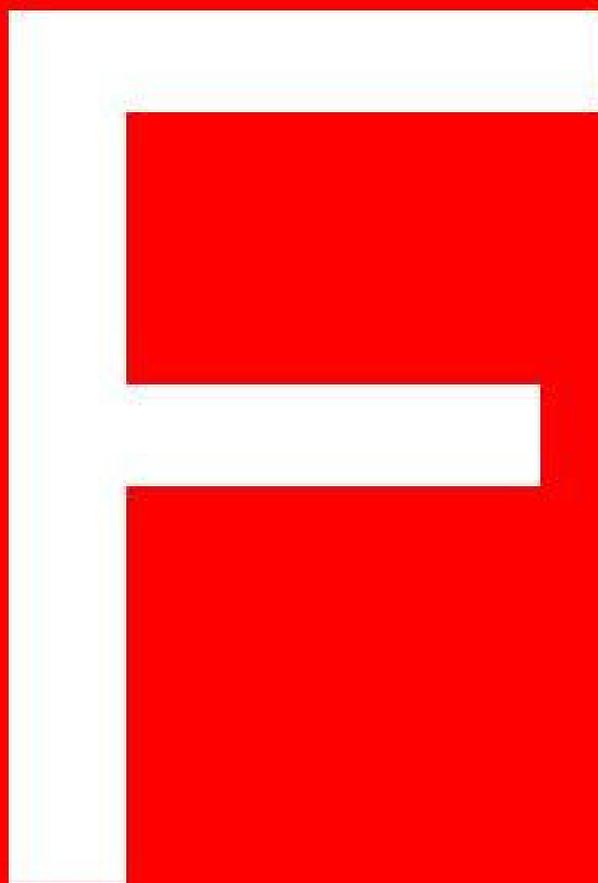


German Field Line Communication equipment of WW 2



Funksammler Publications

SB Zusatz 33 End-Pulse generator

Development and Description



Figure 25: FF 33 with SB Zusatz

One type of telephone network in use at the start of the 20th century was the “*Schlusszeichen Betrieb*” (SB) or End-pulse system. This system was used where it was important that the switchboard connections could be reused for the next caller as soon as the previous call had ended. Apparently not all callers applied the correct manual calling-off procedure at the end of their call so that the switchboard did not get a signal that the call had ended. By using the automatic end-pulse system, this switchboard was always notified as soon as the handset was replaced.

The earlier *FF 26* field telephone had a built-in end-pulse switch but the simplified *FF 33* omitted this functionality. The field telephone could however be used in SB networks using the “*SB Zusatz 33*”.

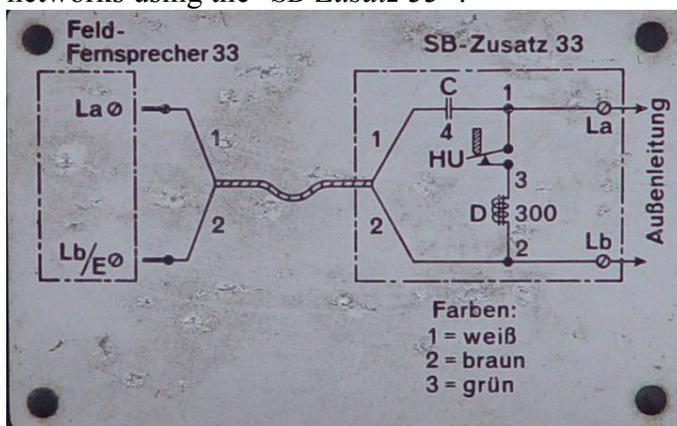
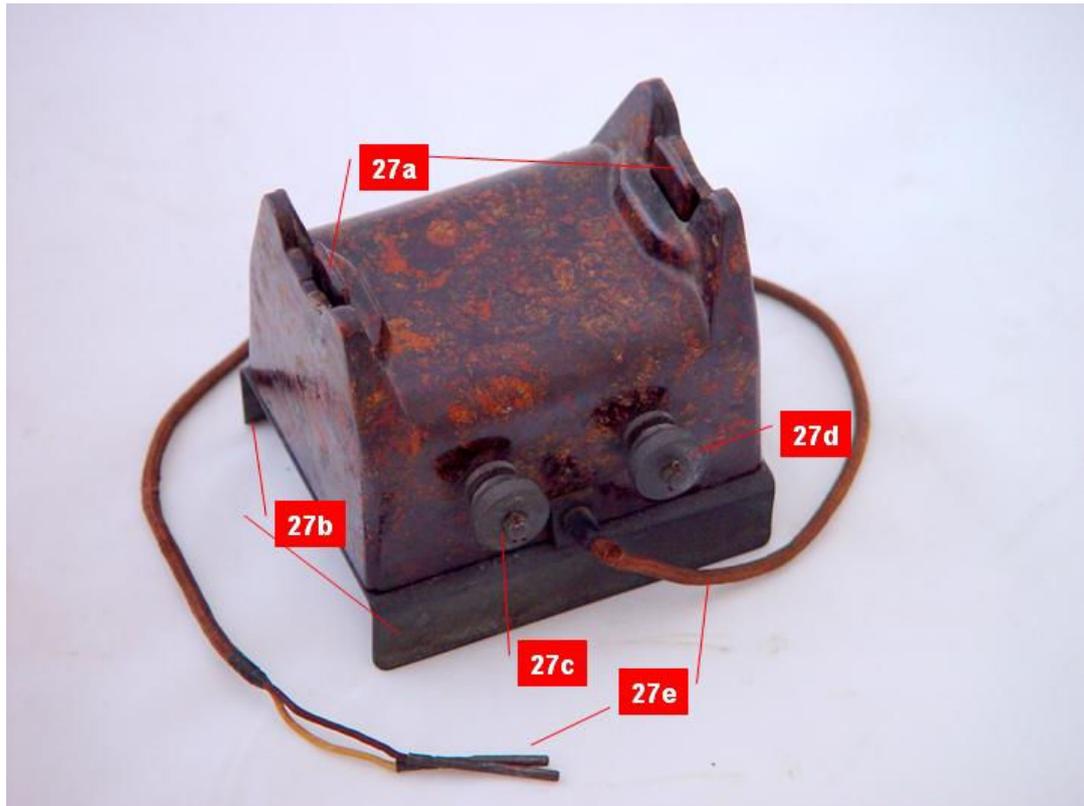


