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ENGINEERING REPORT

Four Corners, FL, Channel 225D FM Translator Application

EXHIBIT 1: LPFM PRECLUSION STUDY

Juan Alberto Ayala ("Applicant") submits this LPFM Preclusion Study for a new FM translator station at Four Corners, FL. The pending Tech Box file number is BNPFT-20030317HFT.

The corresponding technical amendment includes a site change with a channel displacement from 226 to 225. This Exhibit 1 addresses only the LPFM Preclusion Study requirements of the technical amendment. (The other technical requirements of this amendment are address in a separate document of this on-line filing.)

LPFM PRECLUSION STUDY RESULTS

This Engineering Report demonstrates that this application meet the FCC's requirements for this Auction 83 FM translator pursuant to *Creation of a Low Power FM Service, Amendment of Service Rules and Eligibility Rules for FM Broadcast Translator Stations*, Fifth Order on Reconsideration and Sixth Report and Order, FCC 12-144 (re;. December 4, 2012) ("Fifth Order on Reconsideration"). Additionally, the FCC's LPFM spectrum availability program, http://www.fcc.gov/Bureaus/MB/Databases/source_code/lpfm6.20121206.zip ("LPFM6"), is used as support for this Engineering Report.

Because a technical amendment is included with this tech box filing, an LPFM Preclusion Study is required by this application (based on the location of the herein proposed transmitter site) to each of the following *Spectrum Available* Arbitron Metro Markets:

Orlando, FL –

Mrkt # 34; 30 min. grid centered at N 28-32-17 W 81-22-46 (d,m,s; NAD 27);

Lakeland-Winter Haven, FL –

Mrkt # 96; 30 min. grid centered at N 28-02-23 W 81-57-39 (d,m,s; NAD 27).

Note that there are no Spectrum Limited Metro Markets located within 39 kilometers of the proposed transmitter site.

Also note that for the *Spectrum Available* Grid Studies, the LPFM6 study includes second adjacent and pending 1983 FM translator applications (inclusions that are not necessary for Spectrum Limited Grid Studies).

Metro Area Preclusion Study Results

Orlando (Spectrum Available) Metro Market Study Results

Figure 1, attached, is the complete LPFM6 output file for the Orlando Metro Market with the study centered at the grid center.

From Figure 1 it is shown that zero channels are available within the 30-minute Grid for future LPFM on first adjacent channel 224 and on second adjacent channel 223.

From Figure 1 it is also shown that zero channels are available within 26 kilometers of the proposed transmitter site for future LPFM on the same channel (225) as the herein proposed FM translator. (Pursuant to Section 73.807c, since the proposed 60 dBu F50,50 service contour extends only 6.7 kilometers at its greatest distance, the spacing requirement from a future co-channel LPFM must be separated by 26 km.) The nearest available LPFM channel/point for channel 225 is at N 28-20-17 W 81-14-46 and is located 36.5 km from the proposed transmitter site.

From Figure 1 it is also shown that zero channels are available within 15 kilometers of the proposed transmitter site for future LPFM on the first-adjacent channel above (channel 226). (Pursuant to Section 73.807c, since the proposed 60 dBu F50,50 service contour extends only 6.7 kilometers at its greatest distance, the spacing requirement from a future first adjacent-channel LPFM must be separated by 15 km.) The nearest available LPFM channel/point for channel 226 is at N 28-17-17 W 81-07-46 and is located 48.6 km from the proposed transmitter site.

From Figure 1 it is also shown that zero channels are available within 8 kilometers of the proposed transmitter site for future LPFM on the second-adjacent channel above (channel 227). (Pursuant to Section 73.807c, since the proposed 60 dBu F50,50 service contour extends only 6.7 kilometers at its greatest distance, the spacing requirement from a future second adjacent-channel LPFM must be separated

by 8 km.) The nearest available LPFM channel/point for channel 227 is at N 28-26-17 W 81-07-46 and is located 48.3 km from the proposed transmitter site.

Therefore, as required by the Fifth Order on Reconsideration, this FM translator will not preclude the future use of a LPFM application from a potential LPFM channel/point located within the 30-minute Orlando Grid.

Lakeland-Winter Haven (Spectrum Available) Metro Market Study Results

Figure 2, attached, is the complete LPFM6 output file for the Lakeland-Winter Haven Metro Market with the study centered at the grid center.

From Figure 2 it is shown that zero channels are available within the 30-minute Grid for future LPFM on co-channel 225, on first adjacent channel 226 and on second adjacent channels 223 and 227.

From Figure 2 it is also shown that zero channels are available within 15 kilometers of the proposed transmitter site for future LPFM on the first-adjacent channel below (channel 224). (Pursuant to Section 73.807c, since the proposed 60 dBu F50,50 service contour extends only 6.7 kilometers at its greatest distance, the spacing requirement from a future first adjacent-channel LPFM must be separated by 15 km.) The nearest available LPFM channel/point for channel 224 is at N 28-16-23 W 81-56-39 and is located 33.9 km from the proposed transmitter site.

Therefore, as required by the Fifth Order on Reconsideration, this FM translator will not preclude the future use of a LPFM application from a potential LPFM channel/point located within the 30-minute Lakeland-Winter Haven Grid.

Transmitter Site Test Not Required

This amendment proposes a site that is not located within a Top-50 Spectrum Limited Market and, therefore, a Transmitter Site Test is not required.

FIGURE 1

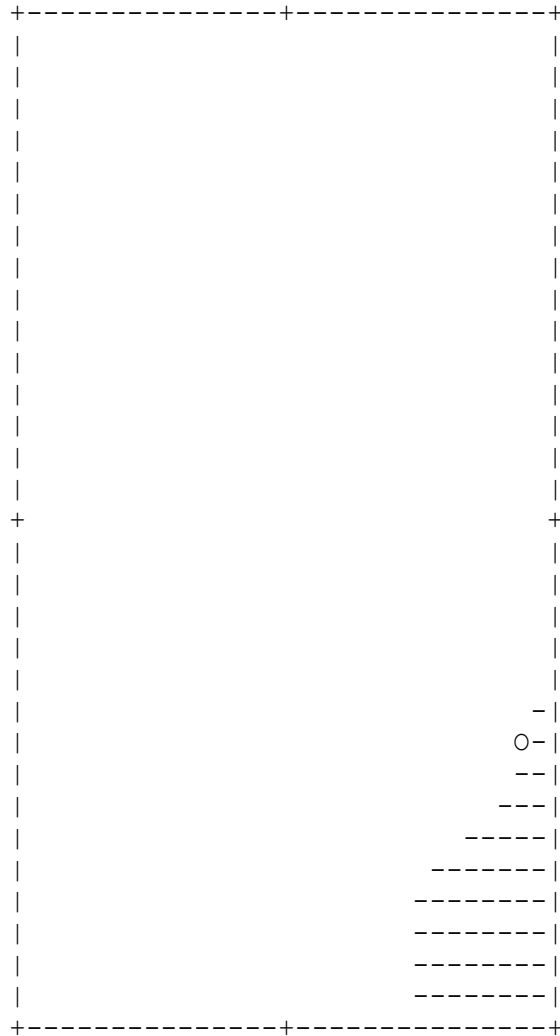
Orlando, FL
 Latitude 28-32-17
 Longitude 081-22-46
 Grid Size 31 x 31
 Micro FM 100 Watts at 30m HAAT
 Co-Channel and 1st Adjacent Protected
 2nd Adjacent Channel Protected
 3rd Adjacent Channel Not Protected
 I.F. Not Protected
 TV Channel 6 Protected
 CP Records Protected
 APP Records Protected
 FM Translators Protected
 TV Channel 6 Translators/LP Protected
 Auc83 FX App Records Protected

Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail	Chan	Avail
200	0	220	0	240	74	260	0	280	0
201	0	221	0	241	0	261	0	281	0
202	0	222	0	242	0	262	0	282	0
203	0	223	0	243	0	263	0	283	0
204	0	224	0	244	0	264	0	284	0
205	0	225	52	245	0	265	0	285	0
206	0	226	1	246	0	266	0	286	0
207	0	227	1	247	0	267	0	287	0
208	0	228	12	248	0	268	0	288	0
209	0	229	110	249	0	269	0	289	0
210	0	230	96	250	0	270	0	290	0
211	0	231	0	251	0	271	0	291	0
212	0	232	0	252	0	272	0	292	0
213	0	233	0	253	0	273	0	293	0
214	0	234	0	254	0	274	0	294	0
215	0	235	0	255	0	275	0	295	0
216	0	236	0	256	0	276	0	296	0
217	0	237	0	257	0	277	0	297	0
218	0	238	0	258	119	278	2	298	0
219	0	239	13	259	326	279	0	299	0
								300	0

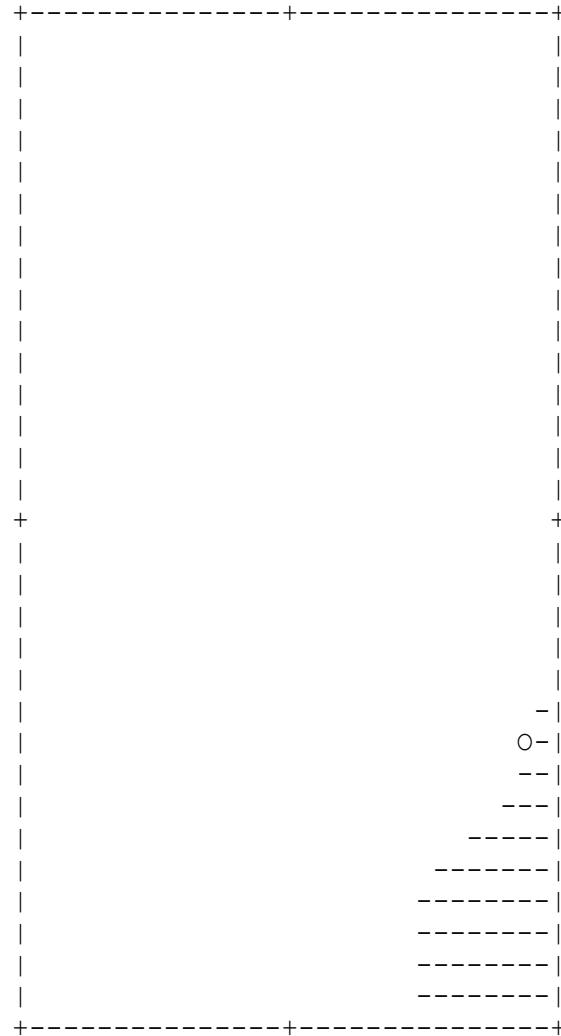
Total	806								

Total allotments, least preclusive spacing: 19
 Total allotments, most preclusive spacing: 15
 Orlando, FL Orlando, FL

