RFDS – 4

Multipurpose Detection Set

User Manual

V4.2

1. Description

All elements of the set are placed in one suitcase. The devices are put in a plastic inset and there is an additional space for documents and tools in the cover of the suitcase.

2. RFDS-4 part list

2.1. Suitcase with foam inset
2.2. RF Detector RFD-5
2.3. External probe for RFD-5
2.4. Earphone
2.5. Wide band generator WHG-2
2.6. 1m connecting cable with banana plugs and an alligator clip
2.7. 3m connecting cable (optional WHG-2 antenna) with an alligator clip
2.8. Line adapter LTA-3
2.9. Connecting and testing board LTA-INT-RJ
2.10. Cable with RJ plugs
2.11. High voltage insulator LTA-HV
2.12. Charger 12V 0,3A
2.13. User manuals: RFDS-4, RFD-5, LTA-3

3. User instruction

3.1. RFD-5 is the basic detection instrument for localization of an active wireless eavesdropping. For detail information see the RFD-5 User Manual

3.2. RFD-5 external probe is designed to sweep ceilings and other places normally unattainable. The same area should be swept by the RFD-5 alone at first and then by the RFD-5 with the external probe. The external probe has different frequency response, it can help to detect some special very low power or very high frequency devices. To use both methods (without and with external probe) gives always better results = higher security. See detail information in the RFD-5 User Manual

3.3. Generator WHG-2 is a **wide band RF generator** producing special AM & FM modulated signal designed for localization of hidden cables. The spectrum is transmitted by wires or cables connected to the WHG-2 output socket. The signal produced by WHG-2 can be detected by RFD-5 along the connected cable or along the whole connected network. Because the connected cable or connected network is radiating RF spectrum like a transmit (TX) antenna , the wires near this TX antenna

are acting like a receive (RX) antenna. Along the RX antenna is also weaker, but still detectable increase of the radiated WHG-2 RF signal.
Other function of WHG-2 is a **special audio tone generator**. The variable **test tone** is optimized to activate voice controlled bugs during TSCM sweeping. During TSCM sweeping (RFD-5 application) the WHG-2 in TEST TONE mode should be switched on inside the swept area. The intensity of an acoustic tone should be adjusted according to the size of swept area to achieve equal test tone intensity like a standard audio voice level in the whole room.
In setting T+N and NOISE the WHG-2 is producing **white noise** which is optimized to suppress function of recorders or other audio listening systems.
The RF and audio output power can be smoothly regulated by a knob, levels 0-8. In the knob setting = 0, the WHG-2 yields minimum output power, but all basic functions are still guaranteed.

Detection of covered cables – mode WHG:

-Connect the output socket of WHG-2 to the known end of the cable (any wire in low voltage networks, zero potential in mains network)
-Adjust POWER to maximum (8), reduce power in case of RFD-5 overloading
-For connection use 1m cable
-The WHG-2 box should be situated on the as conductive as possible surface (floor, heating, concrete etc.) to achieve the highest possible grounding capacity
-The WHG-2 should be placed and connected in the neighboring room, never in the room which is swept. If the WHG-2 is close to the detector RFD-5, the RFD-5 is more detecting the direct “body radiation” of the WHG-2 than the radiation of a traced wire
-Switch ON the WHG-2 and detect signal increase along the connected cable by the RFD-5. The most sensitive and accurate is the top of the RFD-5 telescope antenna or the top of the eternal probe
-Set the RFD-5 to the exponential detection mode (-XdB), the signal increase along the traced cable will be stronger and sharper
-Always use the earphone to be sure that tracing the right WHG-2 signal (approx. 1kHz tone). If the RFD-5 is overloaded by the WHG-2 signal reduce the gain (-XdB) and shorten the telescope antenna. The output power of WHG-2 can also be reduced (minimum = 0)
-If the battery voltage drops bellow 7V the green LED starts flashing. While the LED is flashing, the WHG-2 can still be used, but the accumulator should be charged or battery replaced. The battery is under the lid on the rear panel.

WHG-2 technical specification
- multisignal, AM&FM modulated wide band generator
- audio modulation 1kHz
- output voltage 8V p-p
- variable audio activation tone (TEST TONE)
- white noise generator with built-in loudspeaker (thermal noise generation principle)
- output insulation min. 275V AC
- power 9V, 6F22 battery or NiMH accumulator, built-in charger circuit
- current consumption 29mA
- low voltage indicator, indicates drop bellow 7V
- antennas (connecting cables) 1m and 3m
- size 122 x 87 x 30

3.4. Line adapter LTA-3 is designed for detection of line eavesdropping devices. See detail information in the LTA-3 User Manual (including LTA-INT-RJ and LTA-HV)