

WPLOT2000EX

file-system and parameters

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WPLOT2000ex version 4.0.0 and above

Files in the wplot2000ex programs directory

- All programs supporting files
 - DLL/BIN files for rec533 calculation
 - OCX for receiver control
- Startup log file for debugging
- Parameter-files

Directories structure under the wplot2000ex programs directory (1)

- WPLOT2000EX\PROG_ANTCACHE
 - antenna cache data for fast access to antenna pattern
- WPLOT2000EX\PROG_OPTANT
 - directory hold extra antenna definitions to add antenna types to the standard HFCC set
 - file format is : HFCC_XXX.YYY
 - XXX is the number of this antenna used in the program
 - YYY is a descriptive extension which is not considered by the program
 - File Contents as used in ITS-Program:
 - LPH16/32/20/20/3.3/26.1/89
 - 12 12 parameters
 - 0.00 [1] Max Gain dBi
 - 5 [2] Antenna Type
 - 4 [3] Ground Dielectric Constant (1-80)
 - 0.01000 [4] Ground Conductivity (.00003-5.0 mhos/m)
 - 10.000 [5] Operating Freq
 - 16 [6] # Elements (30 maximum)
 - 3.34 [7] Shortest Element total length (meters)
 - 26.1 [8] Longest Element total length (meters)
 - 32.35 [9] Distance bet centers Shortest-Longest (meters)
 - 20.00 [10] Shortest element height above ground (m)
 - 20.00 [11] Longest element height above ground (m)
 - 89.0 [12] Feeder Impedance (999 Ohm maximum)
- WPLOT2000EX\PROG_TBACK
 - directory to backup data-tables

Directories structure under the wplot2000ex programs directory (2)

- WPLOT2000EX\PROG_CNT
 - Directory for general contour file *.CNT
- WPLOT2000EX\PROG_QRY
 - directory to hold system wide data queries
- WPLOT2000EX\PROG_MAINTENANCE
 - directory to keep the record of the last run for maintenance and debugging
- WPLOT2000EX\PROG_TOWNS
 - directory to keep the town- and location files

Directories structure under the wplot2000ex programs directory (3)

- WPLOT2000EX\PROG_MAP
 - directory background-maps and definition
 - WPLOT system MAP Border definitions
- contains LatMin, LatMax, LonMin, Lonmax and 180 degree shift if applicable
 - AFRICA.BRD,AMERICA.BRD,ASIA.BRD,EASTEU.BRD,EUROPE.BRD,NAF.BRD,NAM.BRD,SAM.BRD,
 - SEAS.BRD,WORLD.BRD,WUSER.BRD
- WPLOT system MAP Default Border definitions for fall-back
- format and contents as *.BRD
 - AFRICA.DEF,AMERICA.DEF,ASIA.DEF,EASTEU.DEF,EUROPE.DEF,
 - NAF.DEF,NAM.DEF,SAM.DEF,SEAS.DEF,WORLD.DEF,WUSER.DEF,
- WPLOT System Background maps
- Basic maps (white background)
 - EASTEU.MAP,AFRICA.MAP,AMERICA.MAP,ASIA.MAP,SAM.MAP,SEAS.MAP
 - WORLD.MAP,WUSER.MAP,EUROPE.MAP,NAF.MAP,NAM.MAP
 - PP*.MAP(population density),PC*.MAP(Colour background),PG*.MAP(BW Background)
 - Files with prefix "C" carry the respective maps including CIRAF
- WPLOT System Hot-spot contours
- these contours define the area on the map , when clicked into this area the map will change to the respective predefined area
 - MAP_AF.HOT,MAP_AM.HOT,MAP_AS.HOT,MAP_EU.HOT,MAP_NAF.HOT,MAP_NAM.HOT,
 - MAP_SAM.HOT,MAP_SEAS.HOT,MAP_SEU.HOT,MAP_WORLD.HOT

Directories under the working – directory (1)

- workingdirectory\BACK
 - Holds backup of last 50 configurations worked on in the MAP form
 - Files are named: BACKUPXXX.BCK (XXX is the number of the backup)
- workingdirectory\BMP
 - bitmaps generated as outputs by the program, depending on the setting it will be *.JPG or *.BMP
- workingdirectory\CALC
 - Results of statistical analysis CSV-format (Excel or text editor)
 - Results of propagation calculations to fixed points (Excel or text editor)
 - workingdirectory\CODED
 - stored coded target area definitions , file extension will be *.CCO
- workingdirectory\COMBINE
 - Results of combining configurations
- workingdirectory\DATA
 - reports from database in CSV-format (Excel or text editor)
 - general data results like collision reports and target vs CIRAF –tables
 - KML antenna and coverage data for google earth
- workingdirectory\FREE
 - results of free channel search

