2.2-2.7GHz 'Electronic News Gathering' (ENG) receiver technical notes

This document contains important technical information to help you use your receiver. This document is provided as-is, without any warranty.

Power supply requirements

The receiver requires a supply of 12 to 15V DC, **tip (centre) positive**. Reverse polarity will cause very serious damage. Do NOT use less than 11V or the receiver may be damaged.

Video and audio connections

Video and audio connections are as follows:

- Yellow phono socket - composite video
- White phono socket - audio demodulated from 6.0MHz subcarrier (if transmitted)
- Red phono socket - audio demodulated from 6.5MHz subcarrier (if transmitted)

These audio frequencies are compatible with most amateur television transmissions and many videosender units, but we cannot guarantee that you will receive sound from ENG transmissions.

Video gain

The yellow pre-set pot on the receiver is the video gain control, and you'll need to set it for proper amplitude video output.

Powering a preamplifier

The receiver includes the facility to supply power up the co-ax to feed a mast-head preamplifier. As supplied, this feed is not connected. The supply voltage must not exceed 18V, and the current must not exceed 250mA - exceeding these limits will cause substantial damage to the receiver which is not covered by your guarantee. We strongly recommend fitting a 150mA fuse between the pin and the supply.

The DC Insert pin is the one on the metal RF module nearest the aerial socket.

Operating frequencies

The following table shows the DIP switch settings for the receiver.
Notes: 0=off, 1=on (toward the sockets), and SW1 is the switch nearest the LED.

Frequency (MHz)	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8
2200	0	0	0	0	0	0	0	0
2202	1	0	0	0	0	0	0	0
2204	0	1	0	0	0	0	0	0
2206	1	1	0	0	0	0	0	0
2208	0	0	1	0	0	0	0	0
2210	1	0	1	0	0	0	0	0
2212	0	1	1	0	0	0	0	0
2214	1	1	1	0	0	0	0	0
2216	0	0	0	1	0	0	0	0
2218	1	0	0	1	0	0	0	0
2220	0	1	0	1	0	0	0	0
2222	1	1	0	1	0	0	0	0
2224	0	0	1	1	0	0	0	0
2226	1	0	1	1	0	0	0	0
2228	0	1	1	1	0	0	0	0
2230	1	1	1	1	0	0	0	0
2232	0	0	0	0	1	0	0	0
2234	1	0	0	0	1	0	0	0
2236	0	1	0	0	1	0	0	0
2238	1	1	0	0	1	0	0	0
2240	0	0	1	0	1	0	0	0
2242	1	0	1	0	1	0	0	0
2244	0	1	1	0	1	0	0	0
2246	1	1	1	0	1	0	0	0
2248	0	0	0	1	1	0	0	0
2250	1	0	0	1	1	0	0	0
2252	0	1	0	1	1	0	0	0
2254	1	1	0	1	1	0	0	0
2256	0	0	1	1	1	0	0	0
2258	1	0	1	1	1	0	0	0
2260	0	1	1	1	1	0	0	0
2262	1	1	1	1	1	0	0	0
2264	0	0	0	0	0	1	0	0
2266	1	0	0	0	0	1	0	0
2268	0	1	0	0	0	1	0	0
2270	1	1	0	0	0	1	0	0
2272	0	0	1	0	0	1	0	0
2274	1	0	1	0	0	1	0	0
2276	0	1	1	0	0	1	0	0
2278	1	1	1	0	0	1	0	0
2280	0	0	0	1	0	1	0	0
2282	1	0	0	1	0	1	0	0
2284	0	1	0	1	0	1	0	0
2286	1	1	0	1	0	1	0	0
2288	0	0	1	1	0	1	0	0
2290	1	0	1	1	0	1	0	0
2292	0	1	1	1	0	1	0	0
2294	1	1	1	1	0	1	0	0

