…	Variations from the mean wind direction *(preceded and followed by figures in METAR/SPECI, e.g. 350V070)*
VA	Heading to an altitude
VA	Volcanic ash
VAAC	Volcanic ash advisory centre
VAC ...	Visual approach chart *(followed by name/title)*
VAL	In valleys
VAN	Runway control van
VAR	Magnetic variation
VAR	Visual-aural radio range
VASIS	Visual approach slope indicator systems
VC ...	Vicinity of the aerodrome *(followed by FG = fog, FC = funnel cloud, SH = shower, PO = dust/sand whirls, BLDU = blowing dust, BLSA = blowing sand, BLSN = blowing snow, DS = duststorm, SS = sandstorm, TS = thunderstorm or VA = volcanic ash, e.g. VCFG = vicinity fog)*
VCY	Vicinity
VDF	Very high frequency direction-finding station
VER	Vertical
VFR+	Visual flight rules
VHF+	Very high frequency [30 to 300 MHz]
VI	Heading to an intercept

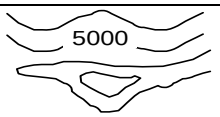
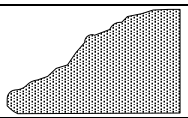
VIP+	Very important person
VIS	Visibility
VLF	Very low frequency [3 to 30 kHz]
VLR	Very long range
VM	Heading to a manual termination
VMC+	Visual meteorological conditions
VNAV†	*(to be pronounced "VEE-NAV")* Vertical navigation
☛VOL	Volume (followed by I, II...)
VOLMET†	Meteorological information for aircraft in flight
VOR+	VHF omnidirectional radio range
VORTAC†	VOR and TACAN combination
VOT	VOR airborne equipment test facility
VPA	Vertical path angle
VPT	Visual manoeuvre with prescribed track
VRB	Variable
VSA	By visual reference to the ground
VSP	Vertical speed
VTF	Vector to final
VTOL	Vertical take-off and landing
VV …	Vertical visibility *(followed by figures in METAR/SPECI and TAF)*
W	
W	West *or* western longitude
W	White
W…	Sea-surface temperature (followed by figures in METAR/SPECI)
WAAS†	Wide area augmentation system
WAC …	World Aeronautical Chart — ICAO 1:1 000 000 *(followed by name/title)*
WAFC	World area forecast centre
WB	Westbound
WBAR	Wing bar lights
WDI	Wind direction indicator
WDSPR	Widespread
WED	Wednesday
WEF	With effect from *or* effective from
WGS-84	World Geodetic System — 1984
WI	Within
WID	Width or wide
WIE	With immediate effect *or* effective immediately
WILCO†	Will comply
WIND	Wind
WIP	Work in progress
WKN	Weaken or weakening
WNW	West-north-west
WO	Without
WPT	Way-point
WRNG	Warning
WS	Wind shear
WSPD	Wind speed
WSW	West-south-west
WT	Weight
WTSPT	Waterspout
WWW	Worldwide web
WX	Weather
☛WXR	Weather radar
X	
X	Cross
XBAR	Crossbar *(of approach lighting system)*
XNG	Crossing
XS	Atmospherics
Y	
Y	Yellow
YCZ	Yellow caution zone (runway lighting)
YES*	Yes (affirmative) *(to be used in AFS as a procedure signal)*
YR	Your
Z	
Z	Coordinated Universal Time *(in meteorological messages)*

† *When radiotelephony is used, the abbreviations and terms are transmitted as spoken words.*
+ *When radiotelephony is used, the abbreviations and terms are transmitted using the individual letters in non-phonetic form.*
* *Signal is also available for use in communicating with stations of the maritime mobile service.*
\# *Signal for use in the teletypewriter service only.*

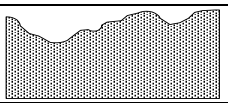
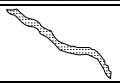
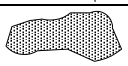
INTENTIONALLY
LEFT BLANK

GEN 2.3 CHART SYMBOLS

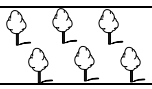
1. Topography

Contours	
Sand area	
Elevation, Hightest elevation on chart	 

2. Hidrography

Shore line	
Large river (perennial)	
Small river (perennial)	
Rivers and stream (non-perennial)	
Lakes (perennial)	
Rice field	

3. Vegetation

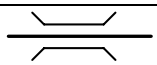
Trees	
Vegetation in general	

4. Constructions

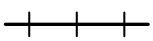
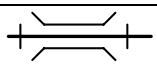
4.1 *Built-up areas*

Large urbanization	
City	
Town	
Buildings	

4.2 *Highways and roads*

Main highway	
Secondary road	
Road	
Bridge on road	

4.3 *Railroads*

Railroad	
Bridge on railroad	

5. Aerodromes

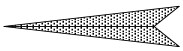
5.1 *Charts other than approach charts*

Civil (land)	
Civil (water)	
Joint civil and military (land)	
Joint civil and military (water)	
Military (land)	
Military (water)	
Emergency aerodrome or aerodrome with no facilities	
Abandoned or closed aerodrome	
Sheltered anchorage	
Aerodrome. Used on charts on which aerodrome classification is not required.	
Heliport	

5.2 *Approach charts*

Aerodrome on which the procedure is based	
Aerodromes affecting the traffic pattern on the aerodrome on which the procedure is based	

6. Radio navigation aids

Basic radio navigation aid symbol		
Non-directional radio beacon (NDB)		
VHF omnidirectional radio range (VOR)		
Distance measuring equipment		
Collocated VOR and DME radio navigation aids (VOR/DME)		
Instrument landing system (ILS)	Plan view	
	Profile	
Radio marker beacon		
Compass rose		

7. Air traffic services

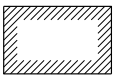
Flight information región (FIR)	
Aerodrome traffic zone	
Control area	
Airway	
RNAV	
Control zone	
Scale-break (on ATS routes)	

