

Low Power  
**PT-1B TRANSMITTER**

For R/C Planes and T-Hunting



- AVAILABLE IN 128 CHANNELS IN THE 222-225 MHZ AMATEUR RADIO BAND
- 1 MILLIWATT OUTPUT
- WATERPROOF
- SHOCKPROOF
- .5 PPM TCXO FOR SUPERIOR FREQUENCY STABILITY

Operating  
Manual



**COMMUNICATIONS SPECIALISTS, INC.**  
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## Introduction by Gordon West ,WB6NOA SIMPLE HAM RADIO LICENSING



It is easy to obtain your Amateur Radio entry level Technician Class license. The licensed amateur radio operator, nicknamed a “ham”, has unrestricted full privileges on all VHF and UHF bands. These unrestricted privileges include the popular 6 meter band for Radio Control (R/C) operation, plus the 222 MHz band for HIGH POWER R/C ELTs and hidden T-Hunting.

Simple ham radio licensing puts you at 1 FULL WATT on R/C 6 meter channels, with nearly unrestricted power levels on 222 MHz R/C ELT channels.

The Communications Specialists, Inc. 222 MHz R/C ELTs are designed for licensed ham radio operation on vacant interstitial “channels” throughout the 222 MHz – 225 MHz ham band. The 25 millisecond pulse won’t usually be detected by ham operators using conventional FM (Frequency Modulated) mobile or handheld transceivers. Your sensitive Communications Specialists receiver employs SSB (Single Sideband) filtering so narrow that the receiver won’t pick up voice ham radio transmissions either!

Recent FCC rulemaking has simplified the entry level ham radio test. MORSE CODE HAS BEEN ELIMINATED FOR ALL LEVELS OF HAM RADIO EXAMINATION. The multiple choice exam has been rewritten to a grade school level. All examination questions, plus the correct multiple choice answers, are published in my Technician Class book, word for word! The test is only 35 Q&A’s with 74% pass requirement. Study time with my book is approximately 20 days, and you take the exam from 3 accredited, local volunteer ham examiners. The FCC issues your license about 7 days later.

To order my book and/or my software and CD audio courses, simply call, toll free, 1-800-669-9594. If you want to learn more about ham radio or my ham classes, see [www.gordonwestradioschool.com](http://www.gordonwestradioschool.com), or call me with your questions at 1-714-549-5000. Tell them Gordon West and Communications Specialists, want you on the air as a licensed Technician Class ham radio operator. Complete the course, earn your license, and go LONG RANGE with Communications Specialists products.

## FEATURES

### MODEL PT-1B ELT

- 1 milliwatt output for several block range in the city and up to 2 miles in the country.
- Extremely crashworthy as it uses a rugged TCXO for frequency generation rather than a fragile crystal.
- Waterproof.
- Size is less than 1.1" diameter, .51" high, and has a weight of .45 ounces including the battery.
- Powered by a single 50 cent CR2032 battery that will last for over 30 days of continuous operation.
- Supplied with 18" easily replaceable antenna.
- Factory programmed to any one of your choice of 128 channels.  
Can be reprogrammed at a later date at the factory for no additional cost.  
Please specify channel(s) desired when ordering.
- 25ms wide CW pulses @50 beats/minute
- PLL design with .5 PPM TCXO
- Your Amateur call sign programmed at no charge if desired.
- Will not interfere with your R/C receiver.
- Easily transferred from plane to plane.
- Full 1 year warranty.
- Fast same day shipping.
- Affordably priced at \$49.95 each, includes 2 batteries.

**The PT-1B Transmitter is compatible with  
Communications Specialists' PR-100 and R-300 Receivers.  
Please visit [www.com-spec.com](http://www.com-spec.com) for more  
information on the products that we offer.**

# BATTERY

The battery must be installed in the PT-1B Transmitter before use. It uses a CR2032 Lithium coin cell available from us in a 12 pack. It may also be found at retail stores that sell photo or hearing aid batteries.

## TO REMOVE THE OLD BATTERY:

1. Twist the lid off of the PT-1B base.
2. Tip the PT-1B upside down and the battery will fall out.
3. Dispose of the battery properly.

## TO INSTALL A NEW BATTERY:

1. Insert a fresh battery. Positive (+) side of the battery is facing up.
2. Replace the lid on the PT-1B. **Check for proper operation with your receiver.**



PT-1B SHOWN WITH LID OFF AND BATTERY INSTALLED WITH + POSITIVE SIDE FACING UP

The first time the lid is twisted onto the transmitter, slightly re-tighten it after a few days of use. This will force solid contact with the lid contact springs.