Figure 26: SB Zusatz schematic

The system works by letting a small DC current flow over the telephone line. When this current is interrupted, the “end-pulse” is generated in the telephone switchboard. Apart from a switch, the *SB Zusatz* contains an inductance coil and a capacitor to isolate this DC current from the normal telephone signal.

Construction

Figure 27: SB Zusatz exterior

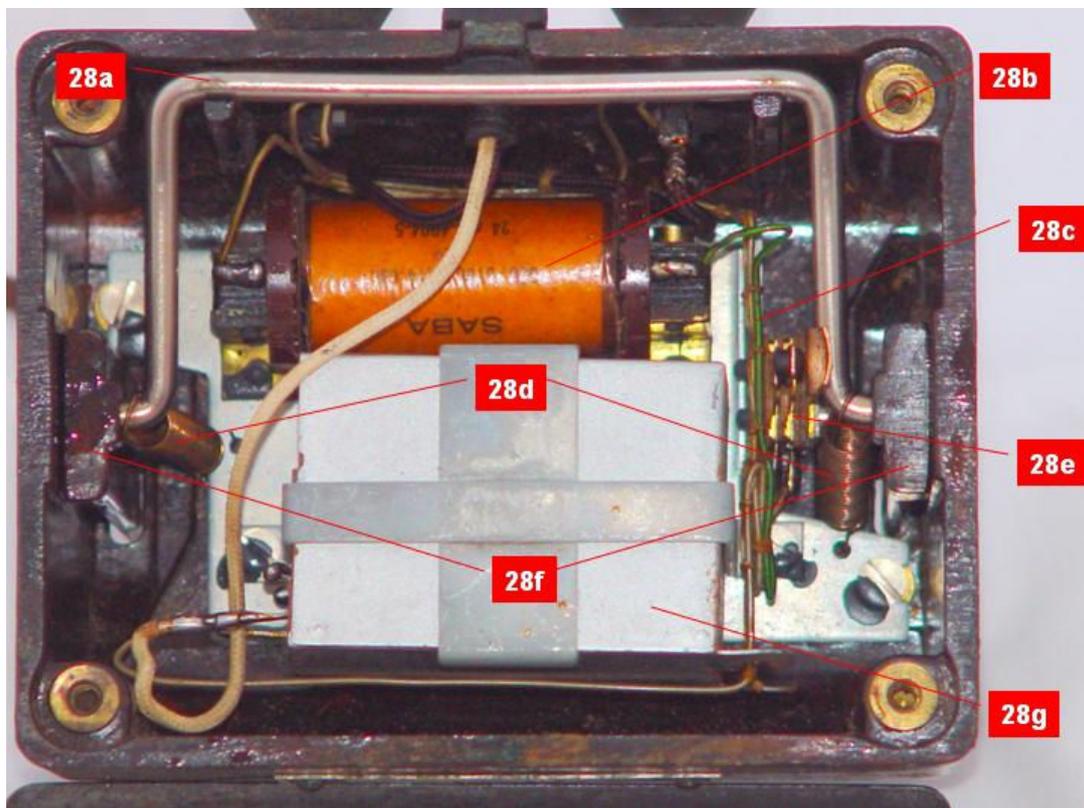


27a End pulse switch arms
27b clamp

27c La line terminal
27d Lb line terminal

27e Connection cable to FF 33
telephone

Figure 28: SB Zusatz interior



28a End-pulse switch arm
suspension
28b Inductance coil

28c Wiring loom
28d Switch arm return spring
28e End-pulse switch contacts

28f Switch arms
28g Capacitor

Operation

End-pulse systems are no longer in use so the unit can not be used in practice. When the SB system was still current, the *SB Zusatz* 33 could be used with a *FF 33* field telephone.

- Connect the two wire connections of the *SB Zusatz* to the line connections of the *FF 33*: white to “La” and brown to “Lb”.
- Connect the telephone line to the “La” and “Lb” terminals on the side of the *SB Zusatz*.
- Close the lid of the field telephone, clamp the *Zusatz* on top of the lid of the



Figure 29: Connecting the SB Zusatz

FF 33 and place the handset on top of the *Zusatz*.

When a call is received, the *FF 33* will ring as normal. Lift the handset from the *SB Zusatz* and depress the microphone switch to speak. When the call has ended, replace the handset on the *SB Zusatz*. This will automatically break the connection in the switchboard.

When making a call, turn the generator crank and wait until the switchboard operator acknowledges the call. Tell the operator who you wish to speak to and conduct your conversation as usual. When the call has ended, replace the handset on the *SB Zusatz*.