	☛Conventional Navigation		☛Area Navigation			
	On request fly-by	Compulsory fly-by	On request fly-by	Compulsory fly-by	On request flyover	Compulsory flyover
VFR reporting point	☛	☛				
Intersection INT	☛	☛				
VOR	☛	☛				
VOR/DME	☛	☛				
NDB	☛	☛				
Waypoint WPT	☛Not used	☛Not used				

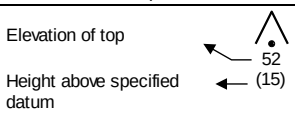
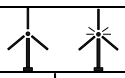
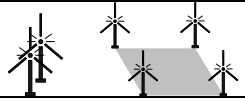
ATS/MET reporting point (MRP)	Compulsory	
	On request	
Final approach fix (FAF)		

Altitudes/flight levels	Altitude/flight level “window”	FL 245 / 900
	“At or above” altitude/flight level	FL 245
	“At or below” altitude/flight level	900
	“Mandatory” altitude/flight level	FL 245
Airspace clasification		
	Between “GND” and 600 M: class “G”; between 600 M and FL 195: class “C”; between FL 195 and FL 245: class “A”	A FL 245 / C FL 195 / G 600 M / GND

8. Airspace restrictions

Restricted airspace (prohibited, restricted or danger areas)	
Common boundary of two areas	
☛Air defence identification zone (ADIZ)	

9. Obstacles

Obstacle	
Lighted obstacle	
Group obstacles	
Lighted group obstacles	
Exceptionally high obstacle (higher than 300 M above terrain)	
Exceptionally high obstacle - lighted	
	
Wind turbine – unlighted and lighted	
Wind turbines – minor Group and Group in major area, lighted.	

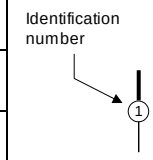
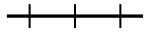
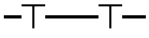
10. Visual aids

Marine light	
Aeronautical ground light	

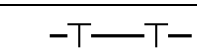
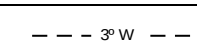
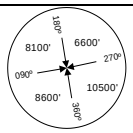
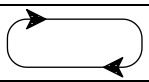
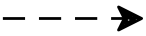
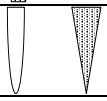
11. Aerodrome charts

Hard surface runway	
Unpaved runway	
Stopway	
Taxiways and parking areas	
Aerodrome reference point (ARP)	
Helicopter alighting area on an aerodrome	
VOR check-point	
Runway visual range (RVR) observation site	
Point light	 
Obstacle light	
Wind direction indicator (lighted)	
Wind direction indicator (unlighted)	
Landing direction indicator (lighted)	
Landing direction indicator (unlighted)	
Runway-holding	
☛Intermediate holding position	----
☛Hot spot	

☛12. Symbols for aerodrome obstacle charts – Type A, B and C

Tree or shrub		
Pole, tower, spire, antenna, etc.		
Building or large structure		
Railroad		
Transmission line or overhead cable		
Terrain penetrating obstacle plane		
Stopway (SWY)		
Clearway (CWY)		

☛13. Various

Transmission line or overhead cable	
Isogonal	
Minimun sector altitude (MSA)	 MSA CRR VOR
Holding pattern	
Direct approach	
Missed approach track	
Runway	
Radio navigation aid (type of aid and its use in the procedure to be annotated on topo of the symbol)	
Radio marker beacon (type of beacon to be annotated on top of the symbol)	
DME fix	

GEN 2.4 LOCATION INDICATORS

The location indicators marked with an asterisk (*) cannot be used in the address component of AFS messages

1. ENCODE		2. DECODE	
Location	*Indicator*	*Indicator*	*Location*
ANCHORENA / Ad	SUAN *	SUAA	MONTEVIDEO / Ad Ángel S. Adami
ARTIGAS / Intl	SUAG	SUAG	ARTIGAS / Intl
BELLA UNION / Ad	SUBU *	SUAN *	ANCHORENA / Ad
BOISO LANZA / Ad	SUBL	SUAY *	TERMAS DEL ARAPEY / Ad
CANELONES / Ad	SUCN *	SUBL	BOISO LANZA / Ad
CARDONA / Ad	SUCD *	SUBU *	BELLA UNIÓN / Ad
CARMELO / Intl	SUCM *	SUCA	COLONIA / Intl "Laguna de los Patos"
CHALKLING / Ad	SUPC *	SUCD *	CARDONA / Ad
CHUY / Ad	SUCH *	SUCH *	CHUY / Ad
COLONIA / Intl "Laguna de los Patos"	SUCA	SUCL *	LA CALERA - MINAS / Ad
DOLORES / Ad	SUDL *	SUCM *	CARMELO / Intl
DURAZNO / Santa Bernardina Intl de Alternativa	SUDU	SUCN *	CANELONES / Ad
EDIFICIO LIBERTAD / Heli	SUEL *	SUDL *	DOLORES / Ad
EL MIRADOR - ESTANCIA / Ad	SUEM *	SUDU	DURAZNO / Santa Bernardina Intl de Alternativa
E.T.A. / Heli	SUET *	SUDR *	SARANDI GRANDE / Ad Dos Robles
FLORIDA / Ad	SUFL *	SUEL *	EDIFICIO LIBERTAD / Heli
FRAY BENTOS / Ad	SUFB *	SUEM *	EL MIRADOR - ESTANCIA / Ad
☛FRIGORÍFICO TACUAREMBÓ / Ad	SUFT *	SUEO	MONTEVIDEO / ACC
GENERAL ARTIGAS - E.M.A. / Ad	SUGA	SUEO	MONTEVIDEO / FIR
GUICHÓN / Ad	SUGN *	SUET *	E.T.A / Heli

