

TVHAM.com

13cm transmitter technical notes

This document contains important technical information to help you use your 13cm transmitter. Latest technical information can be found at <http://www.TVHAM.com>.

Power supply

The transmitter requires a supply of supply of 12 to 16V DC, **tip (center) positive**. Reverse polarity will cause serious damage. The transmitter gives best output power at 13.8V or more.

Setting up the 13cm transmitter

The pre-set resistor on the board provides video gain control (=deviation).

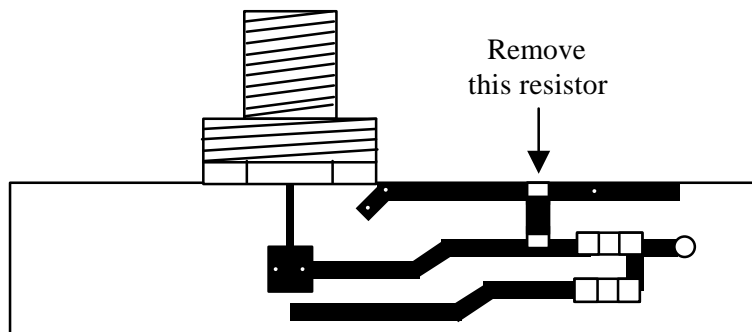
Video and audio connections

Video and audio connections are as follows:

- Yellow socket - composite video
- White socket - audio for/from 6.0MHz subcarrier
- Red socket - audio for/from 6.5MHz subcarrier

Increasing the power output

The power output of the 13cm transmitter can be increased from the standard 20mW or so to typically around 30mW-35mW by removing the surface mount resistor beside the two capacitors in the output socket compartment within the metal transmitter module. Be careful - there is no room to make a mistake. *This modification will void your guarantee.*



The following adjustment should ONLY be carried out if you have access to a suitable power meter. You may also be able to increase the power output by adjusting the two air-spaced coils within the transmitter module. Be careful, because the coils are fragile and will not withstand repeated adjustments.

Operating frequencies

The following table shows the DIP switch settings for the transmitter. Notes: 0=off, 1=on (toward the voltage regulator), and SW1 is the switch nearest the IC.

Caution: This transmitter is capable of operating outside the 13cm amateur band allocation.

Frequency (MHz)	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8	Frequency (MHz)	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8
2304	0	0	0	0	0	0	0	0	2348	0	0	1	1	0	1	0	0
2305	1	0	0	0	0	0	0	0	2349	1	0	1	1	0	1	0	0
2306	0	1	0	0	0	0	0	0	2350	0	1	1	1	0	1	0	0
2307	1	1	0	0	0	0	0	0	2351	1	1	1	1	0	1	0	0
2308	0	0	1	0	0	0	0	0	2352	0	0	0	0	1	1	0	0
2309	1	0	1	0	0	0	0	0	2353	1	0	0	0	1	1	0	0
2310	0	1	1	0	0	0	0	0	2354	0	1	0	0	1	1	0	0
2311	1	1	1	0	0	0	0	0	2355	1	1	0	0	1	1	0	0
2312	0	0	0	1	0	0	0	0	2356	0	0	1	0	1	1	0	0
2313	1	0	0	1	0	0	0	0	2357	1	0	1	0	1	1	0	0
2314	0	1	0	1	0	0	0	0	2358	0	1	1	0	1	1	0	0
2315	1	1	0	1	0	0	0	0	2359	1	1	1	0	1	1	0	0
2316	0	0	1	1	0	0	0	0	2360	0	0	0	1	1	1	0	0
2317	1	0	1	1	0	0	0	0	2361	1	0	0	1	1	1	0	0
2318	0	1	1	1	0	0	0	0	2362	0	1	0	1	1	1	0	0
2319	1	1	1	1	0	0	0	0	2363	1	1	0	1	1	1	0	0
2320	0	0	0	0	1	0	0	0	2364	0	0	1	1	1	1	0	0
2321	1	0	0	0	1	0	0	0	2365	1	0	1	1	1	1	0	0
2322	0	1	0	0	1	0	0	0	2366	0	1	1	1	1	1	0	0
2323	1	1	0	0	1	0	0	0	2367	1	1	1	1	1	1	0	0
2324	0	0	1	0	1	0	0	0	2368	0	0	0	0	0	0	1	0
2325	1	0	1	0	1	0	0	0	2369	1	0	0	0	0	0	1	0
2326	0	1	1	0	1	0	0	0	2370	0	1	0	0	0	0	1	0
2327	1	1	1	0	1	0	0	0	2371	1	1	0	0	0	0	1	0
2328	0	0	0	1	1	0	0	0	2372	0	0	1	0	0	0	1	0
2329	1	0	0	1	1	0	0	0	2373	1	0	1	0	0	0	1	0
2330	0	1	0	1	1	0	0	0	2374	0	1	1	0	0	0	1	0
2331	1	1	0	1	1	0	0	0	2375	1	1	1	0	0	0	1	0
2332	0	0	1	1	1	0	0	0	2376	0	0	0	1	0	0	1	0
2333	1	0	1	1	1	0	0	0	2377	1	0	0	1	0	0	1	0
2334	0	1	1	1	1	0	0	0	2378	0	1	0	1	0	0	1	0
2335	1	1	1	1	1	0	0	0	2379	1	1	0	1	0	0	1	0
2336	0	0	0	0	0	1	0	0	2380	0	0	1	1	0	0	1	0
2337	1	0	0	0	0	1	0	0	2381	1	0	1	1	0	0	1	0
2338	0	1	0	0	0	1	0	0	2382	0	1	1	1	0	0	1	0
2339	1	1	0	0	0	1	0	0	2383	1	1	1	1	0	0	1	0
2340	0	0	1	0	0	1	0	0	2384	0	0	0	0	1	0	1	0
2341	1	0	1	0	0	1	0	0	2385	1	0	0	0	1	0	1	0
2342	0	1	1	0	0	1	0	0	2386	0	1	0	0	1	0	1	0
2343	1	1	1	0	0	1	0	0	2387	1	1	0	0	1	0	1	0
2344	0	0	0	1	0	1	0	0	2388	0	0	1	0	1	0	1	0
2345	1	0	0	1	0	1	0	0	2389	1	0	1	0	1	0	1	0
2346	0	1	0	1	0	1	0	0	2390	0	1	1	0	1	0	1	0
2347	1	1	0	1	0	1	0	0	2391	1	1	1	0	1	0	1	0