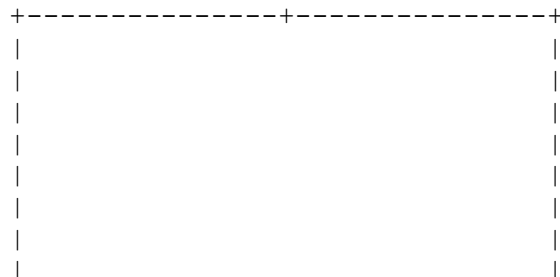
Latitude 28-32-17
Longitude 081-22-46
Least preclusive siting
Availability of Channel 225 (X)



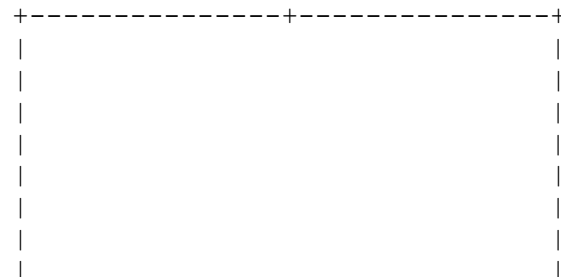
Latitude 28-32-17
Longitude 081-22-46
Most preclusive siting
Availability of Channel 225 (X)

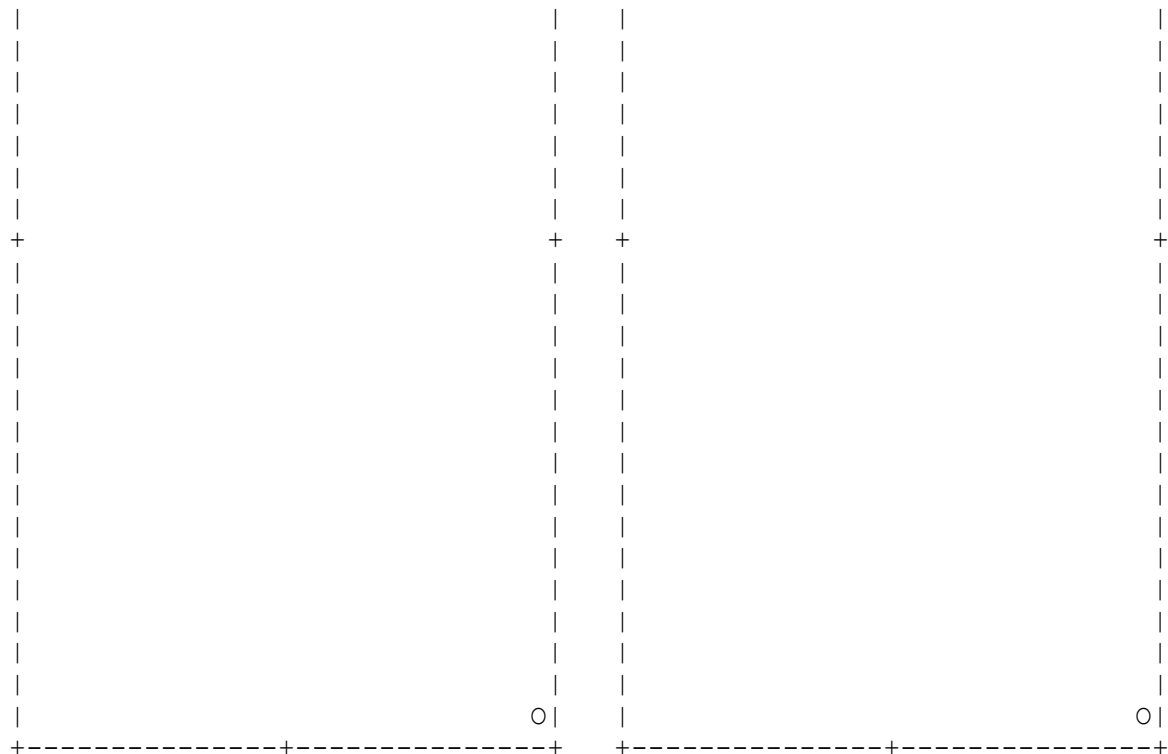


Point #040 at 28-25-17 081-08-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Least preclusive siting
Availability of Channel 226 (X)

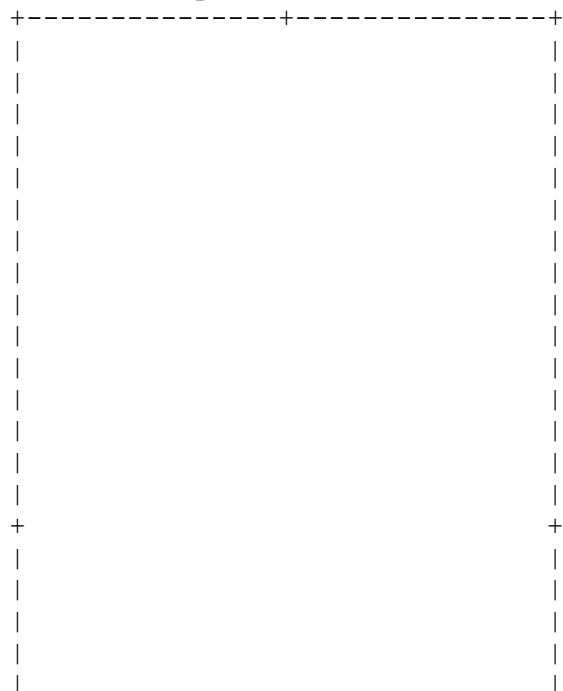


Point #040 at 28-25-17 081-08-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Most preclusive siting
Availability of Channel 226 (X)

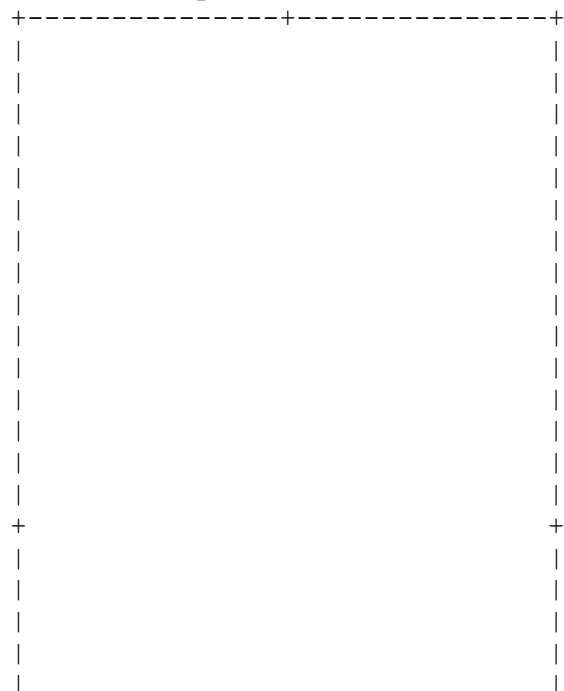


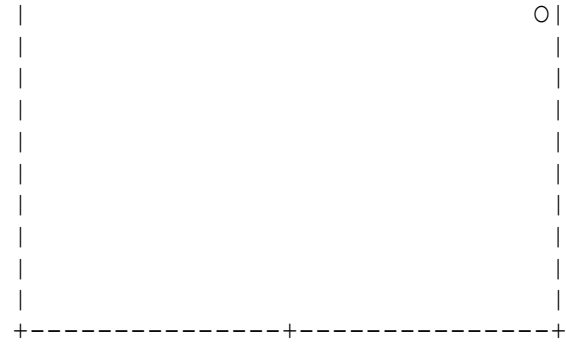
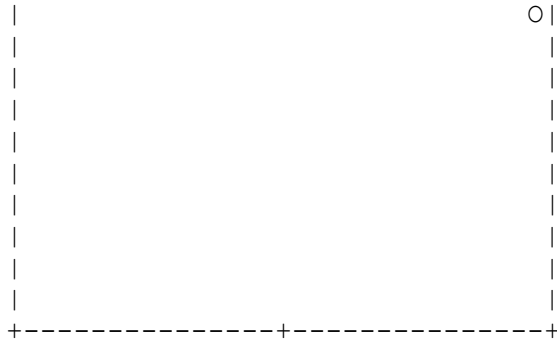


Point #001 at 28-17-17 081-07-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Least preclusive siting
Availability of Channel 227 (X)

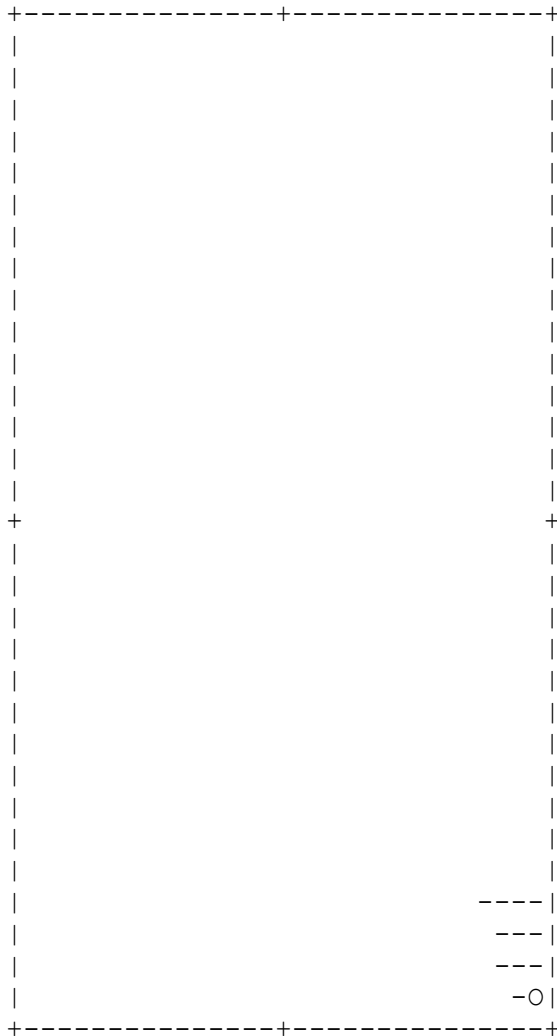


Point #001 at 28-17-17 081-07-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Most preclusive siting
Availability of Channel 227 (X)