1. ENCODE		2. DECODE	
Location	*Indicator*	*Indicator*	*Location*
JOSE PEDRO VARELA / Ad	SUJP *	SUFB *	FRAY BENTOS / Ad
JUAN LACAZE / Ad	SUJL *	SUFL *	FLORIDA / Ad
LA CALERA - ESTANCIA / Ad	SULC *	SUFT *	FRIGORÍFICO TACUAREMBÓ / Ad
LA CALERA - MINAS / Ad	SUCL *	SUGA	GENERAL ARTIGAS - E.M.A. / Ad
☛	☛	SUGN *	GUICHÓN / Ad
LA PALOMA - ROCHA / Ad	SULP *	SUJL *	JUAN LACAZE / Ad
LASCANO / Ad	SULA *	SUJP *	JOSÉ PEDRO VARELA / Ad
MALDONADO / Intl C/C Carlos A. Curbelo "Laguna del Sauce"	SULS	SULA *	LASCANO / Ad
MELO / Intl de Cerro Largo	SUMO	SULC *	LA CALERA - ESTANCIA / Ad
MERCEDES / Dptal Ricardo Detomasi	SUME *	☛	☛
MINAS / Ad	SUMI *	SULP *	LA PALOMA - ROCHA / Ad
MONTEVIDEO / Intl Carrasco - "Gral. Cesáreo L. Berisso"	SUMU	SULS	MALDONADO / Intl C/C Carlos A Curbelo "Laguna del Sauce"
MONTEVIDEO / ACC	SUEO	SUME *	MERCEDES / Dptal Ricardo Detomasi
MONTEVIDEO / Ángel S. Adami	SUAA	SUMI *	MINAS / Ad
MONTEVIDEO / FIR	SUEO	SUMO	MELO / Intl de Cerro Largo
NUEVA MEHLEM - ESTANCIA / Ad	SUNM *	SUMU	MONTEVIDEO / Intl Carrasco - "Gral. Cesáreo L. Berisso"
OMBÚES DE LAVALLE / Ad	SUOL *	SUNM *	NUEVA MEHLEM - ESTANCIA / Ad
PASO DE LOS TOROS / Ad	SUPT *	SUOL *	OMBÚES DE LAVALLE / Ad
PAYSANDÚ / Intl Tydeo Larre Borges	SUPU	SUPC *	CHALKLING / Ad
PROGRESO / Ad	SUPR *	SUPE	PUNTA DEL ESTE / Dptal "El Jagüel"
PUNTA DEL ESTE / Dptal "El Jagüel"	SUPE	SUPR *	PROGRESO / Ad
RESIDENCIA SUÁREZ / Heli	SURS *	SUPT *	PASO DE LOS TOROS / Ad
		SUPU	PAYSANDÚ / Intl Tydeo Larre Borges

1. ENCODE		2. DECODE	
Location	*Indicator*	*Indicator*	*Location*
RIO BRANCO / Ad	SURB *	SURB *	RÍO BRANCO / Ad
RIVERA / Intl Presidente General (Piloto Aviador Militar) don Oscar D. Gestido	SURV	SURO *	ROCHA / Ad
ROCHA / Ad	SURO *	SURS *	RESIDENCIA SUÁREZ / Heli
SALTO / Intl Nueva Hespérides	SUSO	SURV	RIVERA / Intl Presidente General (Piloto Aviador Militar) don Oscar D. Gestido
SAN GREGORIO / Ad	SUSG *	SUSG *	SAN GREGORIO / Ad
SAN JOSÉ / Ad	SUSJ *	SUSJ *	SAN JOSÉ / Ad
SARANDI DEL YÍ / Ad	SUYI *	SUSO	SALTO / Intl Nueva Hespérides
☛SARANDI GRANDE / Ad Dos Robles	SUDR *	SUTB	TACUAREMBÓ / Ad
TACUAREMBÓ / Ad	SUTB	SUTD *	TRINIDAD / Ad
TERMAS DEL ARAPEY / Ad	SUAY *	SUTG *	TOMÁS GOMENSORO / Ad
TOMÁS GOMENSORO / Ad	SUTG *	SUTR *	TREINTA Y TRES / Ad
TREINTA Y TRES / Ad	SUTR *	SUVE *	VERGARA / Ad
TRINIDAD / Ad	SUTD *	SUVO *	VICHADERO / Ad
VERGARA / Ad	SUVE *	SUYI *	SARANDÍ DEL YÍ / Ad
VICHADERO / Ad	SUVO *	SUYN *	YOUNG / Ad
YOUNG / Ad	SUYN *		

Note: Heli = Heliport.

RECEIVER INDICATORS AND DESIGNATORS OF OFFICIAL ENTITIES EN AERONAUTICAL SERVICES

According to AN2/16 1-87/47 attached of ICAO
1.- AERONAUTICAL AUTHORITIES AND SERVICES - Montevideo

SUMUYAYX Civil Aviation General Director of DGAC
SUMUYGYX General Director of Aviation Infrastructure of DGIA
SUMUYJYX Air Circulation Director (DGIA)
SUMUYHYX Airport Director (DGIA)

☛SUMUYIYX Carrasco Intl Airport Director (DGIA)
☛SUMUYKYX Administration and Finance Director (DGIA)
☛SUMUYQYX Electronic Director (DGIA)
☛SUMUYTYX Air Telecomunications Director
VSUMUYNYX NOTAM Office - Uruguay
☛SUMUYEYX Air Traffic Division
☛SUMUYCYX Search and Rescue Coordinating Centre - SAR
☛SUMUYUYX South Region (DGIA)
☛SUMUYRYX North Region (DGIA)
☛SUMUYMYX Meteorological Office, Carrasco Intl Airport (DGMU)
☛SUMUZRZX Montevideo Area Control Centre - General
☛SUMUZQZX Montevideo Area Control Centre - referred to IFR flights
☛SUMUZFZX Montevideo Area Control Centre - referred to VFR flights
☛SUMUZBZX Repetitive Flight plans Centre - Montevideo

