



**OTM-3550-B/G**

**FREQUENCY AGILE PAL B/G**  
**TELEVISION MODULATOR**

**INSTALLATION MANUAL**

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# OTM-3550-B/G

## FREQUENCY AGILE PAL B/G TELEVISION MODULATOR

### 1) INTRODUCTION

The OTM-3550 B/G is a frequency agile television modulator with an output frequency range of 48.25MHz through 547.25MHz. All channels are selectable by front panel DIP switches in 1MHz increments.

The OTM-3550 B/G offers high output level, typically +55dBmV. This unit has a very high out-of-band carrier to noise ratio (>77dB) and uses SAW I.F. filtering, which allows virtually an unlimited number of modulators to be combined without the need for external bandpass filters. The OTM-3550 B/G has low power consumption (12 watts @ 220 VAC) for reliable long term operation.

### 2) CHANNEL SELECTION

Remove the front panel plate marked "CHANNEL SELECT" to expose the channel select DIP switches as shown in figure #1. Output frequency selection is accomplished by setting these DIP switches to the correct code for the desired channel. Locate the code for the desired channel frequency in Table 1 in this manual and set the DIP switches from left to right (The 13 left-most switches are used for channel selection).

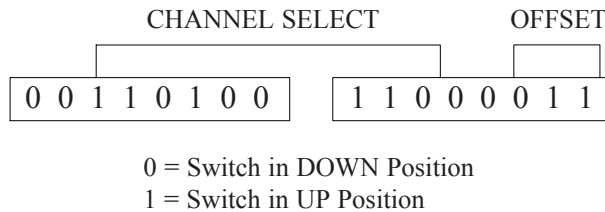
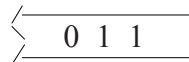


Figure 1 Front panel DIP switches

The above example indicates proper switch settings for 206.25MHz

### 3) OFFSET OPERATION

The last 3 DIP switches on the far right are used to select offset operation with certain versions of the OTM-3000. On the OTM-3550 B/G, the switch should be left set as shown below.



### 4) VIDEO MODULATION ADJUSTMENT

- Connect a video source of approximately 1V p-p to the video input connector (75 ohms input Z) on the rear panel. The video should be of a reasonably bright scene (commercials are usually excellent).
- Rotate the video modulation level control slowly clockwise until the video over modulation LED just turns on. The light may blink with differences in average picture level. CAUTION: If the modulation is set too high, compression or lack of contrast will occur during high intensity scenes.

## 5) AUDIO MODULATION ADJUSTMENT

- A) Connect an audio source of 300mV p-p (minimum) to the balanced audio input connector (600 ohms input Z) on the rear panel. The source should be typical of the program material to be carried.
- B) Rotate the audio modulation level control slowly clockwise until the audio over modulation LED just begins to blink. CAUTION: Over modulation can result in severe distortion in some TV sets. Set this control at peak program levels.

## 6) RF AND AURAL CARRIER LEVEL ADJUSTMENT

- A) Using a field strength meter or spectrum analyzer, set the video carrier to the desired level with the RF output level adjust control (typically +50 to +55dBmV).
- B) Tune the field strength meter or analyzer to the aural carrier (5.5MHz above the video carrier).
- C) Adjust the aural carrier level control to the desired level, typically 15dB below the video carrier. CAUTION: Reducing the visual/aural carrier ratio to less than 15dB can result in high out-of-band spurious signals in adjacent channels.

## 7) MISCELLANEOUS

- A) This unit is equipped with video and audio I.F. loops. Both loops are connected with two type F short jumpers. If these become disconnected or misplaced, then the OTM-3550 B/G will not perform properly.
- B) If a scrambling unit is utilized with the OTM-3550 B/G, follow the instructions associated with the scrambler. The video I.F. output level is +40dBmV, and the audio carrier level is determined by the aural carrier level adjustment - typically +17dBmV @ 15dB A/V ratio.
- C) This unit is equipped with a 0.25A slo-blo fuse. For continued safety and to maintain proper performance of the unit, please replace only with an equivalent fuse.
- D) A -20dB test point (type F connector) is provided on the rear panel.
- E) When installing OTM-3550 B/G in any equipment rack it is best to leave an empty rack space above and below the unit to allow for optimum air circulation.