If you reverse the battery, it will be shorted out when the cap is installed and may not power the transmitter properly until it has had an hour or so to recover from being shorted.

We suggest replacing the battery as soon as you detect a change in the sound of the transmitter. Rather than a "beep" that does not change tone, a weak battery will sound more like a "sweeping" tone. This will happen after approximately 4 weeks of use, or less if the transmitter is subjected to cold weather outside. At this point, you should still have a week or so of battery life left.

**If you are using our old batteries with pull tabs, make sure you peel the tab completely off the battery before installation or the PT-1B will not function.**



# TRANSMITTER INSTALLATION

The PT-1B transmitter should be installed in the fuselage of your plane. Tape or tie wrap it so it is attached securely. If your plane is composite or has a metal skin, try to trail the antenna outside the fuselage. The antenna may be shortened, but the range will be reduced. The PT-1B is extremely crashworthy and waterproof. A channel number is marked on the side of each unit and also on the transmitter under the battery.

The PT-1B may also be used as the Hidden “T” to teach radio direction finding techniques in the 1.25 Meter Band.



PT-1B TRANSMITTER FRONT  
SHOWN WITH LID ON



SHOWN WITH LID OFF  
AND BATTERY REMOVED

BACK SHOWING ANTENNA  
MOUNTING STUD



# AVAILABLE FREQUENCIES FOR THE PR-100 RECEIVER

*PR-100 Amateur Radio Channel to Frequency List (MHz)*

	60-69		70-79		80-89		90-99		00-09
<b>60</b>	222.250	<b>70</b>	222.450	<b>80</b>	222.650	<b>90</b>	222.850	<b>00</b>	223.110
<b>61</b>	222.270	<b>71</b>	222.470	<b>81</b>	222.670	<b>91</b>	222.870	<b>01</b>	223.130
<b>62</b>	222.290	<b>72</b>	222.490	<b>82</b>	222.690	<b>92</b>	222.890	<b>02</b>	223.150
<b>63</b>	222.310	<b>73</b>	222.510	<b>83</b>	222.710	<b>93</b>	222.910	<b>03</b>	223.170
<b>64</b>	222.330	<b>74</b>	222.530	<b>84</b>	222.730	<b>94</b>	222.930	<b>04</b>	223.190
<b>65</b>	222.350	<b>75</b>	222.550	<b>85</b>	222.750	<b>95</b>	222.950	<b>05</b>	223.210
<b>66</b>	222.370	<b>76</b>	222.570	<b>86</b>	222.770	<b>96</b>	222.970	<b>06</b>	223.230
<b>67</b>	222.390	<b>77</b>	222.590	<b>87</b>	222.790	<b>97</b>	222.990	<b>07</b>	223.250
<b>68</b>	222.410	<b>78</b>	222.610	<b>88</b>	222.810	<b>98</b>	223.010	<b>08</b>	223.270
<b>69</b>	222.430	<b>79</b>	222.630	<b>89</b>	222.830	<b>99</b>	223.090	<b>09</b>	223.290

*Legacy R/C ELT Channel to Frequency List (MHz) For Export Only*

	10-19		20-29		30-39		40-49		50-59
<b>10</b>	218.025	<b>20</b>	218.275	<b>30</b>	218.525	<b>40</b>	218.775	<b>50</b>	219.075
<b>11</b>	218.050	<b>21</b>	218.300	<b>31</b>	218.550	<b>41</b>	218.850	<b>51</b>	219.100
<b>12</b>	218.075	<b>22</b>	218.325	<b>32</b>	218.575	<b>42</b>	218.875	<b>52</b>	219.125
<b>13</b>	218.100	<b>23</b>	218.350	<b>33</b>	218.600	<b>43</b>	218.900	<b>53</b>	219.150
<b>14</b>	218.125	<b>24</b>	218.375	<b>34</b>	218.625	<b>44</b>	218.925	<b>54</b>	219.175
<b>15</b>	218.150	<b>25</b>	218.400	<b>35</b>	218.650	<b>45</b>	218.950	<b>55</b>	219.200
<b>16</b>	218.175	<b>26</b>	218.425	<b>36</b>	218.675	<b>46</b>	218.975	<b>56</b>	219.225
<b>17</b>	218.200	<b>27</b>	218.450	<b>37</b>	218.700	<b>47</b>	219.000	<b>57</b>	219.250
<b>18</b>	218.225	<b>28</b>	218.475	<b>38</b>	218.725	<b>48</b>	219.025	<b>58</b>	219.275
<b>19</b>	218.250	<b>29</b>	218.500	<b>39</b>	218.750	<b>49</b>	219.050	<b>59</b>	219.300

## Amateur Radio Licensing

Our low powered transmitters shipped to addresses within the USA, now operate only on Amateur Radio frequencies. According to FCC regulations, they require licensing for legal operation. There are no restrictions on their sale or possession, however Communications Specialists urges users to become familiar with and observe all laws and regulations governing Amateur Radio licensing and operation of these transmitters. Please note that Amateur Radio is not for commercial use. See page 1 of this manual for more information on Amateur Radio Licensing.