2.- AERONAUTICAL AUTHORITIES AND SERVICES - Generic

☛ (1) YAY Civil aviation authority
☛ (1) YBY Meteorological Telecommunication Network of Operations in Europe
☛ (1) YCY Search and Rescue Coordinating Centre (RCC)
☛ (1) YDY Administrative Authority of Aerodrome
☛ (1) YFY Aeronautical Fix Station
☛ (1) YGD Corporación Centroamericana de Servicios de Navegación Aérea (COCESNA)
☛ (1) YLY Authority responsible for investigating aviation accidents
☛ (1) YMY Meteorological Office
☛ (1) YNY International NOTAM Office
☛ (1) YOY Aeronautical Information dependencies
☛ (1) YSY Aeronatical Moving Station (AMS)
☛ (1) YTY Telecomunications Service
☛ (1) YWY Military Operations in Flight Control Center
☛ (1) YXY Military Services or Organizations *
☛ (1) YYY Agency which is not exclusively assigned an ICAO designator *
☛ (1) YZY Data Bank

☛ (1) ZAZ Approach Control Office
☛ (1) ZBZ Repetitive Flight Plans Office
☛ (1) ZDZ Air Traffic Flow regulator dependency
☛ (1) ZEZ Flight information data base
☛ (1) ZFZ Centre in charge of a Flight Information Region or a Superior Flight Information Region (either an ACC or FIC) when the message is relevant to a VFR flight (see ZQZ)
☛ (1) ZGZ Air Traffic Control (in general)
☛ (1) ZIZ Flight Information Centre (FIC)
☛ (1) ZOZ Oceanic Air Traffic Control
☛ (1) ZPZ Air Traffic Flow notification dependency
☛ (1) ZQZ Centre in charge of a Flight Information Region or a Superior Flight Information Region (either an ACC or FIC) when the message is relevant to a IFR flight (see ZFZ)
☛ (1) ZRZ Area Control Centre

☛ (1) ZSZ SARSAT Centre
☛ (1) ZTZ Aerodrome Control Tower
☛ (1) ZUZ Superior Area Control Centre
☛ (1) ZYZ Aerodrome Security Services
☛ (1) ZZZ Aircraft in flight **

☛* Must be placed at the beginning of the message text the name of the Agency, Service, or government agency
☛** Must be placed at the beginning of the message text, the identification of the flight

(1) Place in the four-letter location indicator for the recipient / originator of the message here (see GEN 2.4-1 GEN 2.4-3)

GENERAL NOTE

The destination indicator contains the location indicator of the destination locations, followed immediately by the ICAO three-letter designator identifying the department or agency of destination

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GEN 2.5 LIST OF RADIO NAVIGATION AIDS

ID	*Station name*	*Aid*	*Purpose*	*Station name*	*Aid*	*ID*	*Purpose*
AR	Carrasco	L	A	Adami	NDB	ASI	☛A
ASI	Adami	NDB	☛A	Carrasco	ILS	ICAR	A
☛	☛	☛	☛	Carrasco	ILS	IMVD	A
CA	Carrasco	L	A	Carrasco	L	AR	A
CRR	Carrasco	VOR/DME	AE	Carrasco	L	CA	A
☛	☛	☛	☛	Carrasco	VOR/DME	CRR	AE
DUR	Durazno	VOR/DME	AE	☛	☛	☛	☛
☛IDUR	Durazno	ILS	A	Curbelo	VOR/DME	LDS	AE
ICAR	Carrasco	ILS	A	☛	☛	☛	☛
IMVD	Carrasco	ILS	A	☛	☛	☛	☛
☛	☛	☛	☛	☛	☛	☛	☛
LDS	Curbelo	VOR/DME	AE	☛Durazno	ILS	IDUR	A
☛	☛	☛	☛	Durazno	VOR/DME	DUR	AE
☛	☛	☛	☛	☛	☛	☛	☛
☛	☛	☛	☛	☛	☛	☛	☛
☛	☛	☛	☛	☛	☛	☛	☛
☛	☛	☛	☛	☛	☛	☛	☛
☛	☛	☛	☛	☛	☛	☛	☛
☛	☛	☛	☛	☛	☛	☛	☛

Purpose.....: A = Aerodrome
E = En-route

GEN 2.5-1 LIST OF LOCATION INDICATORS ASSOCIATED WITH EACH AERODROME/HELIPORT

1. ENCODE		2. DECODE	
ID	*Location Indicator*	*Location Indicator*	*ID*
AN	SUAN	SUAA	ASI
ASI	SUAA	SUAG	AT
AT	SUAG	SUAN	AN
AY	SUAY	SUAY	AY
BL	SUBL	SUBL	BL
BU	SUBU	SUBU	BU
CD	SUCD	SUCA	COL
CH	SUCH	SUCD	CD
CL	SUCL	SUCH	CH
CM	SUCM	SUCL	CL
CN	SUCN	SUCM	CM
COL	SUCA	SUCN	CN
☛CR	☛SUCR	☛SUCR	☛CR
CRR	SUMU	SUDL	DL
DL	SUDL	SUDR	DR
DUR	SUDU	SUDU	DUR
DR	SUDR	SUEL	EL
EL	SUEL	SUEM	EM
EM	SUEM	SUET	ET
ET	SUET	SUFB	FB
FB	SUFB	SUFL	FL
FL	SUFL	SUFT	FT
FT	SUFT	SUGA	GA
GA	SUGA	SUGN	GN
GN	SUGN	SUJL	JL
JL	SUJL	SUJP	JP
JP	SUJP	SULA	LA
LA	SULA	SULC	LC
LC	SULC	☛	☛
LDS	SULS	SULP	LP
☛	☛	SULS	LDS
LP	SULP	SUME	ME
ME	SUME	SUMI	MI
MI	SUMI	SUMO	MLO
MLO	SUMO	SUMU	CRR
☛NH	☛SUNH	☛SUNH	☛NH
NM	SUNM	SUNM	NM
OL	SUOL	SUOL	OL
PC	SUPC	SUPC	PC
PE	SUPE	SUPE	PE
PN	SUPU	SUPR	PR
PR	SUPR	SUPT	PT
PT	SUPT	SUPU	PN
RB	SURB	SURB	RB