**OTM-3550 B/G  
DIP SWITCH SETTINGS**

DOWN=0 UP=1 1MHz STEPS

**VID FRQ. DIP SW SETTINGS**

48.250 0111 0001 0100  
49.250 1111 0001 0100  
50.250 0000 1001 0100  
51.250 1000 1001 0100  
52.250 0100 1001 0100

53.250 1100 1001 0100  
54.250 0010 1001 0100  
55.250 1010 1001 0100  
56.250 0110 1001 0100  
57.250 1110 1001 0100

58.250 0001 1001 0100  
59.250 1001 1001 0100  
60.250 0101 1001 0100  
61.250 1101 1001 0100  
62.250 0011 1001 0100

63.250 1011 1001 0100  
64.250 0111 1001 0100  
65.250 1111 1001 0100  
66.250 0000 0101 0100  
67.250 1000 0101 0100

68.250 0100 0101 0100  
69.250 1100 0101 0100  
70.250 0010 0101 0100  
71.250 1010 0101 0100  
72.250 0110 0101 0100

**VID FRQ. DIP SW SETTINGS**

73.250 1110 0101 0100  
74.250 0001 0101 0100  
75.250 1001 0101 0100  
76.250 0101 0101 0100  
77.250 1101 0101 0100

78.250 0011 0101 0100  
79.250 1011 0101 0100  
80.250 0111 0101 0100  
81.250 1111 0101 0100  
82.250 0000 1101 0100

83.250 1000 1101 0100  
84.250 0100 1101 0100  
85.250 1100 1101 0100  
86.250 0010 1101 0100  
87.250 1010 1101 0100

88.250 0110 1101 0100  
89.250 1110 1101 0100  
90.250 0001 1101 0100  
91.250 1001 1101 0100  
92.250 0101 1101 0100

93.250 1101 1101 0100  
94.250 0011 1101 0100  
95.250 1011 1101 0100  
96.250 0111 1101 0100  
97.250 1111 1101 0100

**VID FRQ. DIP SW SETTINGS**

98.250 0000 0011 0100  
99.250 1000 0011 0100  
100.250 0100 0011 0100  
101.250 1100 0011 0100  
102.250 0010 0011 0100

103.250 1010 0011 0100  
104.250 0110 0011 0100  
105.250 1110 0011 0100  
106.250 0001 0011 0100  
107.250 1001 0011 0100

108.250 0101 0011 0100  
109.250 1101 0011 0100  
110.250 0011 0011 0100  
111.250 1011 0011 0100  
112.250 0111 0011 0100

113.250 1111 0011 0100  
114.250 0000 1011 0100  
115.250 1000 1011 0100  
116.250 0100 1011 0100  
117.250 1100 1011 0100

118.250 0010 1011 0100  
119.250 1010 1011 0100  
120.250 0110 1011 0100  
121.250 1110 1011 0100  
122.250 0001 1011 0100

**OTM-3550 B/G  
DIP SWITCH SETTINGS**

DOWN=0 UP=1 1MHz STEPS

**VID FRQ. DIP SW SETTINGS**

123.250 1001 1011 0100  
124.250 0101 1011 0100  
125.250 1101 1011 0100  
126.250 0011 1011 0100  
127.250 1011 1011 0100

128.250 0111 1011 0100  
129.250 1111 1011 0100  
130.250 0000 0111 0100  
131.250 1000 0111 0100  
132.250 0100 0111 0100

133.250 1100 0111 0100  
134.250 0010 0111 0100  
135.250 1010 0111 0100  
136.250 0110 0111 0100  
137.250 1110 0111 0100

138.250 0001 0111 0100  
139.250 1001 0111 0100  
140.250 0101 0111 0100  
141.250 1101 0111 0100  
142.250 0011 0111 0100