Frequency (MHz)	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8
2296	0	0	0	0	1	1	0	0
2298	1	0	0	0	1	1	0	0
2300	0	1	0	0	1	1	0	0
2302	1	1	0	0	1	1	0	0
2304	0	0	1	0	1	1	0	0
2306	1	0	1	0	1	1	0	0
2308	0	1	1	0	1	1	0	0
2310	1	1	1	0	1	1	0	0
2312	0	0	0	1	1	1	0	0
2314	1	0	0	1	1	1	0	0
2316	0	1	0	1	1	1	0	0
2318	1	1	0	1	1	1	0	0
2320	0	0	1	1	1	1	0	0
2322	1	0	1	1	1	1	0	0
2324	0	1	1	1	1	1	0	0
2326	1	1	1	1	1	1	0	0
2328	0	0	0	0	0	0	1	0
2330	1	0	0	0	0	0	1	0
2332	0	1	0	0	0	0	1	0
2334	1	1	0	0	0	0	1	0
2336	0	0	1	0	0	0	1	0
2338	1	0	1	0	0	0	1	0
2340	0	1	1	0	0	0	1	0
2342	1	1	1	0	0	0	1	0
2344	0	0	0	1	0	0	1	0
2346	1	0	0	1	0	0	1	0
2348	0	1	0	1	0	0	1	0
2350	1	1	0	1	0	0	1	0
2352	0	0	1	1	0	0	1	0
2354	1	0	1	1	0	0	1	0
2356	0	1	1	1	0	0	1	0
2358	1	1	1	1	0	0	1	0
2360	0	0	0	0	1	0	1	0
2362	1	0	0	0	1	0	1	0
2364	0	1	0	0	1	0	1	0
2366	1	1	0	0	1	0	1	0
2368	0	0	1	0	1	0	1	0
2370	1	0	1	0	1	0	1	0
2372	0	1	1	0	1	0	1	0
2374	1	1	1	0	1	0	1	0
2376	0	0	0	1	1	0	1	0
2378	1	0	0	1	1	0	1	0
2380	0	1	0	1	1	0	1	0
2382	1	1	0	1	1	0	1	0
2384	0	0	1	1	1	0	1	0
2386	1	0	1	1	1	0	1	0
2388	0	1	1	1	1	0	1	0
2390	1	1	1	1	1	0	1	0

Frequency (MHz)	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8
2392	0	0	0	0	0	1	1	0
2394	1	0	0	0	0	1	1	0
2396	0	1	0	0	0	1	1	0
2398	1	1	0	0	0	1	1	0
2400	0	0	1	0	0	1	1	0
2402	1	0	1	0	0	1	1	0
2404	0	1	1	0	0	1	1	0
2406	1	1	1	0	0	1	1	0
2408	0	0	0	1	0	1	1	0
2410	1	0	0	1	0	1	1	0
2412	0	1	0	1	0	1	1	0
2414	1	1	0	1	0	1	1	0
2416	0	0	1	1	0	1	1	0
2418	1	0	1	1	0	1	1	0
2420	0	1	1	1	0	1	1	0
2422	1	1	1	1	0	1	1	0
2424	0	0	0	0	1	1	1	0
2426	1	0	0	0	1	1	1	0
2428	0	1	0	0	1	1	1	0
2430	1	1	0	0	1	1	1	0
2432	0	0	1	0	1	1	1	0
2434	1	0	1	0	1	1	1	0
2436	0	1	1	0	1	1	1	0
2438	1	1	1	0	1	1	1	0
2440	0	0	0	1	1	1	1	0
2442	1	0	0	1	1	1	1	0
2444	0	1	0	1	1	1	1	0
2446	1	1	0	1	1	1	1	0
2448	0	0	1	1	1	1	1	0
2450	1	0	1	1	1	1	1	0
2452	0	1	1	1	1	1	1	0
2454	1	1	1	1	1	1	1	0
2456	0	0	0	0	0	0	0	1
2458	1	0	0	0	0	0	0	1
2460	0	1	0	0	0	0	0	1
2462	1	1	0	0	0	0	0	1
2464	0	0	1	0	0	0	0	1
2466	1	0	1	0	0	0	0	1
2468	0	1	1	0	0	0	0	1
2470	1	1	1	0	0	0	0	1
2472	0	0	0	1	0	0	0	1
2474	1	0	0	1	0	0	0	1
2476	0	1	0	1	0	0	0	1
2478	1	1	0	1	0	0	0	1
2480	0	0	1	1	0	0	0	1
2482	1	0	1	1	0	0	0	1
2484	0	1	1	1	0	0	0	1
2486	1	1	1	1	0	0	0	1
2488	0	0	0	0	1	0	0	1
2490	1	0	0	0	1	0	0	1
2492	0	1	0	0	1	0	0	1
2494	1	1	0	0	1	0	0	1
2496	0	0	1	0	1	0	0	1
2498	1	0	1	0	1	0	0	1
2500	0	1	1	0	1	0	0	1
2502	1	1	1	0	1	0	0	1
2504	0	0	0	1	1	0	0	1
2506	1	0	0	1	1	0	0	1
2508	0	1	0	1	1	0	0	1
2510	1	1	0	1	1	0	0	1
2512	0	0	1	1	1	0	0	1
2514	1	0	1	1	1	0	0	1
2516	0	1	1	1	1	0	0	1
2518	1	1	1	1	1	0	0	1
2520	0	0	0	0	0	1	0	1
2522	1	0	0	0	0	1	0	1
2524	0	1	0	0	0	1	0	1
2526	1	1	0	0	0	1	0	1
2528	0	0	1	0	0	1	0	1
2530	1	0	1	0	0	1	0	1
2532	0	1	1	0	0	1	0	1
2534	1	1	1	0	0	1	0	1
2536	0	0	0	1	0	1	0	1
2538	1	0	0	1	0	1	0	1
2540	0	1	0	1	0	1	0	1
2542	1	1	0	1	0	1	0	1
2544	0	0	1	1	0	1	0	1
2546	1	0	1	1	0	1	0	1
2548	0	1	1	1	0	1	0	1
2550	1	1	1	1	0	1	0	1
2552	0	0	0	0	1	1	0	1
2554	1	0	0	0	1	1	0	1
2556	0	1	0	0	1	1	0	1
2558	1	1	0	0	1	1	0	1
2560	0	0	1	0	1	1	0	1
2562	1	0	1	0	1	1	0	1
2564	0	1	1	0	1	1	0	1
2566	1	1	1	0	1	1	0	1
2568	0	0	0	1	1	1	0	1
2570	1	0	0	1	1	1	0	1
2572	0	1	0	1	1	1	0	1
2574	1	1	0	1	1	1	0	1
2576	0	0	1	1	1	1	0	1
2578	1	0	1	1	1	1	0	1
2580	0	1	1	1	1	1	0	1
2582	1	1	1	1	1	1	0	1
2584	0	0	0	0	0	0	1	1
2586	1	0	0	0	0	0	1	1
2588	0	1	0	0	0	0	1	1
2590	1	1	0	0	0	0	1	1
2592	0	0	1	0	0	0	1	1
2594	1	0	1	0	0	0	1	1
2596	0	1	1	0	0	0	1	1
2598	1	1	1	0	0	0	1	1
2600	0	0	0	1	0	0	1	1
2602	1	0	0	1	0	0	1	1