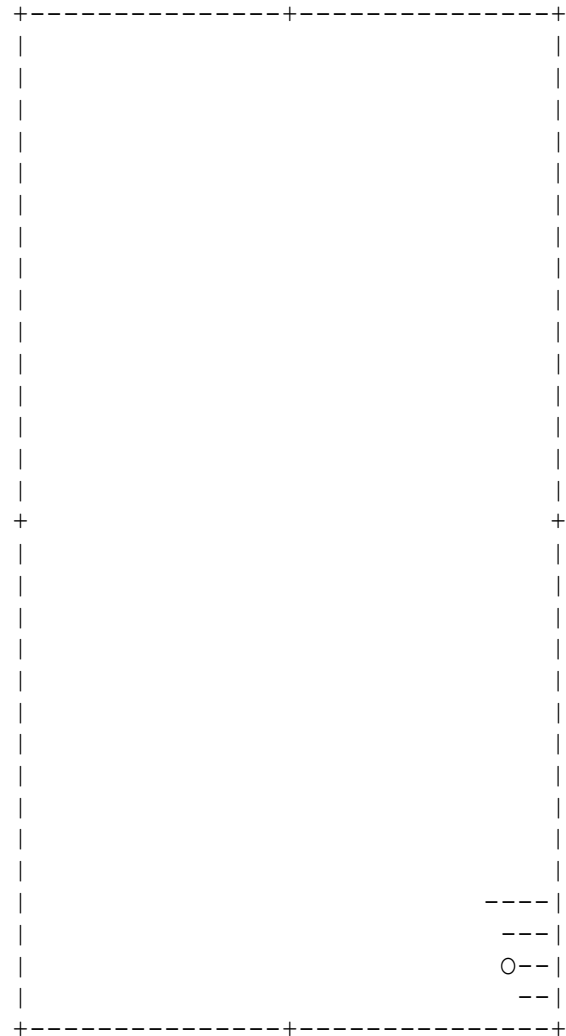




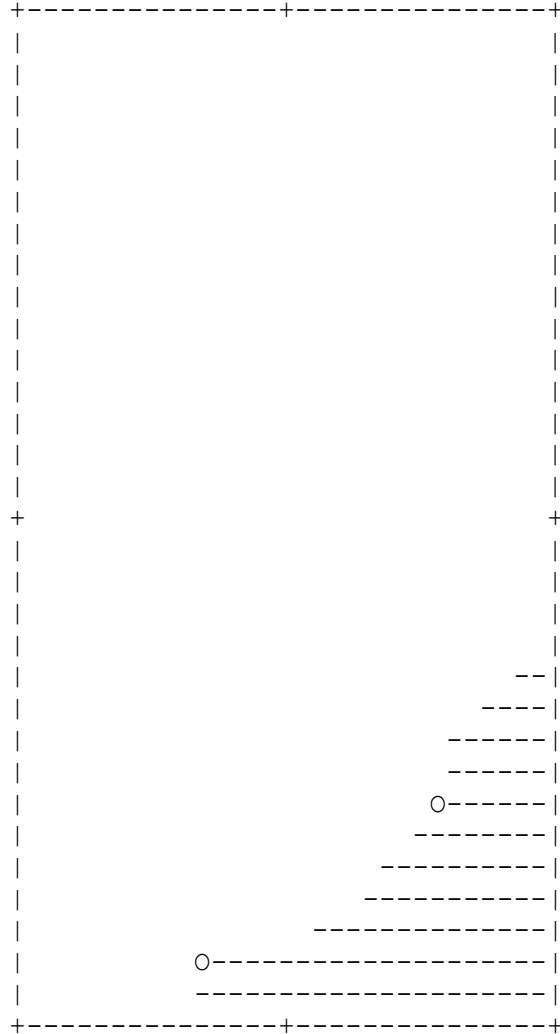
Point #010 at 28-26-17 081-07-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Least preclusive siting
Availability of Channel 228 (X)



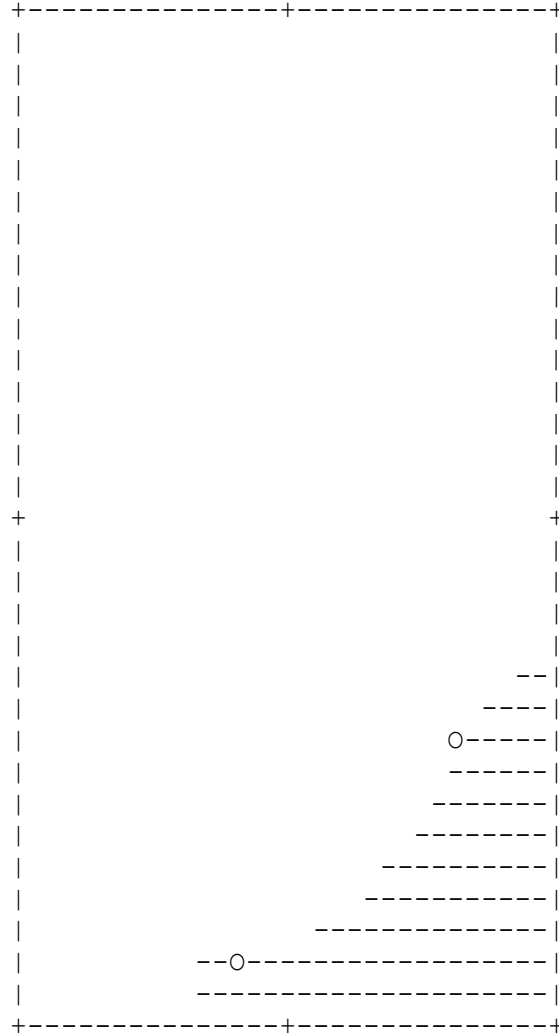
Point #010 at 28-26-17 081-07-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Most preclusive siting
Availability of Channel 228 (X)



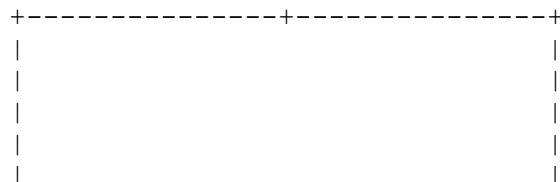
Point #001 at 28-17-17 081-07-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Least preclusive siting
Availability of Channel 229 (X)



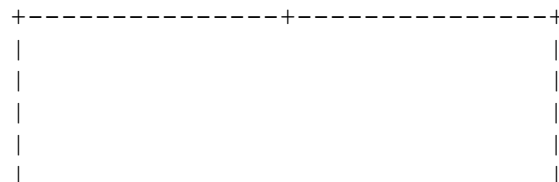
Point #064 at 28-18-17 081-09-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Most preclusive siting
Availability of Channel 229 (X)

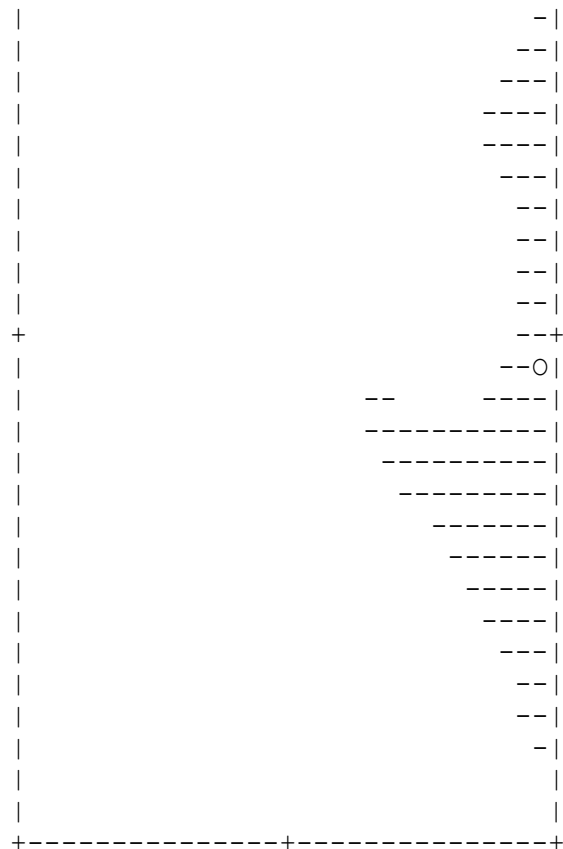
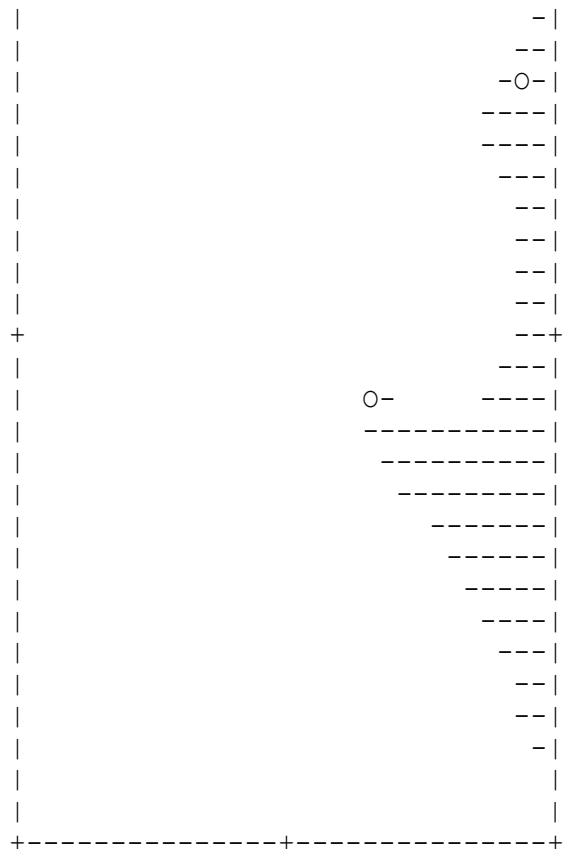