143.250 1011 0111 0100  
144.250 0111 0111 0100  
145.250 1111 0111 0100  
146.250 0000 1111 0100  
147.250 1000 1111 0100

**VID FRQ. DIP SW SETTINGS**

148.250 0100 1111 0100  
149.250 1100 1111 0100  
150.250 0010 1111 0100  
151.250 1010 1111 0100  
152.250 0110 1111 0100

153.250 1110 1111 0100  
154.250 0001 1111 0100  
155.250 1001 1111 0100  
156.250 0101 1111 0100  
157.250 1101 1111 0100

158.250 0011 1111 0100  
159.250 1011 1111 0100  
160.250 0111 1111 0100  
161.250 1111 1111 0100  
162.250 0000 0000 1100

163.250 1000 0000 1100  
164.250 0100 0000 1100  
165.250 1100 0000 1100  
166.250 0010 0000 1100  
167.250 1010 0000 1100

168.250 0110 0000 1100  
169.250 1110 0000 1100  
170.250 0001 0000 1100  
171.250 1001 0000 1100  
172.250 0101 0000 1100

**VID FRQ. DIP SW SETTINGS**

173.250 1101 0000 1100  
174.250 0011 0000 1100  
175.250 1011 0000 1100  
176.250 0111 0000 1100  
177.250 1111 0000 1100

178.250 0000 1000 1100  
179.250 1000 1000 1100  
180.250 0100 1000 1100  
181.250 1100 1000 1100  
182.250 0010 1000 1100

183.250 1010 1000 1100  
184.250 0110 1000 1100  
185.250 1110 1000 1100  
186.250 0001 1000 1100  
187.250 1001 1000 1100

188.250 0101 1000 1100  
189.250 1101 1000 1100  
190.250 0011 1000 1100  
191.250 1011 1000 1100  
192.250 0111 1000 1100

193.250 1111 1000 1100  
194.250 0000 0100 1100  
195.250 1000 0100 1100  
196.250 0100 0100 1100  
197.250 1100 0100 1100

**OTM-3550 B/G  
DIP SWITCH SETTINGS**

DOWN=0 UP=1 1MHz STEPS

**VID FRQ. DIP SW SETTINGS**

198.250 0010 0100 1100  
199.250 1010 0100 1100  
200.250 0110 0100 1100  
201.250 1110 0100 1100  
202.250 0001 0100 1100

203.250 1001 0100 1100  
204.250 0101 0100 1100  
205.250 1101 0100 1100  
206.250 0011 0100 1100  
207.250 1011 0100 1100

208.250 0111 0100 1100  
209.250 1111 0100 1100  
210.250 0000 1100 1100  
211.250 1000 1100 1100  
212.250 0100 1100 1100

213.250 1100 1100 1100  
214.250 0010 1100 1100  
215.250 1010 1100 1100  
216.250 0110 1100 1100  
217.250 1110 1100 1100

218.250 0001 1100 1100  
219.250 1001 1100 1100  
220.250 0101 1100 1100  
221.250 1101 1100 1100  
222.250 0011 1100 1100

**VID FRQ. DIP SW SETTINGS**

223.250 1011 1100 1100  
224.250 0111 1100 1100  
225.250 1111 1100 1100  
226.250 0000 0010 1100  
227.250 1000 0010 1100

228.250 0100 0010 1100  
229.250 1100 0010 1100  
230.250 0010 0010 1100  
231.250 1010 0010 1100  
232.250 0110 0010 1100

233.250 1110 0010 1100  
234.250 0001 0010 1100  
235.250 1001 0010 1100  
236.250 0101 0010 1100  
237.250 1101 0010 1100

238.250 0011 0010 1100  
239.250 1011 0010 1100  
240.250 0111 0010 1100  
241.250 1111 0010 1100  
242.250 0000 1010 1100

243.250 1000 1010 1100  
244.250 0100 1010 1100  
245.250 1100 1010 1100  
246.250 0010 1010 1100  
247.250 1010 1010 1100