1. ENCODE		2. DECODE	
ID	*Location Indicator*	*Location Indicator*	*ID*
RO	SURO	SURO	RO
RS	SURS	SURS	RS
RVA	SURV	SURV	RVA
SG	SUSG	SUSG	SG
SJ	SUSJ	SUSJ	SJ
STO	SUSO	SUSO	STO
TD	SUTD	SUTB	TMB
TG	SUTG	SUTD	TD
TMB	SUTB	SUTG	TG
TR	SUTR	SUTR	TR
VE	SUVE	SUVE	VE
VO	SUVO	SUVO	VO
YI	SUYI	SUYI	YI
YN	SUYN	SUYN	YN

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GEN 2.6 CONVERSION TABLES

NM to KM 1 NM = 1.852 KM		KM to NM 1 KM = 0.54 NM		FT to M 1 FT = 0.3048 M		M to FT 1 M = 3.281 FT	
NM	*KM*	*KM*	*NM*	*FT*	*M*	*M*	*FT*
0,1	0,185	0,1	0,05	1	0,305	1	3,28
0,2	0,370	0,2	0,11	2	0,610	2	6,56
0,3	0,556	0,3	0,16	3	0,914	3	9,84
0,4	0,741	0,4	0,22	4	1,219	4	13,12
0,5	0,926	0,=	0,27	5	1,524	5	16,40
0,6	1,111	0,6	0,32	6	1,829	6	19,69
0,7	1,296	0,7	0,38	7	2,134	7	22,97
0,8	1,482	0,8	0,43	8	2,438	8	26,25
0,9	1,667	0,9	0,49	9	2,743	9	29,53
1	1,852	1	0,54	10	3,048	10	32,81
2	3,704	2	1,08	20	6,096	20	65,62
3	5,556	3	1,62	30	9,144	30	98,43
4	7,408	4	2,16	40	12,192	40	131,23
5	9,260	5	2,70	50	15,240	50	164,04
6	11,112	6	3,24	60	18,288	60	196,85
7	12,964	7	3,78	70	21,336	70	229,66
8	14,816	8	4,32	80	24,384	80	262,47
9	16,668	9	4,86	90	27,432	90	295,28
10	18,520	10	5,40	100	30,480	100	328,08
20	37,040	20	10,80	200	60,960	200	656,17
30	55,560	30	16,20	300	91,440	300	984,25
40	74,080	40	21,60	400	121,920	400	1 312,34
50	92,600	50	27,00	500	152,400	500	1 640,42
60	111,120	60	32,40	600	182,880	600	1 968,50
70	129,640	70	37,80	700	213,360	700	2 296,59
80	148,160	80	43,20	800	243,840	800	2 624,67
90	166,680	90	48,60	900	274,320	900	2 952,76
100	185,200	100	54,00	1 000	304,800	1 000	3 280,84
200	370,400	200	107,99	2 000	609,600	2 000	6 561,68
300	555,600	300	161,99	3 000	914,400	3 000	9 842,52
400	740,800	400	215,98	4 000	1 219,200	4 000	13 123,36
500	926,000	500	269,98	5 000	1 524,000	5 000	16 404,20
				6 000	1 828,800		
				7 000	2 133,600		
				8 000	2 438,400		
				9 000	2 743,200		
				10 000	3 048,000		

From decimal minutes of an arc to seconds of an arc

MIN	*SEC*	*MIN*	*SEC*	*MIN*	*SEC*	*MIN*	*SEC*
0,01	0,6	0,26	15,6	0,51	30,6	0,76	45,6
0,02	1,2	0,27	16,2	0,52	31,2	0,77	46,2
0,03	1,8	0,28	16,8	0,53	31,8	0,78	46,8
0,04	2,4	0,29	17,4	0,54	32,4	0,79	47,4
0,05	3,0	0,30	18,0	0,55	33,0	0,80	48,0
0,06	3,6	0,31	18,6	0,56	33,6	0,81	48,6
0,07	4,2	0,32	19,2	0,57	34,2	0,82	49,2
0,08	4,8	0,33	19,8	0,58	34,8	0,83	49,8
0,09	5,4	0,34	20,4	0,59	35,4	0,84	50,4
0,10	6,0	0,35	21,0	0,60	36,0	0,85	51,0
0,11	6,6	0,36	21,6	0,61	36,6	0,86	51,6
0,12	7,2	0,37	22,2	0,62	37,2	0,87	52,2
0,13	7,8	0,38	22,8	0,63	37,8	0,88	52,8
0,14	8,4	0,39	23,4	0,64	38,4	0,89	53,4
0,15	9,0	0,40	24,0	0,65	39,0	0,90	54,0
0,16	9,6	0,41	24,6	0,66	39,6	0,91	54,6
0,17	10,2	0,42	25,2	0,67	40,2	0,92	55,2
0,18	10,8	0,43	25,8	0,68	40,8	0,93	55,8
0,19	11,4	0,44	26,4	0,69	41,4	0,94	56,4
0,20	12,0	0,45	27,0	0,70	42,0	0,95	57,0
0,21	12,6	0,46	27,6	0,71	42,6	0,96	57,6
0,22	13,2	0,47	28,2	0,72	43,2	0,97	58,2
0,23	13,8	0,48	28,8	0,73	43,8	0,98	58,8
0,24	14,4	0,49	29,4	0,74	44,4	0,99	59,4
0,25	15,0	0,50	30,0	0,75	45,0		