Point #622 at 28-18-17 081-27-46
Point #193 at 28-23-17 081-13-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Least preclusive siting
Availability of Channel 230 (X)

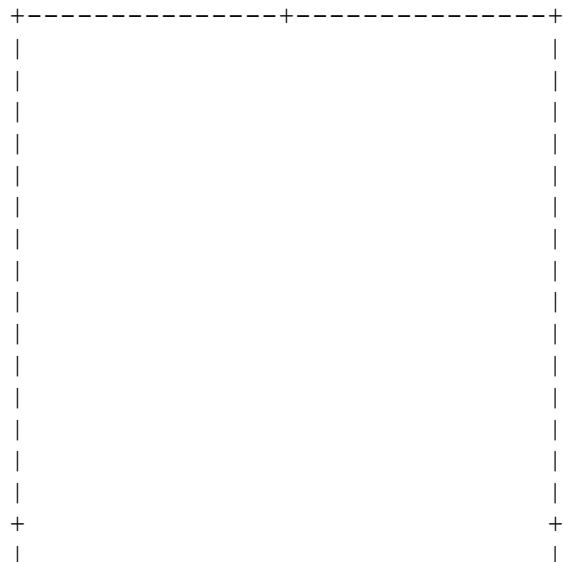


Point #164 at 28-25-17 081-12-46
Point #560 at 28-18-17 081-25-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Most preclusive siting
Availability of Channel 230 (X)

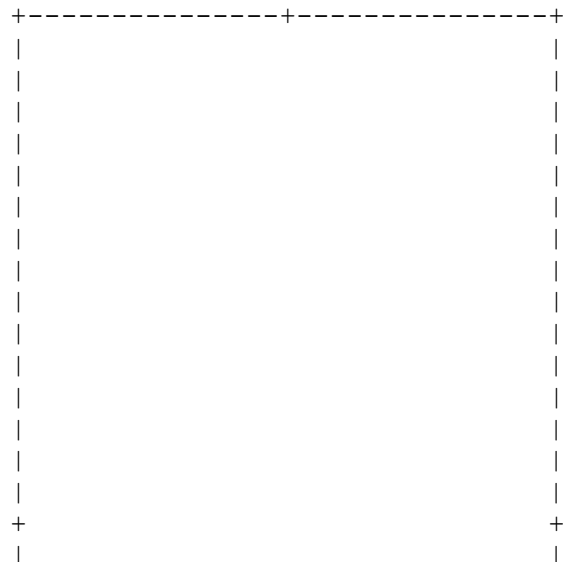


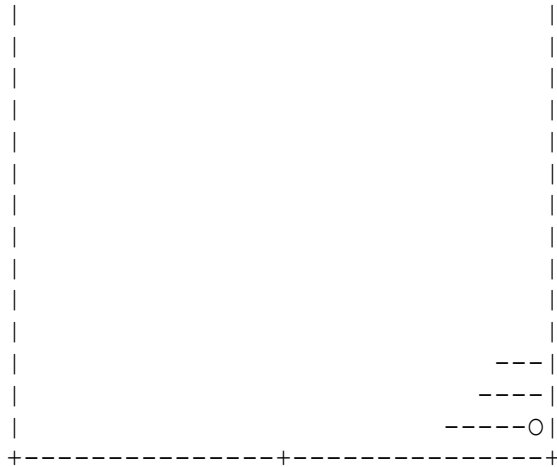


Point #324 at 28-30-17 081-17-46
 Point #055 at 28-40-17 081-08-46
 Orlando, FL
 Latitude 28-32-17
 Longitude 081-22-46
 Least preclusive siting
 Availability of Channel 239 (X)

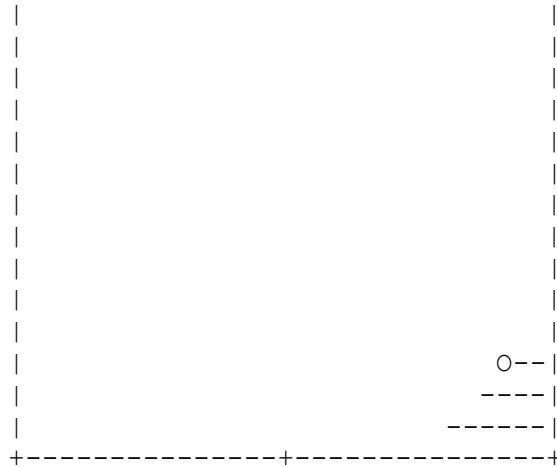
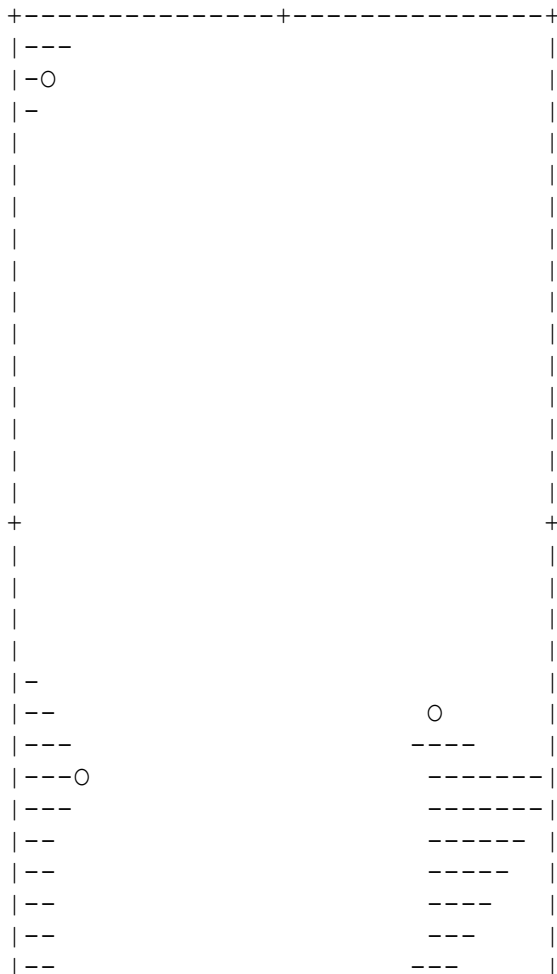


Point #015 at 28-31-17 081-07-46
 Orlando, FL
 Latitude 28-32-17
 Longitude 081-22-46
 Most preclusive siting
 Availability of Channel 239 (X)

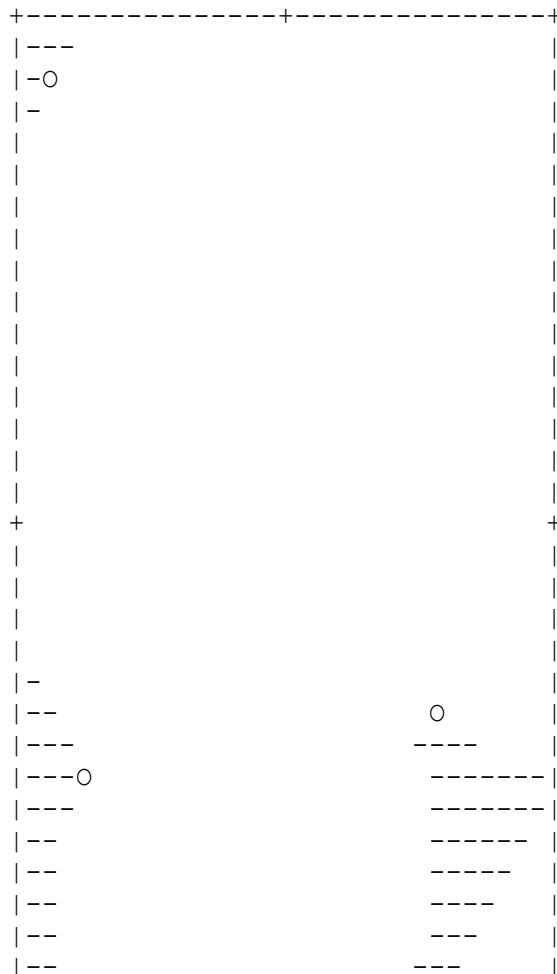




Point #001 at 28-17-17 081-07-46
 Orlando, FL
 Latitude 28-32-17
 Longitude 081-22-46
 Least preclusive siting
 Availability of Channel 240 (X)

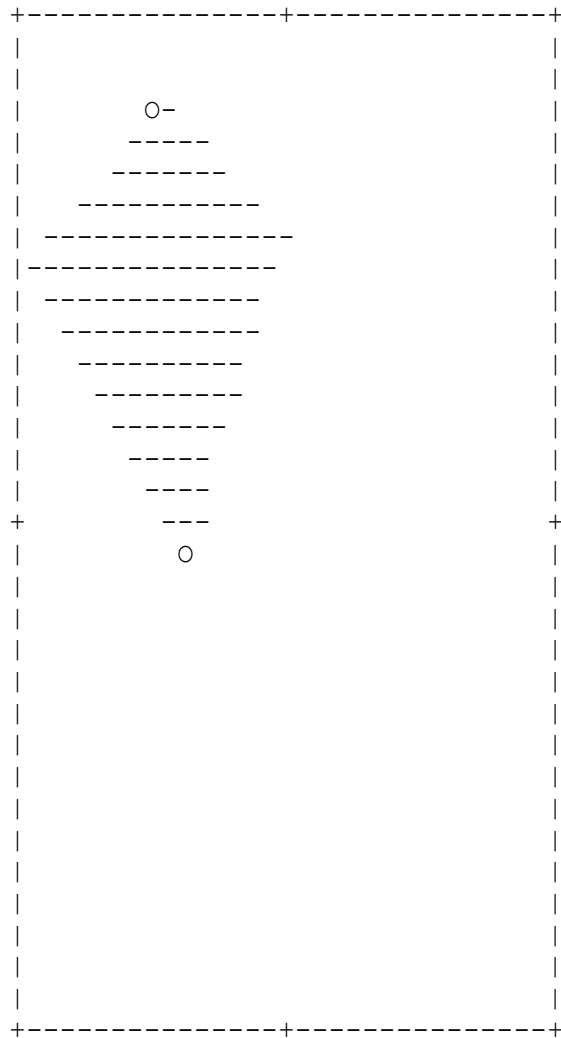


Point #065 at 28-19-17 081-09-46
 Orlando, FL
 Latitude 28-32-17
 Longitude 081-22-46
 Most preclusive siting
 Availability of Channel 240 (X)