Directories under the working – directory (2)

- workingdirectory\HTML
 - HTML formatted outputs from reports and calculations
- workingdirectory\MON
 - receiver FST measurements
 - Control data-files for RMS system
- workingdirectory\OPT
 - results of optimizations
- workingdirectory\RECEPTION
 - Monitoring results are stored here and will be displayed automatically on the map
 - The format of the results is:
 - -37.92083,144.9016,"",1 (blue)
 - 52.28333,104.3333,"",0 (red)
 - 33.33333,44.41667,"",2 (green)
- workingdirectory\STAT
 - results of statistical analysis
- workingdirectory\TARGET
 - Target definition (*.TRG) and target test points (*.TRP)

Files used in the program located in the programs directory

- Rec533 files
 - COEFF01W.BIN
 - COEFF02W.BIN
 - COEFF03W.BIN
 - COEFF04W.BIN
 - COEFF05W.BIN
 - COEFF06W.BIN
 - COEFF07W.BIN
 - COEFF08W.BIN
 - COEFF09W.BIN
 - COEFF10W.BIN
 - COEFF11W.BIN
 - COEFF12W.BIN
 - FOF2DALW.BIN
 - FOF2CCIR.DAW
 - FOF2URSI.DAW
 - DFORMD.DLL
 - DFORRT.DLL
 - REC533.DLL

Files used in the program located in the programs directory

- System files
 - AFGUSBFE.DLL
 - GPIB.DLL
 - GPIB-32.DLL
 - VIC32.DLL (run-time module JPG generation)
 - WRAPI32.DLL

 - WPLOT2000EX.EXE (Main executable file)

Files used in the program located in the programs directory

- Wplot system files
 - ANTENNA.BIN (default antenna pattern)
 - MAP1.BIN (Country polygons)
 - MAP2.BIN (Country polygons)
 - MAP3.BIN (Country polygons)
 - MAP4.BIN (Country polygons)
 - MAP5.BIN (Country polygons)
 - MAPA.BIN (Country polygons)
 - PARAMETER.BIN (default antenna parameters)
 - WORLDBW.BMP (B/W background map)
 - WORLDCO.BMP (colour background map)
 - WORLDPOP.BMP (population density background map)

Files used in the program located in the programs directory

- WPLOT system MAP Border definitions
- contains LatMin, LatMax, LonMin, Lonmax and 180 degree shift if applicable
 - AFRICA.BRD
 - AMERICA.BRD
 - ASIA.BRD
 - EASTEU.BRD
 - EUROPE.BRD
 - NAF.BRD
 - NAM.BRD
 - SAM.BRD
 - SEAS.BRD
 - WORLD.BRD
 - WUSER.BRD

Files used in the program located in the programs directory

- WPLOT system MAP Default Border definitions for fall-back
- format and contents as *.BRD
 - AFRICA.DEF
 - AMERICA.DEF
 - ASIA.DEF
 - EASTEU.DEF
 - EUROPE.DEF
 - NAF.DEF
 - NAM.DEF
 - OPTIMIZE.DEF
 - SAM.DEF
 - SEAS.DEF
 - WORLD.DEF
 - WUSER.DEF

Files used in the program located in the programs directory

- WPLOT System Background maps
- Basic maps (white background)
 - EASTEU.MAP
 - AFRICA.MAP
 - AMERICA.MAP
 - ASIA.MAP
 - SAM.MAP
 - SEAS.MAP
 - WORLD.MAP
 - WUSER.MAP
 - EUROPE.MAP
 - NAF.MAP
 - NAM.MAP

 - PP*.MAP (population density)
 - PC*.MAP (Colour background)
 - PG*.MAP (BW Background)
 - Files with prefix "C" carry the respective maps including CIRAF

Files used in the program located in the programs directory

- WPLOT System Hot-spot contours
- these contours define the area on the map , when clicked into this area the map will change to the respective predefined area
 - MAP_AF.HOT
 - MAP_AM.HOT
 - MAP_AS.HOT
 - MAP_EU.HOT
 - MAP_NAF.HOT
 - MAP_NAM.HOT
 - MAP_SAM.HOT
 - MAP_SEAS.HOT
 - MAP_SEU.HOT
 - MAP_WORLD.HOT

