



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).

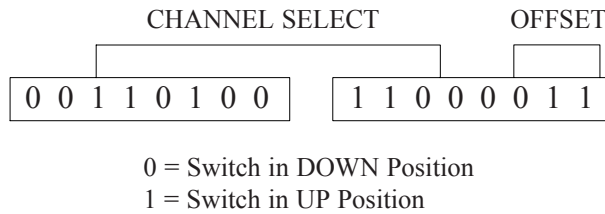
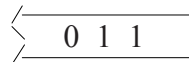


Figure 1 Front panel DIP switches

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