**VID FRQ. DIP SW SETTINGS**

248.250 0110 1010 1100  
249.250 1110 1010 1100  
250.250 0001 1010 1100  
251.250 1001 1010 1100  
252.250 0101 1010 1100

253.250 1101 1010 1100  
254.250 0011 1010 1100  
255.250 1011 1010 1100  
256.250 0111 1010 1100  
257.250 1111 1010 1100

258.250 0000 0110 1100  
259.250 1000 0110 1100  
260.250 0100 0110 1100  
261.250 1100 0110 1100  
262.250 0010 0110 1100

263.250 1010 0110 1100  
264.250 0110 0110 1100  
265.250 1110 0110 1100  
266.250 0001 0110 1100  
267.250 1001 0110 1100

268.250 0101 0110 1100  
269.250 1101 0110 1100  
270.250 0011 0110 1100  
271.250 1011 0110 1100  
272.250 0111 0110 1100

**OTM-3550 B/G  
DIP SWITCH SETTINGS**

DOWN=0 UP=1 1MHz STEPS

**VID FRQ. DIP SW SETTINGS**

273.250 1111 0110 1100  
274.250 0000 1110 1100  
275.250 1000 1110 1100  
276.250 0100 1110 1100  
277.250 1100 1110 1100  
  
278.250 0010 1110 1100  
279.250 1010 1110 1100  
280.250 0110 1110 1100  
281.250 1110 1110 1100  
282.250 0001 1110 1100  
  
283.250 1001 1110 1100  
284.250 0101 1110 1100  
285.250 1101 1110 1100  
286.250 0011 1110 1100  
287.250 1011 1110 1100  
  
288.250 0111 1110 1100  
289.250 1111 1110 1100  
290.250 0000 0001 1100  
291.250 1000 0001 1100  
292.250 0100 0001 1100  
  
293.250 1100 0001 1100  
294.250 0010 0001 1100  
295.250 1010 0001 1100  
296.250 0110 0001 1100  
297.250 1110 0001 1100

**VID FRQ. DIP SW SETTINGS**

298.250 0001 0001 1100  
299.250 1001 0001 1100  
300.250 0101 0001 1100  
301.250 1101 0001 1100  
302.250 0011 0001 1100  
  
303.250 1011 0001 1100  
304.250 0111 0001 1100  
305.250 1111 0001 1100  
306.250 0000 1001 1100  
307.250 1000 1001 1100  
  
308.250 0100 1001 1100  
309.250 1100 1001 1100  
310.250 0010 1001 1100  
311.250 1010 1001 1100  
312.250 0110 1001 1100  
  
313.250 1110 1001 1100  
314.250 0001 1001 1100  
315.250 1001 1001 1100  
316.250 0101 1001 1100  
317.250 1101 1001 1100  
  
318.250 0011 1001 1100  
319.250 1011 1001 1100  
320.250 0111 1001 1100  
321.250 1111 1001 1100  
322.250 0000 0101 1100

**VID FRQ. DIP SW SETTINGS**

323.250 1000 0101 1100  
324.250 0100 0101 1100  
325.250 1100 0101 1100  
326.250 0010 0101 1100  
327.250 1010 0101 1100  
  
328.250 0110 0101 1100  
329.250 1110 0101 1100  
330.250 0001 0101 1100  
331.250 1001 0101 1100  
332.250 0101 0101 1100  
  
333.250 1101 0101 1100  
334.250 0011 0101 1100  
335.250 1011 0101 1100  
336.250 0111 0101 1100  
337.250 1111 0101 1100  
  
338.250 0000 1101 1100  
339.250 1000 1101 1100  
340.250 0100 1101 1100  
341.250 1100 1101 1100  
342.250 0010 1101 1100  
  
343.250 1010 1101 1100  
344.250 0110 1101 1100  
345.250 1110 1101 1100  
346.250 0001 1101 1100  
347.250 1001 1101 1100