Files used in the program located in the programs directory

- Receiver configuration files
 - DEVICE00.CAL (device specific calibration for RX 00)
 -
 - DEVICE20.CAL (device specific calibration for RX 20)
 - DEVICE00.CFG (device specific configuration for RX 00)
 -
 - DEVICE20.CFG (device specific configuration for RX 20)
 - RECEIVERX.CFG (general receiver configuration)

Files used in the program located in the programs directory

- Language contours
 - LANGUAGE.MNU (Language menu file lists all files and captions that appear on the MAP under "Languages" this file is created and updated by the program)
 - ALBANISCH.CNT (sample language contour)
 -
 - INT_REGION_A.CNT (special regions contours)
 - INT_REGION_B.CNT (special regions contours)
 - INT_REGION_C.CNT (special regions contours)
 - INT_REGION1.CNT (special regions contours)
 - INT_REGION3.CNT (special regions contours)

Files used in the program located in the programs directory

- Predefines Locations
 - EUROPE.TWN
 - MONITOR.TWN
 - RECEPTION.TWN
 - SELECTRX.TWN (Used in calculations in DATA form to calculate towards a set of locations)
 - STATION.TWN (HFCC sites imported from "SITE.TXT")
 - USA.TWN
 - USER.TWN
 - WORLD.TWN

Files used in the program located in the programs directory

- Reference data
 - ISO-639-3ANSI.CSV (ISO language table)
 - REFERENCE.CSV (CIRAFS contained in country)
 - CIRAF.DAT (CIRAF polygons)
 - CIRAF05.DAT (CIRAF test points in 5X5 Degree raster)
 - CIREX.DAT (CIRAF to be excluded like Cirafs >80)
 - CIRPOINT.PNT (CIRAF test-points)
 - TIME.DAT (time zone polygons)
 - PREDICT.TXT (NOAA ssn prediction)
 - SEASON.TXT (Season dates downloaded from ITU)
 - SITE.TXT (TX sites downloaded from ITU)
 - SUNSPOT.TXT (ssn downloaded from ITU)

Files used in the program located in the programs directory

- **INI files**
 - WPLFCOST.INI (defines cost table to be used)
 - WPLOTLASTPAR.WPP (Basic start-up settings for the main screen)
 - WPLOT.INI (start-up parameters to define working directory and last BTX-file)
 - WPLOT2000EXINI.PAR (Parameters and settings of the Program)
 - WPLOT.BTX (initial configuration shown on MAP)
 - STARTUPEX.LOG (Log file for startup debugging)
- **Main Database**
 - HFCCEX.MDB (access compatible database)

Files used in the program located in the programs directory

- Utility files

- COLLISION.FLD (predefined output report format for HTML or EXCEL)
- COMPARE.FLD (predefined output report format for HTML or EXCEL)
- WPLREPORT.FLD (predefined output report format for HTML or EXCEL)

- LOGO.GIF (optional Logo that will be used in HTML footer)
- PROGRAMB.IDX (Quick access index for programs to be displayed on the MAP)

Files used in the program located in the programs directory

- Optimizer files

- OPTIMIZE.OPT (defines the TX availability to be used)
- ANTENNA.AOP (defines standard antennas for the optimizer)
- OPTIMIZE.CTR (optimizer batch control file)
;START,STOP,TARGET,SEASON,RELIABILITY,REMARK
1030,1150,11040.TRG,A, 90, CHINESE

1300,1330,11120.TRG,A, 90, CHINESE
- PROGRAM_BATCH.CTR (optimizer batch control generated by BTX in DATA)

Files used in the program located in the programs directory

- Parameter files
 - TOWN.MNU (Alias Menu for town designations)
 - MARKTX.MRK (TX-markers in SCHEDULE)
 - WPLTXLNG.MRK (TX-language markers in SCHEDULE)
 - BOOKMARKS.BOK (Table bookmarks in DATA)
 - WPLOTN.COL (colour/Font definitions for contours and MAP display)
 - 3D.PAR (Parameters for 3D antenna plot)
 - ANT.PAR (interim file to communicate between program parts)
 - DRMMODES.PAR (Parameter list of DRM modes and SNR)
 - FREEBAND.PAR (Band borders for SCAN display)
 - FREEBRCCOL.PAR (Colours and definitions for BRC display in SCAN)
 - FREECDD.PAR (Column width in DATA and SCAN)
 - FREEHFCOL.PAR (Colours and definitions for FMO display in SCAN)
 - FREEPARF.PAR (data table pointer and start/stop time)
 - FREESITE.PAR (TX location coordinates imports from "SITE.TXT")
 - FREETARGET.PAR (define which CIRAF is attributed to EU,AS... etc)
 - OWNSITE.PAR (Additional TX location coordinates)
 - PERSONALDEF01.PAR (Personal settings no 1 for fast access)
 - PERSONALDEF02.PAR (Personal settings no 2 for fast access)
 - PERSONALDEF03.PAR (Personal settings no 3 for fast access)
 - WORKINGDIRS.PAR (History of working directories)
 - WPLOTUSER.PAR (FMO and BRC definition for the active user)