From seconds of an arc to decimal minutes of an arc

SEC	*MIN*	*SEC*	*MIN*	*SEC*	*MIN*	*SEC*	*MIN*
1	0,02	16	0,27	31	0,52	46	0,77
2	0,03	17	0,28	32	0,53	47	0,78
3	0,05	18	0,30	33	0,55	48	0,80
4	0,07	19	0,32	34	0,57	49	0,82
5	0,08	20	0,33	35	0,58	50	0,83
6	0,10	21	0,35	36	0,60	51	0,85
7	0,12	22	0,37	37	0,62	52	0,87
8	0,13	23	0,38	38	0,63	53	0,88
9	0,15	24	0,40	39	0,65	54	0,90
10	0,17	25	0,42	40	0,67	55	0,92
11	0,18	26	0,43	41	0,68	56	0,93
12	0,20	27	0,45	42	0,70	57	0,95
13	0,22	28	0,47	43	0,72	58	0,97
14	0,23	29	0,48	44	0,73	59	0,98
15	0,25	30	0,50	45	0,75		

GEN 2.7 SUNRISE/SUNSET TABLES

1. The tables on the following pages have been prepared by the Dirección de Meteorología Aeronáutica of Uruguay and are reproduced here with their permission. The talbes include the values of Sunrise and sunset for all the country.

1.1 The tables indicate the time for beginning of civil morning twilight (TWIL FROM), sunrise (SR) sunset (SS), and ☛end of civil evening twilight (TWIL TO) for the years from 2024 to 2028.

1.2 The times indicated for the beginning of civil morning twilight and end of civil evening twilight are calculated for an altitude of the Sun 6° below the horizon, as commonly used. The hours are expressed in UTC.

☛1.3 The tables are calculated for the year 2024, which is used as an “average year” for the years from 2024 to ☛2028. In this period, the times on an arbitrary date and place will deviate less than 2 minutes from the times on the same date and place in the “average year”

2. Alphabetical index

3. Sunrise-Sunset tables

3.1

MONTH DAY	TWIL FROM	SR	SS	TWIL TO	MONTH DAY	TWIL FROM	SR	SS	TWIL TO
JAN 1	0805	0834	2302	2332	FEB 15	0852	0918	2240	2306
- 2	0806	0835	2302	2332	- 16	0853	0919	2238	2305
- 3	0807	0836	2302	2332	- 17	0854	0920	2237	2304
- 4	0807	0837	2303	2332	- 18	0855	0921	2236	2303
- 5	0808	0838	2303	2332	- 19	0856	0922	2235	2301
- 6	0809	0838	2303	2332	- 20	0857	0923	2234	2300
- 7	0810	0839	2303	2332	- 21	0858	0924	2233	2259
- 8	0811	0840	2303	2332	- 22	0859	0925	2232	2258
- 9	0812	0841	2303	2332	- 23	0900	0926	2230	2256
- 10	0813	0842	2302	2332	- 24	0901	0927	2229	2255
- 11	0814	0843	2302	2331	- 25	0902	0928	2228	2254
- 12	0815	0844	2302	2331	- 26	0903	0929	2227	2253
- 13	0816	0845	2302	2331	- 27	0904	0930	2225	2251
- 14	0817	0846	2302	2331	- 28	0905	0931	2224	2250
- 15	0818	0847	2302	2330	- 29	0906	0932	2223	2249
- 16	0819	0848	2301	2330					
- 17	0820	0849	2301	2330	MAR 1	0907	0933	2222	2247
- 18	0821	0850	2301	2329	- 2	0908	0933	2220	2246
- 19	0822	0851	2300	2329	- 3	0909	0934	2219	2245
- 20	0823	0852	2300	2328	- 4	0910	0935	2218	2243
- 21	0824	0853	2259	2328	- 5	0910	0936	2216	2242
- 22	0825	0854	2259	2327	- 6	0911	0937	2215	2241
- 23	0827	0855	2258	2327	- 7	0912	0938	2214	2239
- 24	0828	0856	2258	2326	- 8	0913	0939	2212	2238
- 25	0829	0857	2257	2325	- 9	0914	0940	2211	2236
- 26	0830	0858	2257	2325	- 10	0915	0940	2210	2235
- 27	0831	0859	2256	2324	- 11	0916	0941	2208	2234
- 28	0832	0900	2255	2323	- 12	0917	0942	2207	2232
- 29	0833	0901	2255	2323	- 13	0918	0943	2205	2231
- 30	0834	0902	2254	2322	- 14	0918	0944	2204	2229
- 31	0835	0903	2253	2321	- 15	0919	0945	2203	2228
					- 16	0920	0945	2201	2227
FEB 1	0837	0904	2252	2320	- 17	0921	0946	2208	2225
- 2	0838	0905	2252	2319	- 18	0922	0947	2258	2224
- 3	0839	0906	2251	2318	- 19	0923	0948	2157	2222
- 4	0840	0907	2250	2317	- 20	0923	0949	2156	2221
- 5	0841	0908	2249	2317	- 21	0924	0949	2154	2220
- 6	0842	0909	2248	2316	- 22	0925	0950	2153	2218
- 7	0843	0910	2248	2315	- 23	0926	0951	2151	2217
- 8	0844	0911	2247	2314	- 24	0927	0952	2150	2215
- 9	0845	0912	2246	2313	- 25	0927	0953	2149	2214
- 10	0847	0913	2245	2312	- 26	0928	0953	2147	2212
- 11	0848	0914	2244	2311	- 27	0929	0954	2146	2211
- 12	0849	0915	2243	2309	- 28	0930	0955	2144	2210
- 13	0850	0916	2242	2308	- 29	0931	0956	2143	2208
- 14	0851	0917	2241	2307	- 30	0931	0957	2142	2207