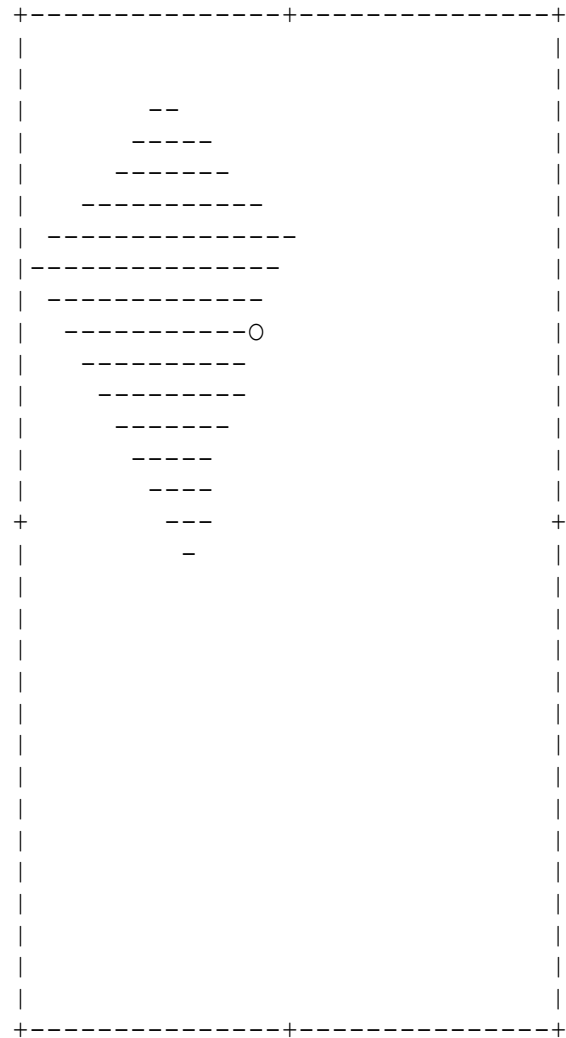
|-- ---|
+-----+-----+

Point #929 at 28-46-17 081-36-46
Point #196 at 28-26-17 081-13-46
Point #845 at 28-24-17 081-34-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Least preclusive siting
Availability of Channel 258 (X)



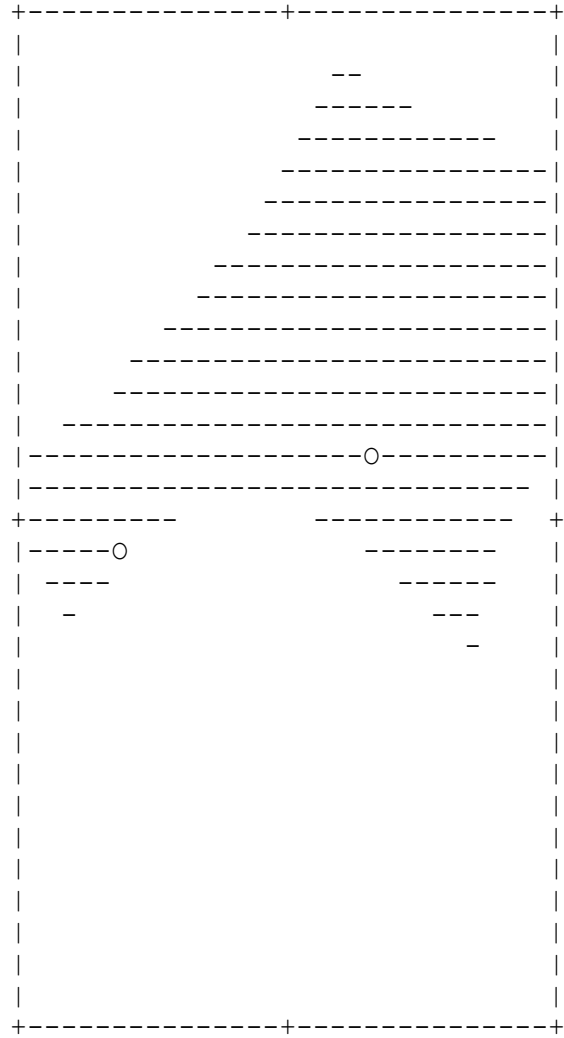
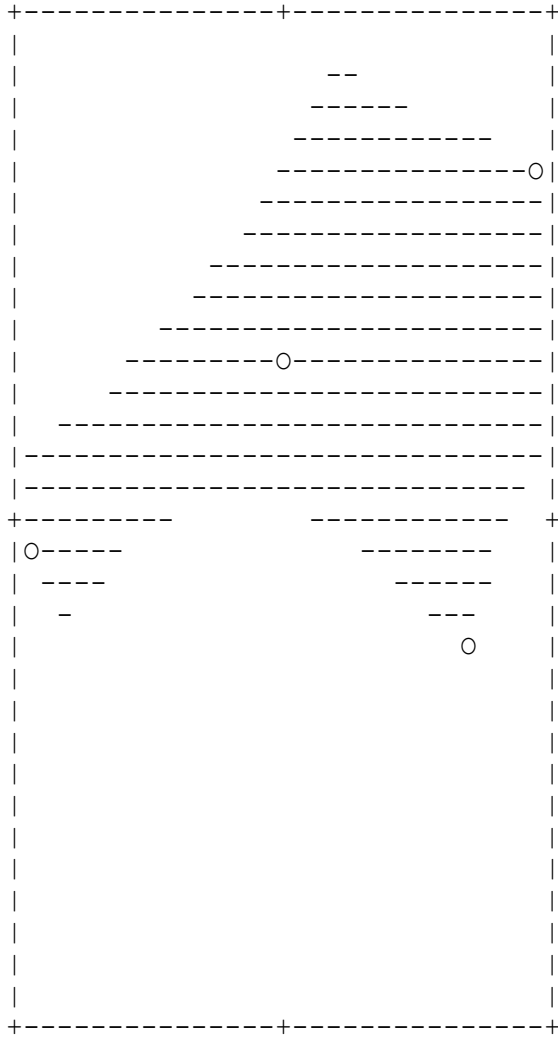
|-- ---|
+-----+-----+

Point #845 at 28-24-17 081-34-46
Point #929 at 28-46-17 081-36-46
Point #196 at 28-26-17 081-13-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Most preclusive siting
Availability of Channel 258 (X)



Point #742 at 28-45-17 081-30-46
Point #666 at 28-31-17 081-28-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Least preclusive siting
Availability of Channel 259 (X)

Point #549 at 28-38-17 081-24-46
Orlando, FL
Latitude 28-32-17
Longitude 081-22-46
Most preclusive siting
Availability of Channel 259 (X)



Point #945 at 28-31-17 081-37-46
 Point #136 at 28-28-17 081-11-46
 Point #027 at 28-43-17 081-07-46
 Point #486 at 28-37-17 081-22-46

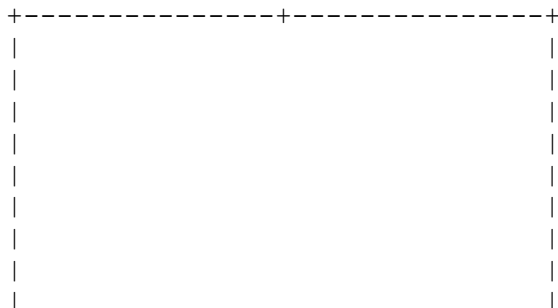
Orlando, FL

Latitude 28-32-17

Longitude 081-22-46

Least preclusive siting

Availability of Channel 278 (X)



Point #328 at 28-34-17 081-17-46
 Point #790 at 28-31-17 081-32-46

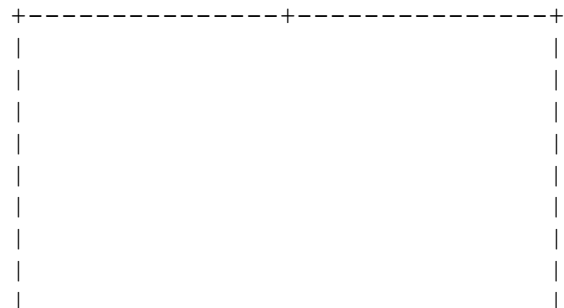
Orlando, FL

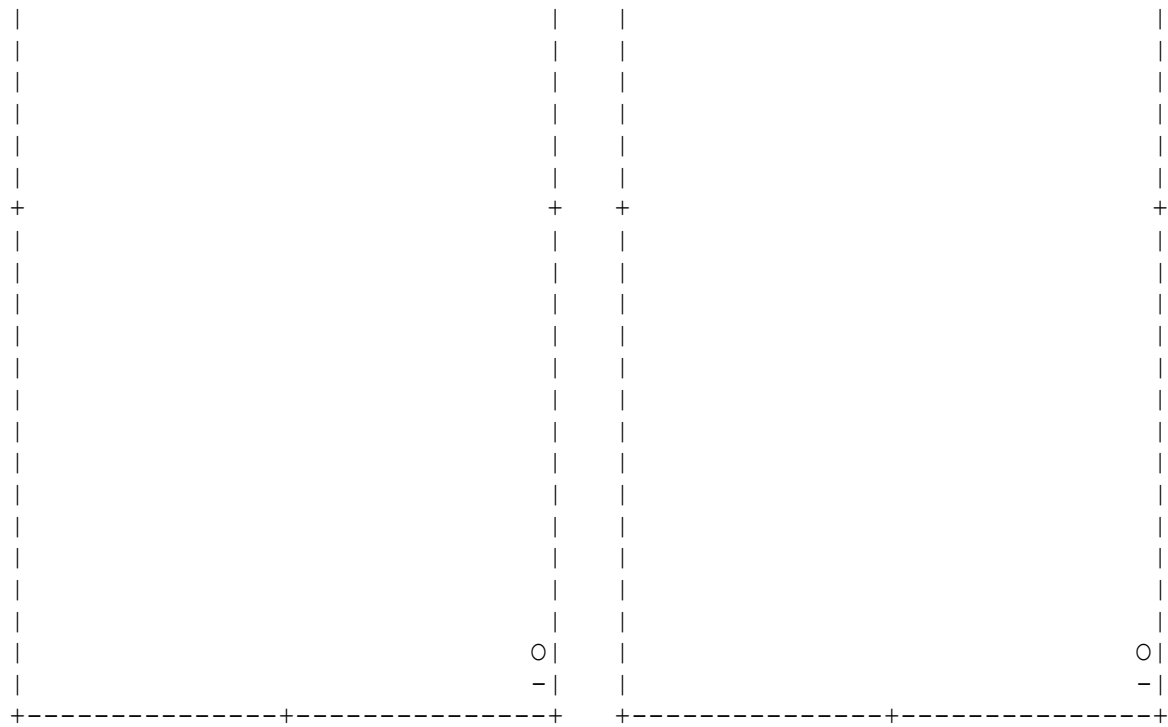
Latitude 28-32-17

Longitude 081-22-46

Most preclusive siting

Availability of Channel 278 (X)