Frequency (MHz)	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8	Frequency (MHz)	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8
2392	0	0	0	1	1	0	1	0	2436	0	0	1	0	0	0	0	1
2393	1	0	0	1	1	0	1	0	2437	1	0	1	0	0	0	0	1
2394	0	1	0	1	1	0	1	0	2438	0	1	1	0	0	0	0	1
2395	1	1	0	1	1	0	1	0	2439	1	1	1	0	0	0	0	1
2396	0	0	1	1	1	0	1	0	2440	0	0	0	1	0	0	0	1
2397	1	0	1	1	1	0	1	0	2441	1	0	0	1	0	0	0	1
2398	0	1	1	1	1	0	1	0	2442	0	1	0	1	0	0	0	1
2399	1	1	1	1	1	0	1	0	2443	1	1	0	1	0	0	0	1
2400	0	0	0	0	0	1	1	0	2444	0	0	1	1	0	0	0	1
2401	1	0	0	0	0	1	1	0	2445	1	0	1	1	0	0	0	1
2402	0	1	0	0	0	1	1	0	2446	0	1	1	1	0	0	0	1
2403	1	1	0	0	0	1	1	0	2447	1	1	1	1	0	0	0	1
2404	0	0	1	0	0	1	1	0	2448	0	0	0	0	1	0	0	1
2405	1	0	1	0	0	1	1	0	2449	1	0	0	0	1	0	0	1
2406	0	1	1	0	0	1	1	0	2450	0	1	0	0	1	0	0	1
2407	1	1	1	0	0	1	1	0	2451	1	1	0	0	1	0	0	1
2408	0	0	0	1	0	1	1	0	2452	0	0	1	0	1	0	0	1
2409	1	0	0	1	0	1	1	0	2453	1	0	1	0	1	0	0	1
2410	0	1	0	1	0	1	1	0	2454	0	1	1	0	1	0	0	1
2411	1	1	0	1	0	1	1	0	2455	1	1	1	0	1	0	0	1
2412	0	0	1	1	0	1	1	0	2456	0	0	0	1	1	0	0	1
2413	1	0	1	1	0	1	1	0	2457	1	0	0	1	1	0	0	1
2414	0	1	1	1	0	1	1	0	2458	0	1	0	1	1	0	0	1
2415	1	1	1	1	0	1	1	0	2459	1	1	0	1	1	0	0	1
2416	0	0	0	0	1	1	1	0	2460	0	0	1	1	1	0	0	1
2417	1	0	0	0	1	1	1	0	2461	1	0	1	1	1	0	0	1
2418	0	1	0	0	1	1	1	0	2462	0	1	1	1	1	0	0	1
2419	1	1	0	0	1	1	1	0	2463	1	1	1	1	1	0	0	1
2420	0	0	1	0	1	1	1	0	2464	0	0	0	0	0	1	0	1
2421	1	0	1	0	1	1	1	0	2465	1	0	0	0	0	1	0	1
2422	0	1	1	0	1	1	1	0	2466	0	1	0	0	0	1	0	1
2423	1	1	1	0	1	1	1	0	2467	1	1	0	0	0	1	0	1
2424	0	0	0	1	1	1	1	0	2468	0	0	1	0	0	1	0	1
2425	1	0	0	1	1	1	1	0	2469	1	0	1	0	0	1	0	1
2426	0	1	0	1	1	1	1	0	2470	0	1	1	0	0	1	0	1
2427	1	1	0	1	1	1	1	0	2471	1	1	1	0	0	1	0	1
2428	0	0	1	1	1	1	1	0	2472	0	0	0	1	0	1	0	1
2429	1	0	1	1	1	1	1	0	2473	1	0	0	1	0	1	0	1
2430	0	1	1	1	1	1	1	0	2474	0	1	0	1	0	1	0	1
2431	1	1	1	1	1	1	1	0	2475	1	1	0	1	0	1	0	1
2432	0	0	0	0	0	0	0	1	2476	0	0	1	1	0	1	0	1
2433	1	0	0	0	0	0	0	1	2477	1	0	1	1	0	1	0	1
2434	0	1	0	0	0	0	0	1	2478	0	1	1	1	0	1	0	1
2435	1	1	0	0	0	0	0	1	2479	1	1	1	1	0	1	0	1