# AVAILABLE FREQUENCIES FOR THE **R-300** RECEIVER

## *R-300 Amateur Radio Channel to Frequency List ( MHz )*

CH#	222MHz	CH#	223MHz	CH#	224MHz
207	222.070	301	223.010	401	224.010
209	222.090	309	223.090	403	224.030
211	222.110	311	223.110	405	224.050
213	222.130	313	223.130	407	224.070
215	222.150	315	223.150	409	224.090
217	222.170	317	223.170	411	224.110
219	222.190	319	223.190	413	224.130
221	222.210	321	223.210	415	224.150
223	222.230	323	223.230	417	224.170
225	222.250	325	223.250	419	224.190
227	222.270	327	223.270	421	224.210
229	222.290	329	223.290	423	224.230
231	222.310	331	223.310	425	224.250
233	222.330	333	223.330	427	224.270
235	222.350	335	223.350	429	224.290
237	222.370	337	223.370	431	224.310
239	222.390	339	223.390	433	224.330
241	222.410	341	223.410	435	224.350
243	222.430	343	223.430	437	224.370
245	222.450	345	223.450	439	224.390
247	222.470	347	223.470	441	224.410
249	222.490	349	223.490	443	224.430
251	222.510	351	223.510	445	224.450
253	222.530	353	223.530	447	224.470
255	222.550	355	223.550	449	224.490
257	222.570	377	223.770	451	224.510
259	222.590	379	223.790	453	224.530
261	222.610	381	223.810	455	224.550
263	222.630	383	223.830	457	224.570
265	222.650	387	223.870	459	224.590
267	222.670	389	223.890	461	224.610
269	222.690	391	223.910	469	224.690
271	222.710	393	223.930	471	224.710
273	222.730	397	223.970	473	224.730
275	222.750	399	223.990	475	224.750
277	222.770			477	224.770
279	222.790			479	224.790
281	222.810			481	224.810
283	222.830			483	224.830
285	222.850			485	224.850
287	222.870			487	224.870
289	222.890			489	224.890
291	222.910			491	224.910
293	222.930			493	224.930
295	222.950			495	224.950
297	222.970			497	224.970
299	222.990				

## SPECIAL TRANSMITTER FREQUENCIES AVAILABLE

Any frequency from 222.000 to 224.9975 MHz in 2.5 kHz steps is available for any type of Amateur Radio use. Same day delivery, CW ID, and no increase in cost is standard.



## ORDERING

1. Order one PT-1B transmitter for each plane. Specify desired channel(s) CH-60 to CH-09 or CH-207 to CH-497.
3. Order a battery 12 pack for each transmitter for over one year of uninterrupted operation (10 year shelf life).
4. Order using VISA, MasterCard, Discover, PayPal, check, or money order by toll-free phone, FAX, mail, web or E-mail.

## PT-1B TRANSMITTER

\$49.95

Model

**PT-1B** includes  
18" antenna and  
two CR2032  
batteries.



## ACCESSORIES:

**BP-12B** Battery pack, includes 12 each of  
CR2032 batteries with 10 year shelf life.  
\$5.95



The PT-1B is also available as a pet collar for dogs and cats and is available in several different colors and configurations.

For more information on pet tracking please visit  
<http://www.com-spec.com>



## ABOUT US

Communications Specialists, Inc. has been building quality electronic products that the land mobile, wildlife telemetry, R/C, and pet industries have come to rely on for over 40 years. At our Orange California factory, we utilize the latest in surface mount assembly technology to assure consistent quality throughout our entire product line. All our products are made in the USA.

## WARRANTY

The PT-1B is warranted to be free of defects in materials and workmanship for a period of one (1) year from the date of purchase. If you need to take advantage of our warranty, please follow these steps:

1. Securely repackage the product. If possible use the original shipping box
2. Include a note as to the nature of the problem.
3. Include your shipping address and a daytime phone number or E-Mail address.
4. Ship to the address below.



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