Point #002 at 28-18-17 081-07-46

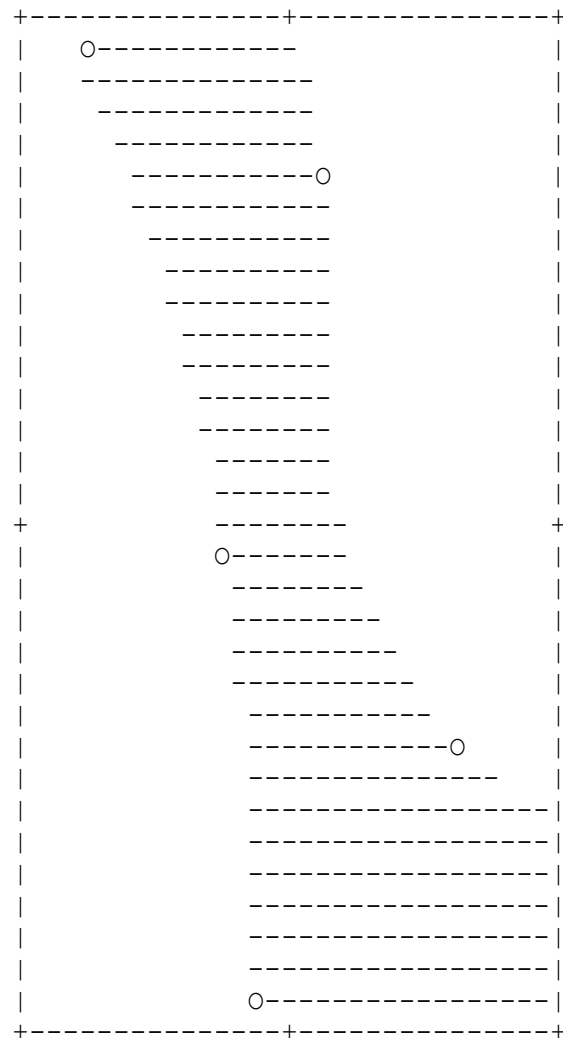
Point #002 at 28-18-17 081-07-46

{End of Figure 1}

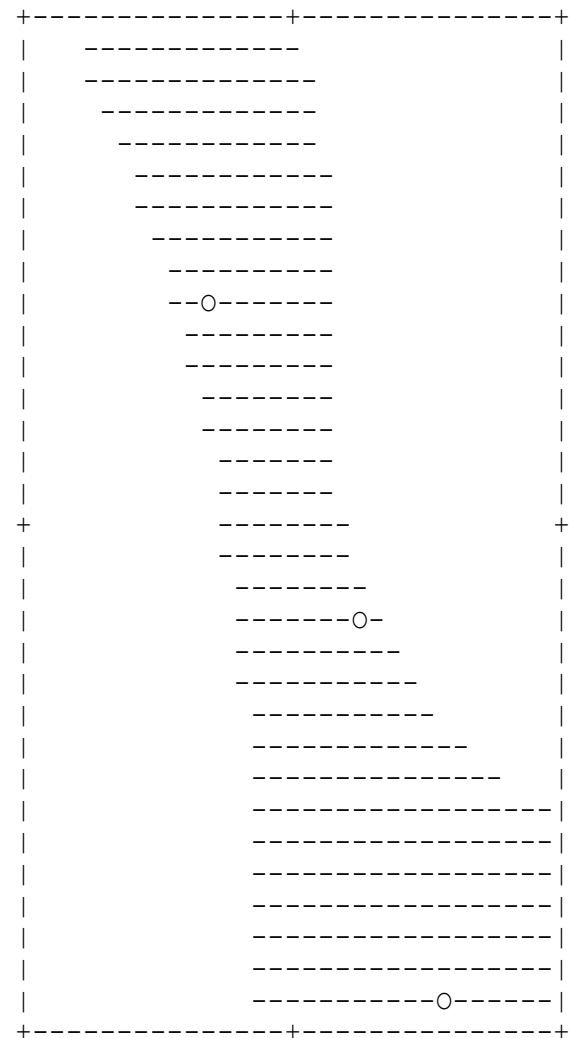
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Grid Size 31 x 31
Micro FM 100 Watts at 30m HAAT
Co-Channel and 1st Adjacent Protected
2nd Adjacent Channel Protected
3rd Adjacent Channel Not Protected
I.F. Not Protected
TV Channel 6 Protected
CP Records Protected
APP Records Protected
FM Translators Protected
TV Channel 6 Translators/LP Protected
Auc83 FX App Records Protected

Total allotments, least preclusive spacing:	21
Total allotments, most preclusive spacing:	16
Lakeland, FL	Lakeland, FL
Latitude 28-02-23	Latitude 28-02-23

Longitude 081-57-39
Least preclusive siting
Availability of Channel 224 (X)

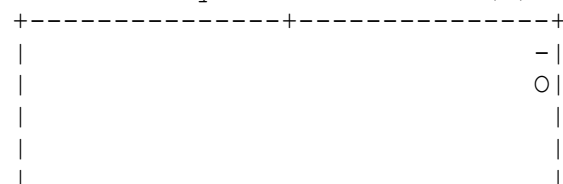


Longitude 081-57-39
Most preclusive siting
Availability of Channel 224 (X)



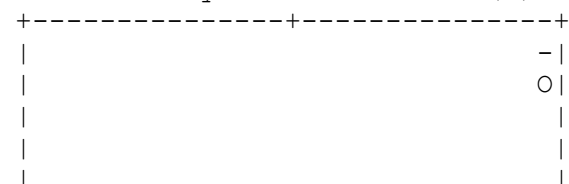
Point #868 at 28-17-23 082-09-39
Point #430 at 28-13-23 081-55-39
Point #604 at 28-01-23 082-01-39
Point #528 at 27-47-23 081-59-39
Point #164 at 27-55-23 081-47-39

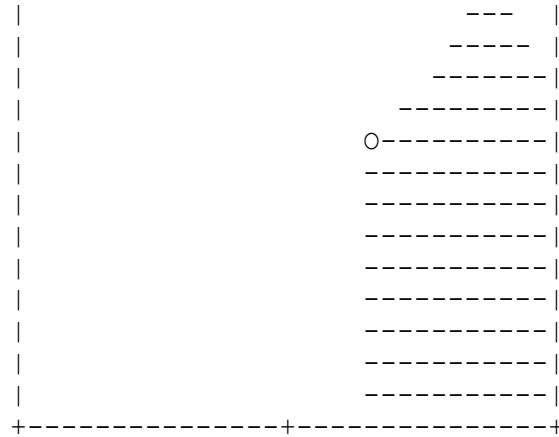
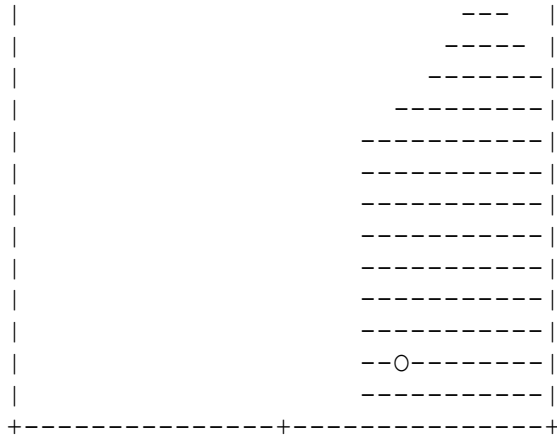
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Least preclusive siting
Availability of Channel 240 (X)



Point #354 at 27-59-23 081-53-39
Point #643 at 28-09-23 082-02-39
Point #187 at 27-47-23 081-48-39

Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Most preclusive siting
Availability of Channel 240 (X)

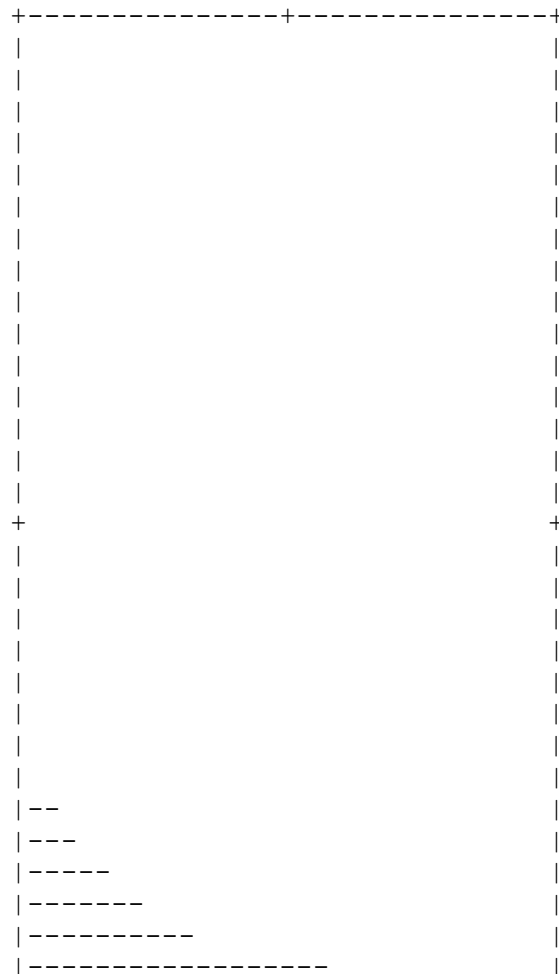




Point #107 at 28-00-23 081-45-39
Point #250 at 27-48-23 081-50-39
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Least preclusive siting
Availability of Channel 242 (X)



