

# **German Field Line Communication equipment of WW 2**



**Funksammler Publications**

## ***Amtszusatz fuer den Kleinen Klappenschrank zu 10 Leitungen***

### **Development and Description**

As discussed in the previous section, the “*Kleiner Klappenschrank zu 10 Leitungen*”

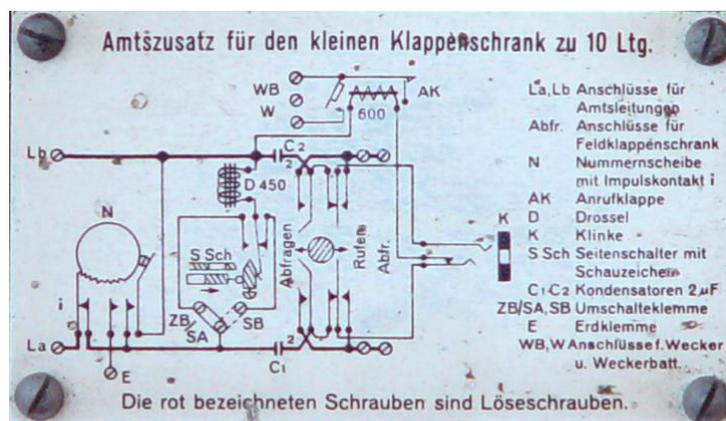


**Figure 135: Amtszusatz front view**

was a simplified design, without any provisions for connection to public telephone networks. To enable this function, the “*Amtszusatz fuer den Kleinen Klappenschrank zu 10 Leitungen*” was developed. The “*Amtszusatz*” allowed connection to “*ZB*” (“*Zentralbatterie Betrieb*” or central battery), “*SB*” (“*Schlusszeichen Betrieb*” or end-pulse battery) and “*Wahlbetrieb*” or automatic dialling networks.

The unit was designed to be placed on the left hand side of the “*Kleiner Klappenschrank zu 10 Leitungen*” and has identical height. Two strips connect the *Amtszusatz* to the “*Abfr.*” Terminals of the 10 line switchboard. If required, a second *Amtszusatz* can be connected to the left of the first, this will just allow the rightmost

interconnection cord of the switchboard to reach.



**Figure 136: Amtszusatz schematic**

The front panel has a dialling disk, a single signal flap to indicate incoming calls, a socket for the interconnection cable, a Kellogg switch and a “*Trennen-*” or end-pulse-button.

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The top panel contains all the connection terminals:

La	“ <i>Leitung a</i> ” or line a connection to the public network
Lb	“ <i>Leitung b</i> ” or line b connection to the public network
E	“ <i>Erde</i> ” or earth Terminal
W	“ <i>Wecker</i> ” or external alarm bell connection
WB	“ <i>Wecker Batterie</i> ” or external alarm bell battery connection
SB	“ <i>Schlusszeichen Betrieb</i> ” or End-pulse operation jumper terminal. The jumper can be set either to the “SB” or to the “ZB/SA” jumper terminal.
ZB/SA	“ <i>Zentralbatterie Betrieb / Selbstanschlussbetrieb</i> ” or Central battery / Automatic dialling network jumper terminal.
Abfr.	“ <i>Abfragen</i> ” or enquiry terminals



Figure 137: Amtszusatz connection panel

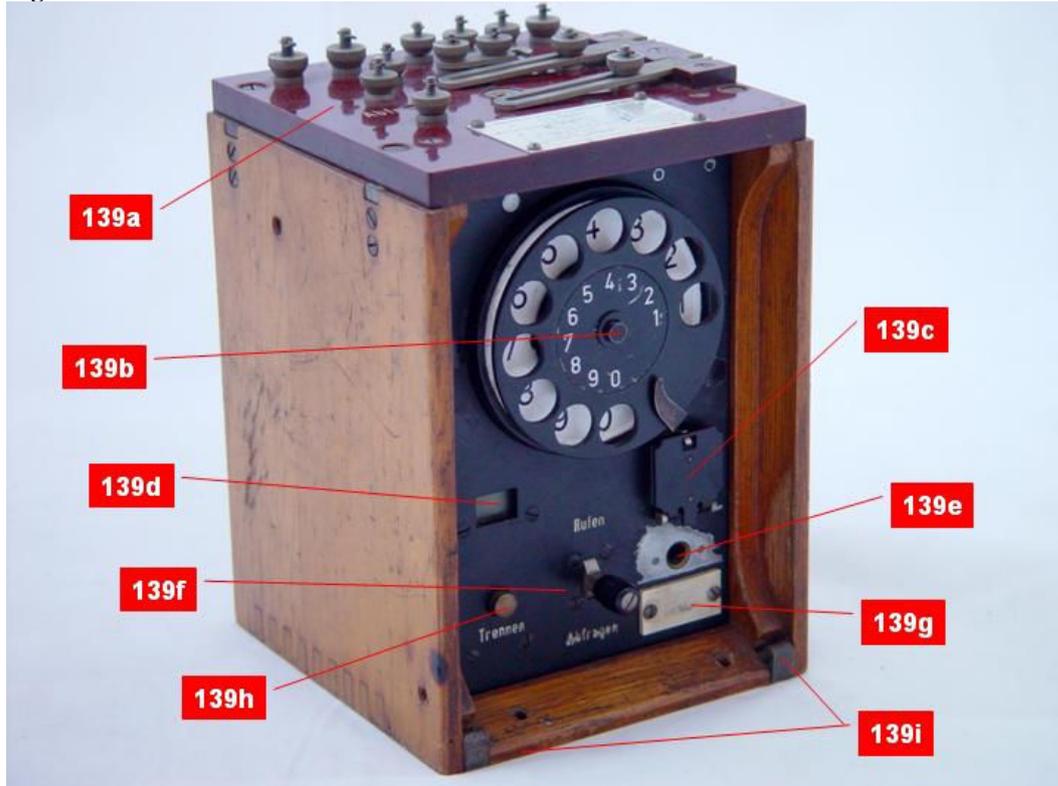
A metal cover can be placed over the unit protecting it from rain and a handle is provided on the back of the unit for carrying.