Files used in the program located in the programs directory

- various files
 - WPLOTF2000.PDF (documentation of the program update is on the web)
 - CHANGES.TXT (change history of the program)
 - NEWS.TXT (New features of the program)
 - HELPTXTF.TXT (Help text for key-board command MAP)

Database Tables and fields

- Tables in HFCCEX.MDB
 - A_XX_HFCC (Table for year XX season A holding HFCC data)
 - A_XX_ILG (Table for year XX season A holding ILG data)
 - A_XX_OWNPAN (Table for year XX season A holding OWN data)

 - B_XX_HFCC (Table for year XX season B holding HFCC data)
 - B_XX_ILG (Table for year XX season B holding ILG data)
 - B_XX_OWNPAN (Table for year XX season B holding OWN data)

 - ANTENNA (Table with antenna data of "REAL ANTENNAS")
 - ANTENNA COVER (Usage of "REAL ANTENNA" in different plans allows analysis of clashes)

 - CHANGE (Changes between to new plan and the reference plan)
 - COLLISION2ME_XXX (Collisions to own entries after collision analysis)
 - COLLISION2OT_XXX (Collisions created from own entries after collision analysis)
 - COLLISION2ME_XXX_CHANGE
 - (Collisions based on CHANGE to own entries after collision analysis)
 - COLLISION2OT_XXX_CHANGE
 - (Collisions based on CHANGE created from own entries after collision analysis)

 - HISTORY_HFCC (temporary table to analyze the history of an entry over past HFCC plans)
 - HISTORY_ILG (temporary table to analyze the history of an entry over past HFCC plans)

Database Tables and fields

- Tables in HFCCEX.MDB
 - MSYSTABLE (Index of tables in the database)
 - REFERENCE_A (reference plan A to compare and analyze changes)
 - REFERENCE_B (reference plan A to compare and analyze changes)
 - EXPORT (Table to export data from MAP)
 - TEMP (Temporary data table)

Field definition of the data tables containing HFCC/ILG data

- The following record structure applies to all tables that are created by the user and hold either HFCC or ILG data:
 - A_XX_HFCC
 - A_XX_ILG
 - A_XX_OWNPLAN
 - B_XX_HFCC
 - B_XX_ILG
 - B_XX_OWNPLAN
 - CHANGE
 - COLLISION2ME_XXX
 - COLLISION2OT_XXX
 - HISTORY_HFCC
 - HISTORY_ILG
 - REFERENCE_A
 - REFERENCE_B
 - EXPORT
 - TEMP

Field definition of the data tables containing HFCC/ILG data

Index	Header	Format	Usage
0	"NO"	N	sequential record number serves as index
1	"CODE"	A3	FMO code
2	"FREQ"	N	frequency (kHz)
3	"START"	A4	Start time (UTC)
4	"STOP"	A4	End time (UTC)
5	"CIRAF"	A30	CIRAF definition
6	"LOC"	A3	Location code of transmitter
7	"POWER"	N	Power (kW)
8	"AZIMUTH"	A3	Azimuth of antenna
9	"SLEW"	N	Slew of antenna
10	"ANO"	N	ITU antenna number
11	"DAYS"	A7	Days of operations (1=sundays)
12	"FDATE"	A6	Start date of transmission
13	"TDATE"	A6	end date of transmission
14	"MODULATION"	A1	Modulation D=DSB, S=SSB -12, T=SSB -6 dB N=Digital
15	"NOTES"	A20	Notes
16	"ANTFREQ"	N	antenna design frequency
17	"LANGUAGE"	A10	language coded in ISO-code
18	"ADM"	A3	Administration code

Field definition of the data tables containing HFCC/ILG data

Index	Header	Format	Usage
19	"BRC"	A3	Broadcaster code
20	"OLD"	A1	WP usage, stores time selection
21	"ALTFREQ1"	N	
22	"ALTFREQ2"	N	
23	"ALTFREQ3"	N	WP usage, stores reference week
24	"X"	A1	WP usage, used as interactive marker
25	"TARGET"	A40	Target coded of reference to a local file if started by "X"
26	"DRM"	A2	Drm Mode
27	"REALANT"	A10	Number of the real-antenna
28	"PROG"	A10	program code, ex. 0200WAF, if a file 0200WAF.TRG is found it will be displayed on the map
29	"NA"	A2	WP generated area designator
30	"CA"	A2	WP generated area designator
31	"SA"	A2	WP generated area designator
32	"EU"	A2	WP generated area designator
33	"AF"	A2	WP generated area designator
34	"ME"	A2	WP generated area designator
35	"AS"	A2	WP generated area designator
36	"AU"	A2	WP generated area designator
37	"PA"	A2	WP generated area designator