Point #319 at 27-55-23 081-52-39
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Most preclusive siting
Availability of Channel 242 (X)

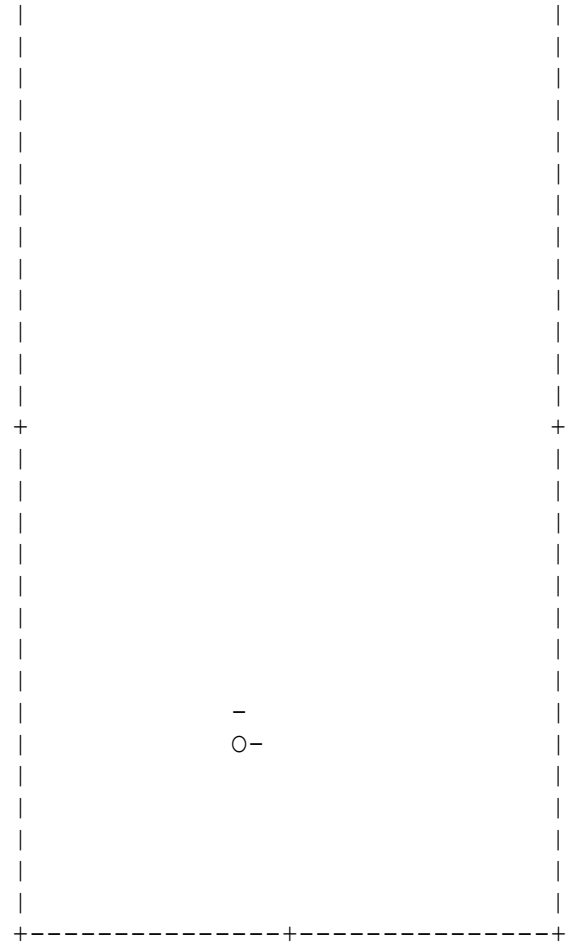
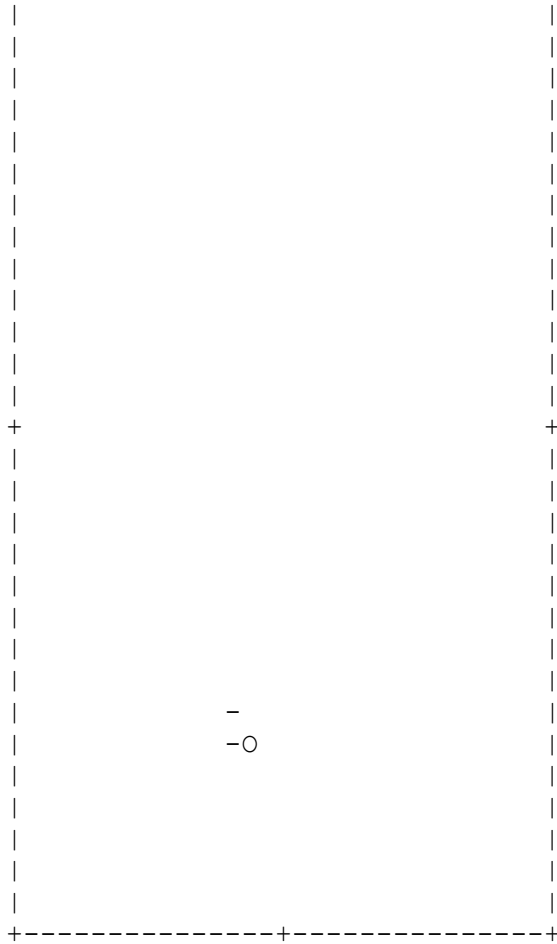


Point #373 at 27-47-23 081-54-39
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Most preclusive siting
Availability of Channel 243 (X)

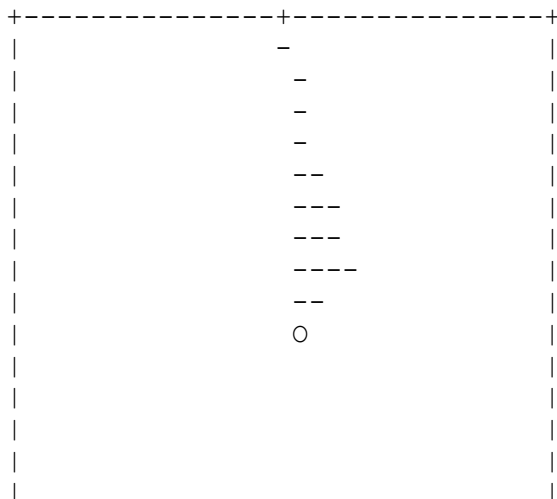
A blank sheet of graph paper with a dashed border. In the bottom-left corner, there is a small legend:

-
-
-
-
-
-

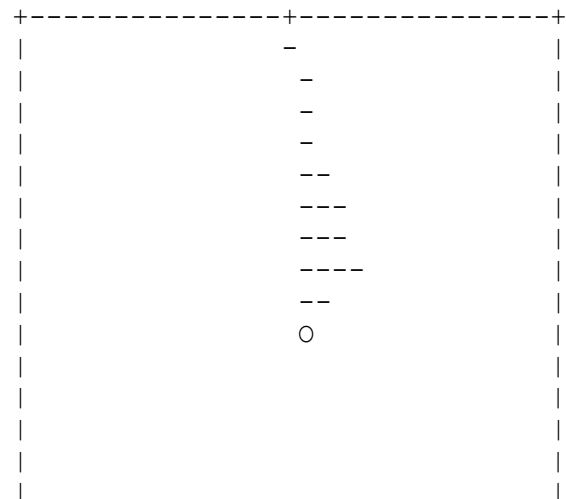
Point #777 at 27-48-23 082-07-39
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Most preclusive siting
Availability of Channel 244 (X)

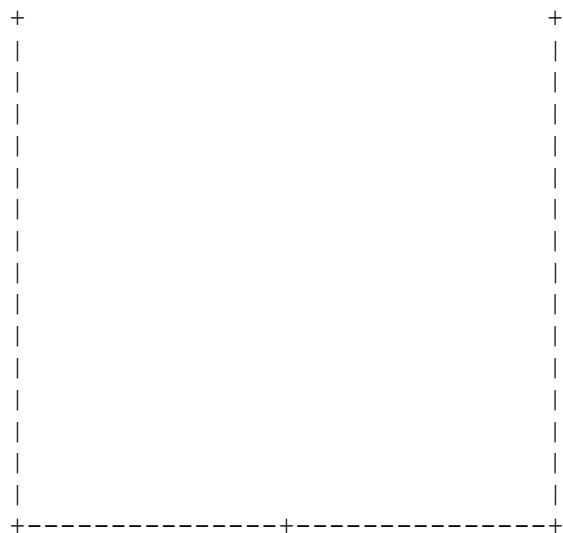


Point #533 at 27-52-23 081-59-39
 Lakeland, FL
 Latitude 28-02-23
 Longitude 081-57-39
 Least preclusive siting
 Availability of Channel 245 (X)

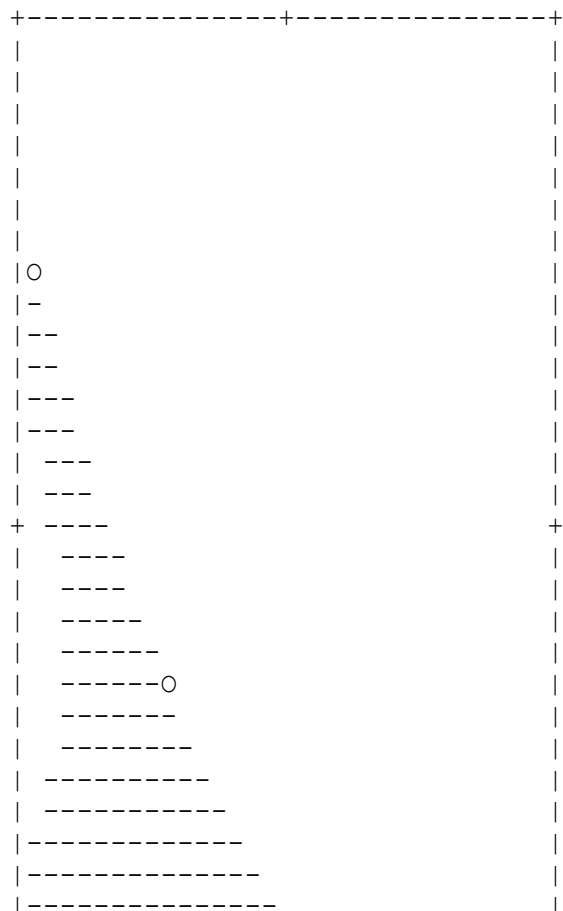


Point #564 at 27-52-23 082-00-39
 Lakeland, FL
 Latitude 28-02-23
 Longitude 081-57-39
 Most preclusive siting
 Availability of Channel 245 (X)

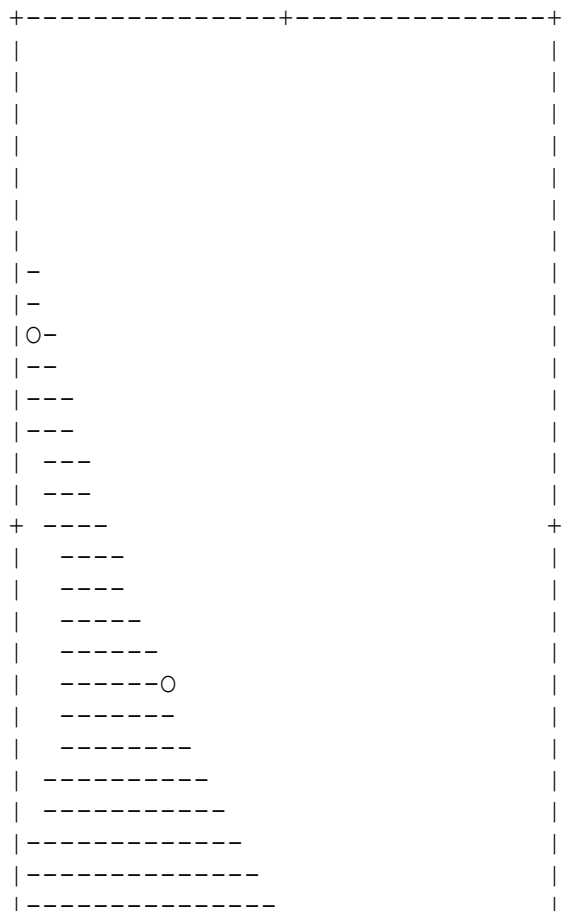




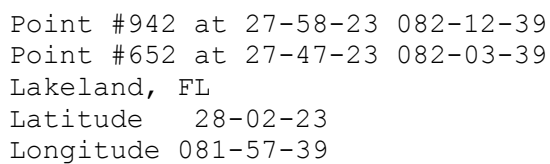
Point #456 at 28-08-23 081-56-39
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Least preclusive siting
Availability of Channel 261 (X)