MONTH DAY	TWIL FROM	SR	SS	TWIL TO
MAR 31	0932	0957	2140	2206
APR 1	0933	0958	2139	2204
- 2	0934	0959	2138	2203
- 3	0934	1000	2136	2201
- 4	0935	1001	2135	2200
- 5	0936	1001	2133	2159
- 6	0937	1002	2132	2157
- 7	0938	1003	2131	2156
- 8	0938	1004	2129	2155
- 9	0939	1005	2128	2154
- 10	0940	1005	2127	2152
- 11	0941	1006	2125	2151
- 12	0941	1007	2124	2150
- 13	0942	1008	2123	2148
- 14	0943	1008	2122	2147
- 15	0944	1009	2120	2146
- 16	0944	1010	2119	2145
- 17	0945	1011	2118	2144
- 18	0946	1012	2117	2142
- 19	0947	1012	2115	2141
- 20	0947	1013	2114	2140
- 21	0948	1014	2113	2139
- 22	0949	1015	2112	2138
- 23	0950	1016	2111	2137
- 24	0950	1016	2109	2135
- 25	0951	1017	2108	2134
- 26	0952	1018	2107	2133
- 27	0953	1019	2106	2132
- 28	0953	1020	2105	2131
- 29	0954	1020	2104	2130
- 30	0955	1021	2103	2129
MAY 1	0956	1022	2102	2128
- 2	0956	1023	2101	2127
- 3	0957	1024	2100	2126
- 4	0958	1024	2059	2125
- 5	0959	1025	2058	2124
- 6	0959	1026	2057	2124
- 7	1000	1027	2056	2123
- 8	1001	1028	2055	2122
- 9	1002	1028	2054	2121
- 10	1002	1029	2054	2120
- 11	1003	1030	2053	2120
- 12	1004	1031	2052	2119
- 13	1004	1031	2051	2118
- 14	1005	1032	2050	2117
- 15	1006	1033	2050	2117
- 16	1007	1034	2049	2116

MONTH DAY	TWIL FROM	SR	SS	TWIL TO
MAY 17	1007	1034	2048	2115
- 18	1008	1035	2048	2115
- 19	1009	1036	2047	2114
- 20	1009	1037	2046	2114
- 21	1010	1037	2046	2113
- 22	1011	1038	2045	2113
- 23	1011	1039	2045	2112
- 24	1012	1039	2044	2112
- 25	1013	1040	2044	2111
- 26	1013	1041	2043	2111
- 27	1014	1041	2043	2110
- 28	1014	1042	2042	2110
- 29	1015	1043	2042	2110
- 30	1016	1043	2042	2109
- 31	1016	1044	2041	2109
JUN 1	1017	1045	2041	2109
- 2	1017	1045	2041	2109
- 3	1018	1046	2041	2108
- 4	1018	1046	2040	2108
- 5	1019	1047	2040	2108
- 6	1019	1047	2040	2108
- 7	1020	1048	2040	2108
- 8	1020	1048	2040	2108
- 9	1021	1049	2040	2108
- 10	1021	1049	2040	2108
- 11	1022	1050	2040	2108
- 12	1022	1050	2040	2108
- 13	1022	1051	2040	2108
- 14	1023	1051	2040	2108
- 15	1023	1051	2040	2108
- 16	1023	1052	2040	2108
- 17	1024	1052	2040	2108
- 18	1024	1052	2040	2108
- 19	1024	1052	2040	2109
- 20	1024	1053	2041	2109
- 21	1025	1053	2041	2109
- 22	1025	1053	2041	2109
- 23	1025	1053	2041	2110
- 24	1025	1053	2042	2110
- 25	1025	1053	2042	2110
- 26	1025	1054	2042	2110
- 27	1025	1054	2043	2111
- 28	1026	1054	2043	2111
- 29	1026	1054	2043	2111
- 30	1026	1054	2044	2112
JUL 1	1026	1054	2044	2112
- 2	1025	1054	2045	2113

MONTH DAY	TWIL FROM	SR	SS	TWIL TO
JUL 3	1025	1053	2045	2113
- 4	1025	1053	2046	2114
- 5	1025	1053	2046	2114
- 6	1025	1053	2047	2115
- 7	1025	1053	2047	2115
- 8	1025	1052	2048	2116
- 9	1024	1052	2048	2116
- 10	1024	1052	2049	2117
- 11	1024	1052	2049	2117
- 12	1024	1051	2050	2118
- 13	1023	1051	2051	2118
- 14	1023	1050	2051	2119
- 15	1022	1050	2052	2119
- 16	1022	1050	2053	2120
- 17	1022	1049	2053	2121
- 18	1021	1049	2054	2121
- 19	1021	1048	2054	2122
- 20	1020	1047	2055	2123
- 21	1020	1047	2056	2123
- 22	1019	1046	2057	2124
- 23	1018	1046	2057	2124
- 24	1018	1045	2058	2125
- 25	1017	1044	2059	2126
- 26	1016	1044	2059	2126
- 27	1016	1043	2100	2127
- 28	1015	1042	2100	2128
- 29	1014	1041	2101	2128
- 30	1014	1040	2102	2129
- 31	1013	1040	2103	2130
AUG 1	1012	1039	2104	2130
- 2	1011	1038	2104	2131
- 3	1010	1037	2105	2132
- 4	1009	1036	2106	2132
- 5	1009	1035	2107	2133
- 6	1008	1034	2107	2134
- 7	1007	1033	2108	2135
- 8	1006	1032	2109	2135
- 9	1005	1031	2110	2136
- 10	1004	1030	2110	2137
- 11	1003	1029	2111	2137
- 12	1002	1028	2112	2138
- 13	1001	1027	2113	2139
- 14	1000	1026	2113	2139
- 15	0958	1025	2114	2140
- 16	0957	1023	2115	2141
- 17	0956	1022	2115	2141
- 18	0955	1021	2116	2142
- 19	0954	1020	2117	2143