Figure 138: Amtszusatz with cover

## Construction

Figure 139: Amtszusatz front view

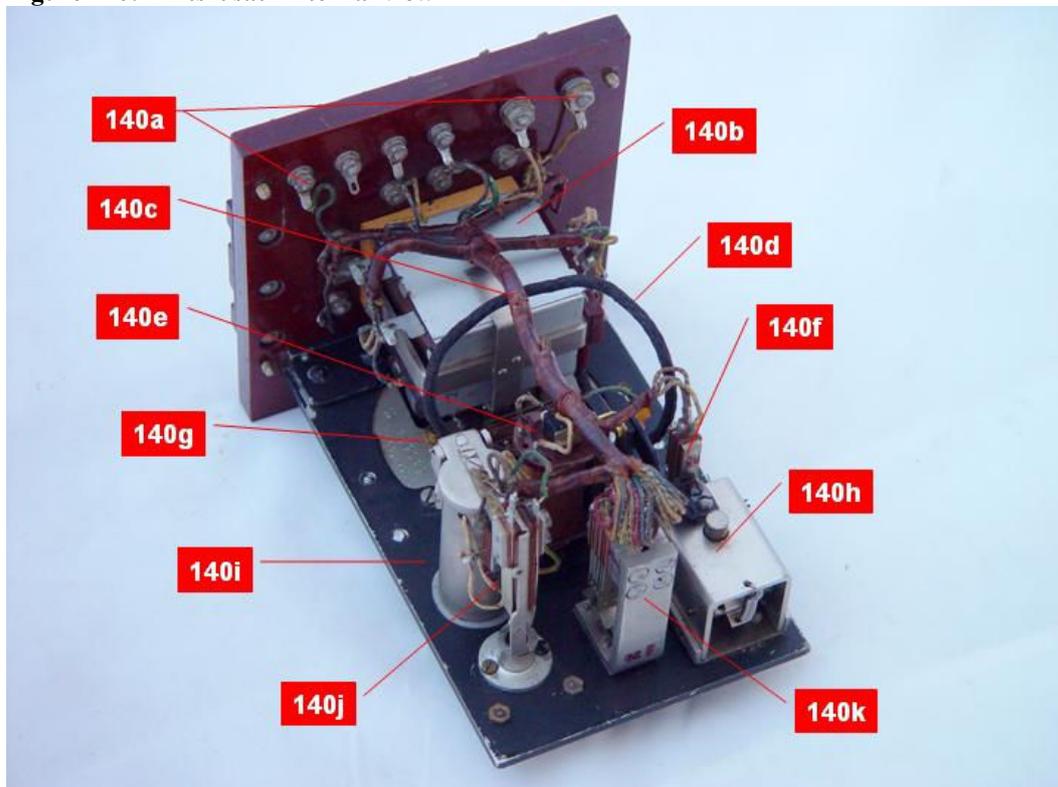


139a Connection panel  
139b Dialling disk  
139c Signal flap

139d End pulse indicator window  
139e Interconnection cable socket

139f Kellogg switch  
139g Writing tab  
139h End pulse button  
139i Lugs for metal cover