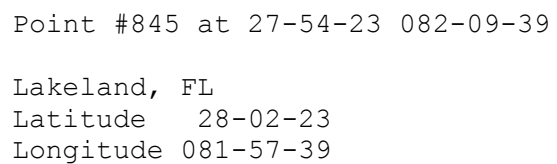
Point #456 at 28-08-23 081-56-39
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Most preclusive siting
Availability of Channel 261 (X)



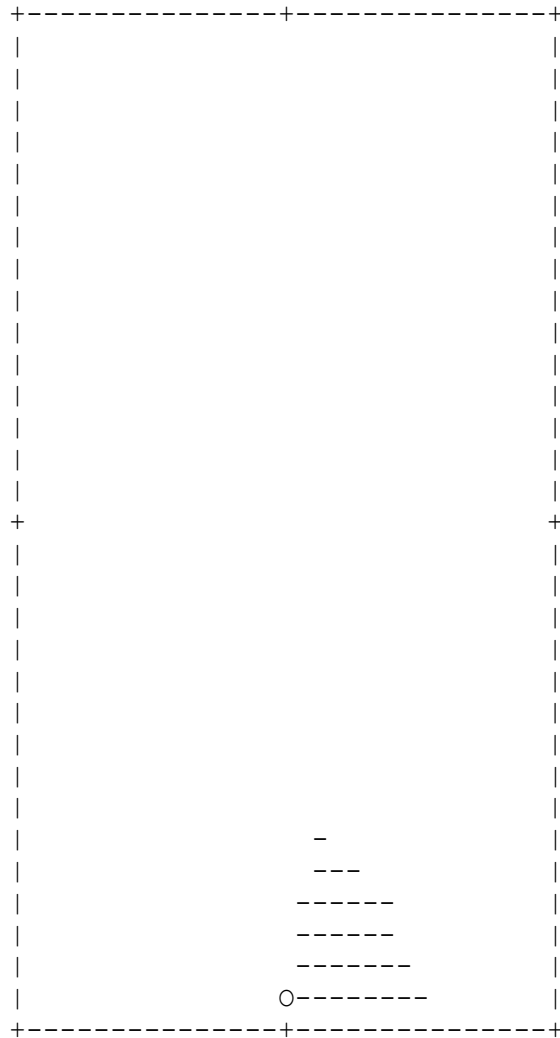
Point #954 at 28-10-23 082-12-39
Point #373 at 27-47-23 081-54-39
Point #693 at 27-57-23 082-04-39
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Least preclusive siting
Availability of Channel 281 (X)



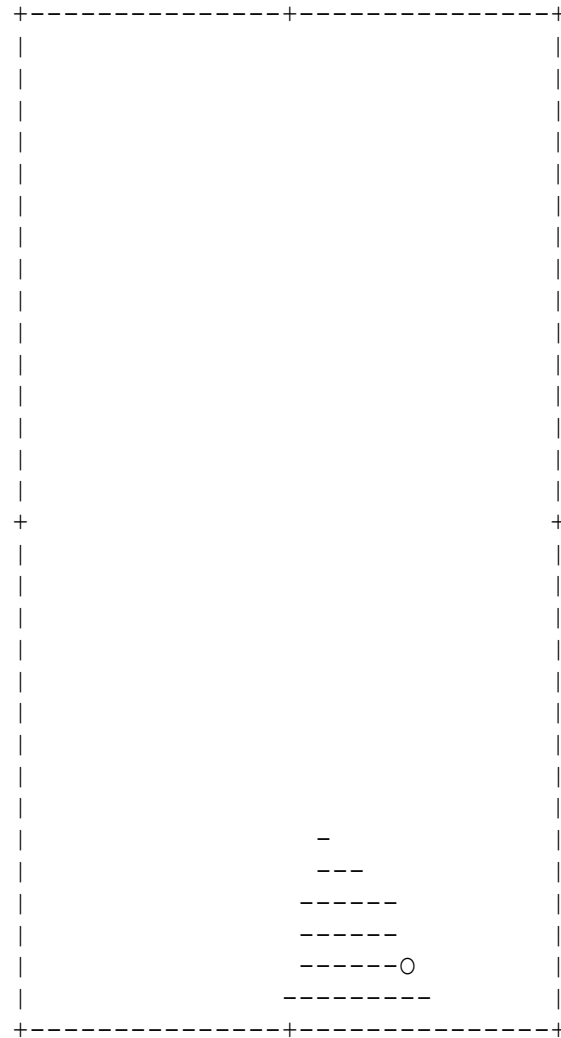
Point #693 at 27-57-23 082-04-39
Point #952 at 28-08-23 082-12-39
Point #373 at 27-47-23 081-54-39
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Most preclusive siting
Availability of Channel 281 (X)



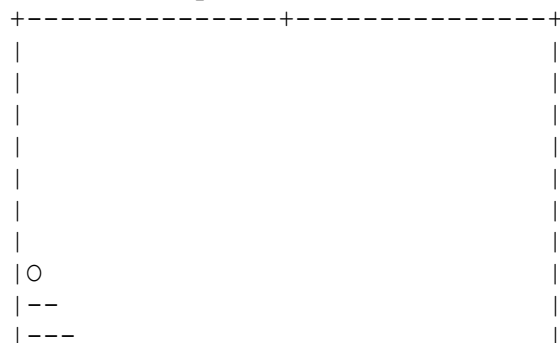
Least preclusive siting
Availability of Channel 299 (X)



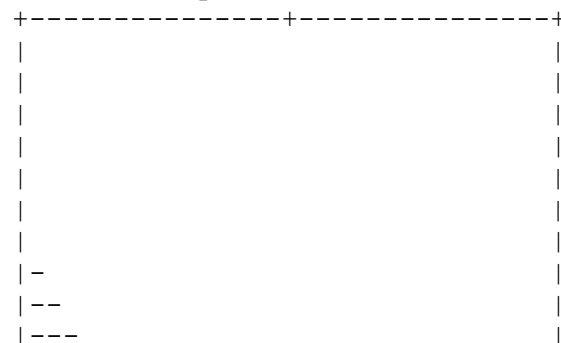
Most preclusive siting
Availability of Channel 299 (X)

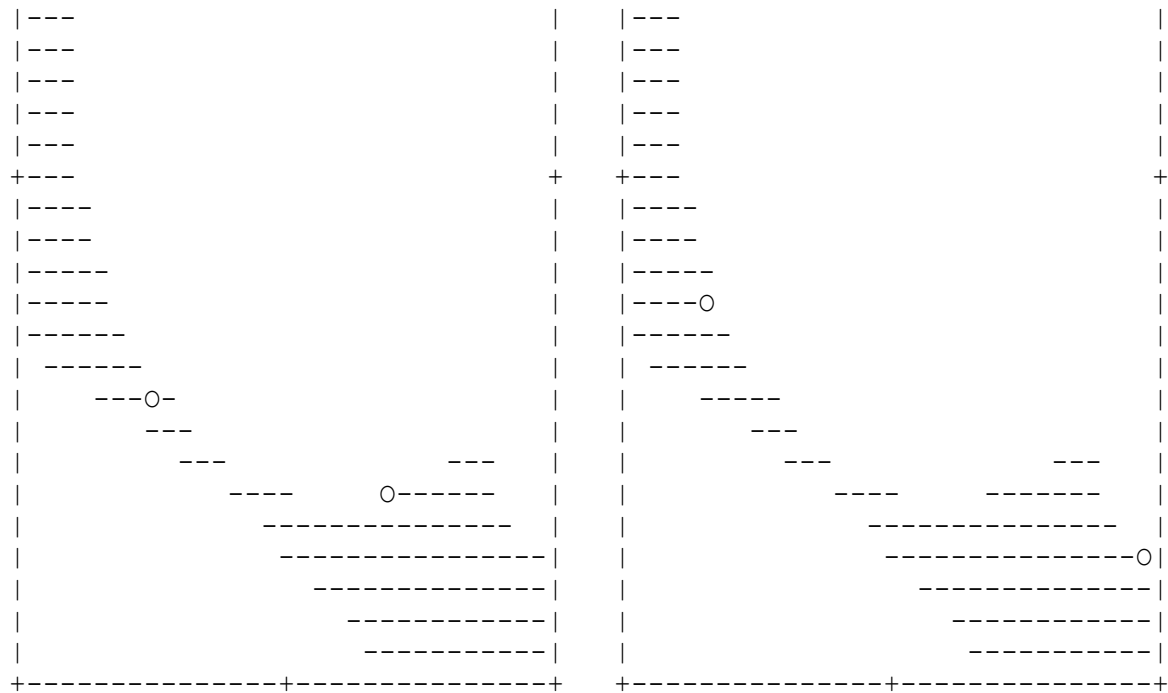


Point #466 at 27-47-23 081-57-39
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Least preclusive siting
Availability of Channel 300 (X)



Point #250 at 27-48-23 081-50-39
Lakeland, FL
Latitude 28-02-23
Longitude 081-57-39
Most preclusive siting
Availability of Channel 300 (X)





Point #954 at 28-10-23 082-12-39
Point #722 at 27-55-23 082-05-39
Point #285 at 27-52-23 081-51-39

Point #818 at 27-58-23 082-08-39
Point #004 at 27-50-23 081-42-39

{End of Figure 2}