Frequency (MHz)	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8	Frequency (MHz)	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8
2480	0	0	0	0	1	1	0	1	2521	1	0	0	1	1	0	1	1
2481	1	0	0	0	1	1	0	1	2522	0	1	0	1	1	0	1	1
2482	0	1	0	0	1	1	0	1	2523	1	1	0	1	1	0	1	1
2483	1	1	0	0	1	1	0	1	2524	0	0	1	1	1	0	1	1
2484	0	0	1	0	1	1	0	1	2525	1	0	1	1	1	0	1	1
2485	1	0	1	0	1	1	0	1	2526	0	1	1	1	1	0	1	1
2486	0	1	1	0	1	1	0	1	2527	1	1	1	1	1	0	1	1
2487	1	1	1	0	1	1	0	1	2528	0	0	0	0	0	1	1	1
2488	0	0	0	1	1	1	0	1	2529	1	0	0	0	0	1	1	1
2489	1	0	0	1	1	1	0	1	2530	0	1	0	0	0	1	1	1
2490	0	1	0	1	1	1	0	1	2531	1	1	0	0	0	1	1	1
2491	1	1	0	1	1	1	0	1	2532	0	0	1	0	0	1	1	1
2492	0	0	1	1	1	1	0	1	2533	1	0	1	0	0	1	1	1
2493	1	0	1	1	1	1	0	1	2534	0	1	1	0	0	1	1	1
2494	0	1	1	1	1	1	0	1	2535	1	1	1	0	0	1	1	1
2495	1	1	1	1	1	1	0	1	2536	0	0	0	1	0	1	1	1
2496	0	0	0	0	0	0	1	1	2537	1	0	0	1	0	1	1	1
2497	1	0	0	0	0	0	1	1	2538	0	1	0	1	0	1	1	1
2498	0	1	0	0	0	0	1	1	2539	1	1	0	1	0	1	1	1
2499	1	1	0	0	0	0	1	1	2540	0	0	1	1	0	1	1	1
2500	0	0	1	0	0	0	1	1	2541	1	0	1	1	0	1	1	1
2501	1	0	1	0	0	0	1	1	2542	0	1	1	1	0	1	1	1
2502	0	1	1	0	0	0	1	1	2543	1	1	1	1	0	1	1	1
2503	1	1	1	0	0	0	1	1	2544	0	0	0	0	1	1	1	1
2504	0	0	0	1	0	0	1	1	2545	1	0	0	0	1	1	1	1
2505	1	0	0	1	0	0	1	1	2546	0	1	0	0	1	1	1	1
2506	0	1	0	1	0	0	1	1	2547	1	1	0	0	1	1	1	1
2507	1	1	0	1	0	0	1	1	2548	0	0	1	0	1	1	1	1
2508	0	0	1	1	0	0	1	1	2549	1	0	1	0	1	1	1	1
2509	1	0	1	1	0	0	1	1	2550	0	1	1	0	1	1	1	1
2510	0	1	1	1	0	0	1	1	2551	1	1	1	0	1	1	1	1
2511	1	1	1	1	0	0	1	1	2552	0	0	0	1	1	1	1	1
2512	0	0	0	0	1	0	1	1	2553	1	0	0	1	1	1	1	1
2513	1	0	0	0	1	0	1	1	2554	0	1	0	1	1	1	1	1
2514	0	1	0	0	1	0	1	1	2555	1	1	0	1	1	1	1	1
2515	1	1	0	0	1	0	1	1	2556	0	0	1	1	1	1	1	1
2516	0	0	1	0	1	0	1	1	2557	1	0	1	1	1	1	1	1
2517	1	0	1	0	1	0	1	1	2558	0	1	1	1	1	1	1	1
2518	0	1	1	0	1	0	1	1	2559	1	1	1	1	1	1	1	1
2519	1	1	1	0	1	0	1	1									
2520	0	0	0	1	1	0	1	1									