Frequency (MHz)	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8
2604	0	1	0	1	0	0	1	1
2606	1	1	0	1	0	0	1	1
2608	0	0	1	1	0	0	1	1
2610	1	0	1	1	0	0	1	1
2612	0	1	1	1	0	0	1	1
2614	1	1	1	1	0	0	1	1
2616	0	0	0	0	1	0	1	1
2618	1	0	0	0	1	0	1	1
2620	0	1	0	0	1	0	1	1
2622	1	1	0	0	1	0	1	1
2624	0	0	1	0	1	0	1	1
2626	1	0	1	0	1	0	1	1
2628	0	1	1	0	1	0	1	1
2630	1	1	1	0	1	0	1	1
2632	0	0	0	1	1	0	1	1
2634	1	0	0	1	1	0	1	1
2636	0	1	0	1	1	0	1	1
2638	1	1	0	1	1	0	1	1
2640	0	0	1	1	1	0	1	1
2642	1	0	1	1	1	0	1	1
2644	0	1	1	1	1	0	1	1
2646	1	1	1	1	1	0	1	1
2648	0	0	0	0	0	1	1	1
2650	1	0	0	0	0	1	1	1
2652	0	1	0	0	0	1	1	1
2654	1	1	0	0	0	1	1	1
2656	0	0	1	0	0	1	1	1

Frequency (MHz)	SW 1	SW 2	SW 3	SW 4	SW 5	SW 6	SW 7	SW 8
2658	1	0	1	0	0	1	1	1
2660	0	1	1	0	0	1	1	1
2662	1	1	1	0	0	1	1	1
2664	0	0	0	1	0	1	1	1
2666	1	0	0	1	0	1	1	1
2668	0	1	0	1	0	1	1	1
2670	1	1	0	1	0	1	1	1
2672	0	0	1	1	0	1	1	1
2674	1	0	1	1	0	1	1	1
2676	0	1	1	1	0	1	1	1
2678	1	1	1	1	0	1	1	1
2680	0	0	0	0	1	1	1	1
2682	1	0	0	0	1	1	1	1
2684	0	1	0	0	1	1	1	1
2686	1	1	0	0	1	1	1	1
2688	0	0	1	0	1	1	1	1
2690	1	0	1	0	1	1	1	1
2692	0	1	1	0	1	1	1	1
2694	1	1	1	0	1	1	1	1
2696	0	0	0	1	1	1	1	1
2698	1	0	0	1	1	1	1	1
2700	0	1	0	1	1	1	1	1
2702	1	1	0	1	1	1	1	1
2704	0	0	1	1	1	1	1	1
2706	1	0	1	1	1	1	1	1
2708	0	1	1	1	1	1	1	1
2710	1	1	1	1	1	1	1	1