MONTH DAY	TWIL FROM	SR	SS	TWIL TO
AUG 20	0953	1019	2118	2144
- 21	0952	1017	2118	2144
- 22	0950	1016	2119	2145
- 23	0949	1015	2120	2146
- 24	0948	1014	2121	2146
- 25	0947	1012	2121	2147
- 26	0945	1011	2122	2148
- 27	0944	1010	2123	2148
- 28	0943	1008	2124	2149
- 29	0942	1007	2124	2150
- 30	0940	1006	2125	2150
- 31	0930	1004	2126	2151
SEP 1	0938	1003	2126	2152
- 2	0936	1002	2127	2153
- 3	0935	1000	2128	2153
- 4	0934	0959	2129	2154
- 5	0932	0958	2129	2155
- 6	0931	0956	2130	2155
- 7	0929	0955	2131	2156
- 8	0928	0953	2131	2157
- 9	0927	0952	2132	2157
- 10	0925	0950	2133	2158
- 11	0924	0949	2134	2159
- 12	0922	0948	2134	2200
- 13	0921	0946	2135	2200
- 14	0928	0945	2136	2201
- 15	0918	0944	2136	2202
- 16	0917	0942	2137	2202
- 17	0915	0940	2138	2203
- 18	0914	0939	2139	2204
- 19	0912	0938	2139	2205
- 20	0911	0936	2140	2205
- 21	0909	0935	2141	2206
- 22	0908	0933	2142	2207
- 23	0907	0932	2142	2208
- 24	0905	0930	2143	2208
- 25	0902	0929	2144	2209
- 26	0903	0927	2145	2210
- 27	0901	0926	2145	2211
- 28	0859	0925	2146	2211
- 29	0858	0923	2147	2212
- 30	0856	0922	2148	2213
OCT 1	0855	0920	2148	2214
- 2	0854	0919	2149	2215
- 3	0852	0918	2150	2215
- 4	0851	0916	2150	2216
- 5	0849	0915	2151	2217

MONTH DAY	TWIL FROM	SR	SS	TWIL TO
OCT 6	0848	0913	2152	2218
- 7	0846	0912	2153	2219
- 8	0845	0911	2154	2220
- 9	0844	0909	2155	2220
- 10	0842	0908	2156	2221
- 11	0841	0907	2156	2222
- 12	0840	0905	2157	2223
- 13	0838	0904	2158	2224
- 14	0837	0903	2159	2225
- 15	0835	0901	2200	2226
- 16	0834	0900	2201	2227
- 17	0833	0859	2201	2228
- 18	0832	0858	2202	2228
- 19	0830	0856	2203	2229
- 20	0829	0855	2204	2230
- 21	0828	0854	2205	2231
- 22	0826	0853	2206	2232
- 23	0825	0852	2207	2233
- 24	0824	0850	2208	2234
- 25	0823	0849	2209	2235
- 26	0822	0848	2210	2236
- 27	0820	0847	2210	2237
- 28	0819	0846	2211	2238
- 29	0818	0845	2212	2239
- 30	0817	0844	2213	2240
- 31	0816	0843	2214	2241
NOV 1	0815	0842	2215	2242
- 2	0814	0841	2216	2243
- 3	0813	0840	2217	2244
- 4	0812	0839	2218	2245
- 5	0811	0838	2219	2246
- 6	0810	0837	2220	2247
- 7	0809	0836	2221	2248
- 8	0808	0835	2222	2249
- 9	0807	0835	2223	2251
- 10	0806	0834	2224	2252
- 11	0805	0833	2225	2253
- 12	0805	0832	2226	2254
- 13	0804	0832	2227	2255
- 14	0803	0831	2228	2256
- 15	0802	0830	2229	2257
- 16	0802	0830	2230	2258
- 17	0801	0839	2231	2259
- 18	0800	0829	2232	2300
- 19	0800	0828	2233	2301
- 20	0759	0828	2234	2302
- 21	0759	0827	2235	2303
- 22	0758	0827	2236	2304

MONTH DAY	TWIL FROM	SR	SS	TWIL TO
NOV 23	0758	0826	2237	2305
- 24	0757	0826	2238	2306
- 25	0757	0825	2239	2307
- 26	0756	0825	2240	2308
- 27	0756	0825	2241	2309
- 28	0756	0825	2242	2310
- 29	0755	0824	2242	2311
- 30	0755	0824	2243	2312
DEC 1	0755	0824	2244	2313
- 2	0755	0824	2245	2314
- 3	0755	0824	2246	2315
- 4	0755	0824	2247	2316
- 5	0754	0824	2248	2317
- 6	0754	0824	2249	2318
- 7	0754	0824	2249	2319
- 8	0754	0824	2250	2320
- 9	0755	0824	2251	2320
- 10	0755	0824	2252	2321
- 11	0755	0824	2252	2322
- 12	0755	0825	2253	2323
- 13	0755	0825	2254	2324
- 14	0755	0825	2255	2324
- 15	0756	0825	2255	2325
- 16	0756	0826	2256	2326
- 17	0756	0826	2256	2326
- 18	0757	0827	2257	2327
- 19	0757	0827	2258	2327
- 20	0758	0827	2258	2328
- 21	0758	0828	2259	2328
- 22	0759	0828	2259	2329
- 23	0759	0829	2300	2329
- 24	0800	0830	2300	2330
- 25	0800	0830	2300	2330
- 26	0801	0831	2301	2330
- 27	0802	0831	2301	2331
- 28	0802	0832	2301	2331
- 29	0803	0833	2302	2331
- 30	0804	0834	2302	2331
- 31	0805	0834	2302	2332

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