Field definition of the data tables containing HFCC/ILG data

INDEX	HEADER	FORMAT	USAGE
38	"LATI"	A5	latitude of tx
39	"LONGI"	A6	longitude of tx
40	"ANTENNA"	A20	antenna description
41	"MDATE"	A6	date of last monitor
42	"MON"	A1	monitor result , 0 =Nil, 5 =oK
43	"USER1"	A2	WP usage Marker for schedule
44	"USER2"	A2	WP usage priority for schedule
45	"USER3"	A3	WP usage store severity of interference
46	"USER4"	A1	WP usage changed language ="1"
47	"UTILITY1"	A24	WP usage SCAN calculation info in 1 hour blocks
48	"UTILITY2"	A20	WP usage stored old language after automatic change

ANTENNA table

- The table called ANTENNA stored the operational data of real antennas used by the broadcaster
- The data record stores the availability of frequency bands as well as azimuth capabilities
- The design frequency and the ITU reference number will be retrieved from this table

Field definition of the table ANTENNA

Index	Header	Format	Usage
0	„STN"	A3	3-letter station code
1	„ANUM"	A50	Internal antenna number
2	„ACT"	N	Active or not active (1/0)
3	„NAME"	A50	Antenna description
4	„B4"	N	4 Mhz Band possible (1/0)
5	„B6"	N	6 Mhz Band possible (1/0)
6	„B7"	N	7 Mhz Band possible (1/0)
7	„B9"	N	8 Mhz Band possible (1/0)
8	„B11"	N	11 Mhz Band possible (1/0)
9	„B13"	N	13 Mhz Band possible (1/0)
10	„B15"	N	15 Mhz Band possible (1/0)
11	„B17"	N	17 Mhz Band possible (1/0)
12	„B18"	N	18 Mhz Band possible (1/0)
13	„B21"	N	21 Mhz Band possible (1/0)
14	„B25"	N	25 Mhz Band possible (1/0)
15	„REFAZ"	N	Main azimuth (bore sight)
16	„MAINAZ"	N	Main azimuth setting
17	„SL1"	N	Slew azimuth setting no 1
18	„SL2"	N	Slew azimuth setting no 2

Field definition of the table ANTENNA

Index	Header	Format	Usage
19	„SL2"	N	Slew azimuth setting no 2
20	„SL3"	N	Slew azimuth setting no 3
21	„SL4"	N	Slew azimuth setting no 5
22	„SL5"	N	Slew azimuth setting no 5
23	„SL6"	N	Slew azimuth setting no 6
24	„SL7"	N	Slew azimuth setting no 7
25	„SL8"	N	Slew azimuth setting no 8
26	„SEG1"	N	Left azimuth limit of a rotatable antenna
27	„SEG2"	N	Right azimuth limit of a rotatable antenna
28	„DEFREQ"	N	Design frequency of the antenna (kHz)
29	„ITU"	N	ITU antenna number
30	„SEL"	A1	Quality of automatic selection (A,B,C,D)

ANTENNACOVER table

- This table shows the availability of a particular antenna in a given plan
- Time overlap – e.g. using the same antenna for 2 entries at the same time- can be detected
- The table will be updated by a routine in DATA that analyzes the current plan , build up the ANTENNACOVER table an allows a collision analysis

Field definition of the table ANTENNACOVER

Index	Header	Format	Usage
0	„ANTENNANUM“	A50	Internal antenna number
1	„STN“	A3	Station code
2	„START“	A4	Start time (UTC)
3	„STOP“	A4	End time (UTC)
4	„WARMUP“	A2	Warmup time (minutes)
5	„DAYS“	A7	Days of operations (1=sundays)
6	„FDATE“	A6	Start date of operations
7	„TDATE“	A6	End date of operations
8	„REFERENCENUM“	A50	Index of record in table
9	„TABLE“	A50	Source table

MSYSTABLE table

- This table serves as index for the HFCC/ILG data tables
- it stores the source information (the file that was imported into the table)

Index	Header	Format	Usage
0	„TABNAME“	A50	Table name
1	„SOURCE“	A128	Source file information (which file was imported into the table)