**OTM-3550 B/G  
DIP SWITCH SETTINGS**

DOWN=0 UP=1 1MHz STEPS

**VID FRQ. DIP SW SETTINGS**

348.250 0101 1101 1100  
349.250 1101 1101 1100  
350.250 0011 1101 1100  
351.250 1011 1101 1100  
352.250 0111 1101 1100  
  
353.250 1111 1101 1100  
354.250 0000 0011 1100  
355.250 1000 0011 1100  
356.250 0100 0011 1100  
357.250 1100 0011 1100  
  
358.250 0010 0011 1100  
359.250 1010 0011 1100  
360.250 0110 0011 1100  
361.250 1110 0011 1100  
362.250 0001 0011 1100  
  
363.250 1001 0011 1100  
364.250 0101 0011 1100  
365.250 1101 0011 1100  
366.250 0011 0011 1100  
367.250 1011 0011 1100  
  
368.250 0111 0011 1100  
369.250 1111 0011 1100  
370.250 0000 1011 1100  
371.250 1000 1011 1100  
372.250 0100 1011 1100

**VID FRQ. DIP SW SETTINGS**

373.250 1100 1011 1100  
374.250 0010 1011 1100  
375.250 1010 1011 1100  
376.250 0110 1011 1100  
377.250 1110 1011 1100  
  
378.250 0001 1011 1100  
379.250 1001 1011 1100  
380.250 0101 1011 1100  
381.250 1101 1011 1100  
382.250 0011 1011 1100  
  
383.250 1011 1011 1100  
384.250 0111 1011 1100  
385.250 1111 1011 1100  
386.250 0000 0111 1100  
387.250 1000 0111 1100  
  
388.250 0100 0111 1100  
389.250 1100 0111 1100  
390.250 0010 0111 1100  
391.250 1010 0111 1100  
392.250 0110 0111 1100  
  
393.250 1110 0111 1100  
394.250 0001 0111 1100  
395.250 1001 0111 1100  
396.250 0101 0111 1100  
397.250 1101 0111 1100

**VID FRQ. DIP SW SETTINGS**

398.250 0011 0111 1100  
399.250 1011 0111 1100  
400.250 0111 0111 1100  
401.250 1111 0111 1100  
402.250 0000 1111 1100  
  
403.250 1000 1111 1100  
404.250 0100 1111 1100  
405.250 1100 1111 1100  
406.250 0010 1111 1100  
407.250 1010 1111 1100  
  
408.250 0110 1111 1100  
409.250 1110 1111 1100  
410.250 0001 1111 1100  
411.250 1001 1111 1100  
412.250 0101 1111 1100  
  
413.250 1101 1111 1100  
414.250 0011 1111 1100  
415.250 1011 1111 1100  
416.250 0111 1111 1100  
417.250 1111 1111 1100  
  
418.250 0000 0000 0010  
419.250 1000 0000 0010  
420.250 0100 0000 0010  
421.250 1100 0000 0010  
422.250 0010 0000 0010



**OTM-3550 B/G  
DIP SWITCH SETTINGS**

DOWN=0 UP=1 1MHz STEPS

**VID FRQ. DIP SW SETTINGS**

423.250 1010 0000 0010  
424.250 0110 0000 0010  
425.250 1110 0000 0010  
426.250 0001 0000 0010  
427.250 1001 0000 0010

428.250 0101 0000 0010  
429.250 1101 0000 0010  
430.250 0011 0000 0010  
431.250 1011 0000 0010  
432.250 0111 0000 0010

433.250 1111 0000 0010  
434.250 0000 1000 0010  
435.250 1000 1000 0010  
436.250 0100 1000 0010  
437.250 1100 1000 0010

438.250 0010 1000 0010  
439.250 1010 1000 0010  
440.250 0110 1000 0010  
441.250 1110 1000 0010  
442.250 0001 1000 0010

443.250 1001 1000 0010  
444.250 0101 1000 0010  
445.250 1101 1000 0010  
446.250 0011 1000 0010  
447.250 1011 1000 0010

**VID FRQ. DIP SW SETTINGS**

448.250 0111 1000 0010  
449.250 1111 1000 0010  
450.250 0000 0100 0010  
451.250 1000 0100 0010  
452.250 0100 0100 0010

453.250 1100 0100 0010  
454.250 0010 0100 0010  
455.250 1010 0100 0010  
456.250 0110 0100 0010  
457.250 1110 0100 0010

458.250 0001 0100 0010  
459.250 1001 0100 0010  
460.250 0101 0100 0010  
461.250 1101 0100 0010  
462.250 0011 0100 0010

463.250 1011 0100 0010  
464.250 0111 0100 0010  
465.250 1111 0100 0010  
466.250 0000 1100 0010  
467.250 1000 1100 0010

468.250 0100 1100 0010  
469.250 1100 1100 0010  
470.250 0010 1100 0010  
471.250 1010 1100 0010  
472.250 0110 1100 0010

**VID FRQ. DIP SW SETTINGS**

437.250 1110 1100 0010  
474.250 0001 1100 0010  
475.250 1001 1100 0010  
476.250 0101 1100 0010  
477.250 1101 1100 0010

478.250 0011 1100 0010  
479.250 1011 1100 0010  
480.250 0111 1100 0010  
481.250 1111 1100 0010  
482.250 0000 0010 0010

483.250 1000 0010 0010  
484.250 0100 0010 0010  
485.250 1100 0010 0010  
486.250 0010 0010 0010  
487.250 1010 0010 0010

488.250 0110 0010 0010  
489.250 1110 0010 0010  
490.250 0001 0010 0010  
491.250 1001 0010 0010  
492.250 0101 0010 0010

493.250 1101 0010 0000  
494.250 0011 0010 0010  
495.250 1011 0010 0010  
496.250 0111 0010 0010  
497.250 1111 0010 0010

**OTM-3550 B/G  
DIP SWITCH SETTINGS**

DOWN=0 UP=1 1MHz STEPS

**VID FRQ. DIP SW SETTINGS**

498.250 0000 1010 0010  
499.250 1000 1010 0010  
500.250 0100 1010 0010  
501.250 1100 1010 0010  
502.250 0010 1010 0010

503.250 1010 1010 0010  
504.250 0110 1010 0010  
505.250 1110 1010 0010  
506.250 0001 1010 0010  
507.250 1001 1010 0010

508.250 0101 1010 0010  
509.250 1101 1010 0010  
510.250 0011 1010 0010  
511.250 1011 1010 0010  
512.250 0111 1010 0010

513.250 1111 1010 0010  
514.250 0000 0110 0010  
515.250 1000 0110 0010  
516.250 0100 0110 0010  
517.250 1100 0110 0010

518.250 0010 0110 0010  
519.250 1010 0110 0010  
520.250 0110 0110 0010  
521.250 1110 0110 0010  
522.250 0001 0110 0010

**VID FRQ. DIP SW SETTINGS**

523.250 1001 0110 0010  
524.250 0101 0110 0010  
525.250 1101 0110 0010  
526.250 0011 0110 0010  
527.250 1011 0110 0010

528.250 0111 0110 0010  
529.250 1111 0110 0010  
530.250 1111 0110 0010  
530.250 0000 1110 0010  
531.250 1000 1110 0010

532.250 0100 1110 0010  
533.250 1100 1110 0010  
534.250 0010 1110 0010  
535.250 1010 1110 0010  
536.250 0110 1110 0010

537.250 1110 1110 0010  
538.250 0001 1110 0010  
539.250 1001 1110 0010  
540.250 0101 1110 0010  
541.250 1101 1110 0010

542.250 0011 1110 0010  
543.250 1011 1110 0010  
544.250 0111 1110 0010  
545.250 1111 1110 0010  
546.250 0000 0001 0010

**VID FRQ. DIP SW SETTINGS**

547.250 1000 0001 0010