Figure 140: Amtszusatz internal view



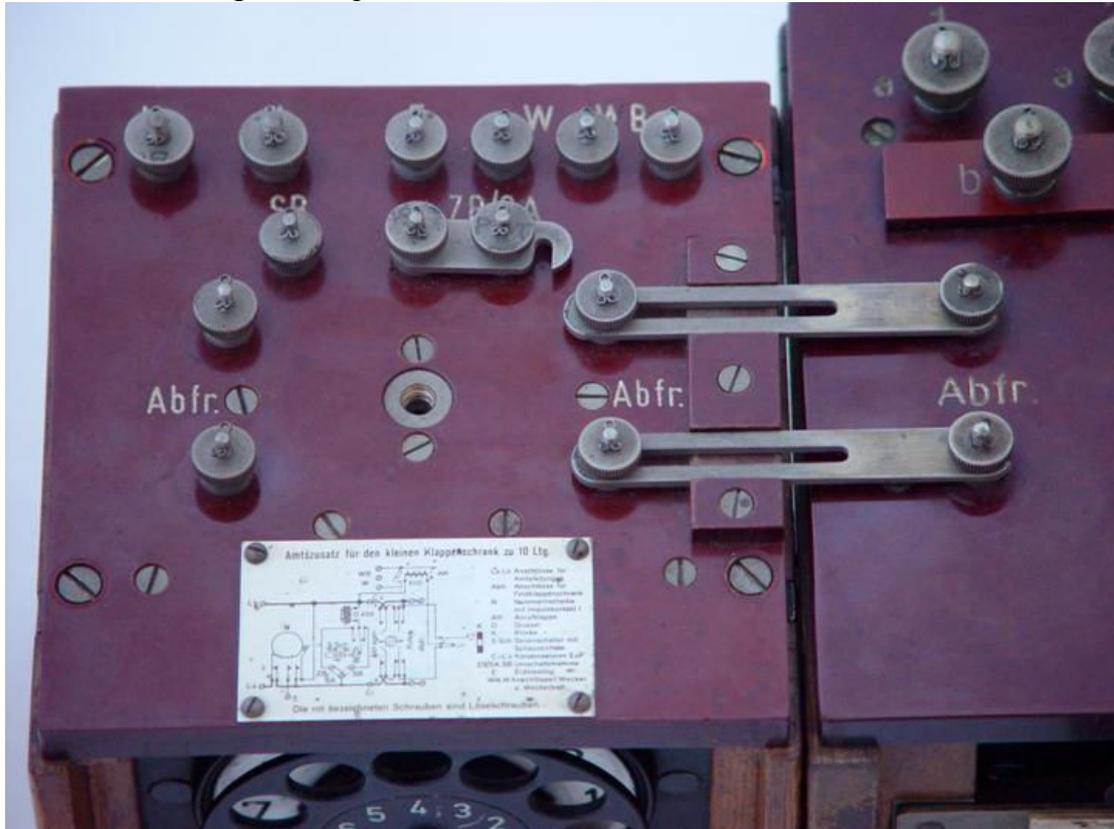
140a Top panel connections  
140b Capacitor blocks  
140c Wiring loom  
140d Dialling disk connection cable

140e End pulse self inductance coil  
140f End pulse switch contacts  
140g Dialling disk mechanism  
140h End pulse interlock mechanism

140i Indicator relay  
140j Interconnection cable socket contacts  
140k Kellogg switch contacts

## Operation

If your public phone network supports “pulse dialling”, you should be able to use the *Amtszusatz* on the network. Most modern networks use “tone dialling” so a pulse to tone converter might be required.



**Figure 141: Amtszusatz jumper connections to the Klappenschrank**

- Set up the “*Kleiner Klappenschrank zu 10 Leitungen*” as described in the previous section but do not connect the *FF 33* field telephone to the “*Abfr.*” terminals.
- Remove the lid and set up the “*Amtszusatz fuer den kleinen Klappenschrank zu 10 Leitungen*” on the left side of the switchboard.
- Connect the two “*Abfr.*” interconnection strips between the switchboard and the *Amtszusatz*.
- Connect the “*La*” and “*Lb/E*” terminals of the *FF 33* field telephone to the “*Abfr.*” terminals on the left side of the *Amtszusatz*.
- Connect the public network connection wires to the “*La*” and “*Lb*” terminals of the *Amtszusatz*.
- Ensure that the “*SB*” – “*ZB/SA*” jumper is placed in the “*ZB/SA*” position.
- Depress the end-pulse button and reset the Kellogg switch to the middle position.
- Ensure that the signal flap is closed. You are now ready to operate the *Amtszusatz*.

When an incoming call from the public network is received, the indicator flap will fall, revealing a red field. Depress the Kellogg switch to the “*Abfragen*” position, this will allow the operator to talk to the caller (as usual depressing the microphone switch in the handset of the field telephone). At the same time, the end-pulse button will reset activating the end-pulse circuit. Enquire which line the caller wants to be connected to. Reset the Kellogg switch to the central position and call the outgoing line as

German Field Line Communication Equipment of WW2© described in the previous section. Connect the interconnection cord of the outgoing line to the interconnection cord socket of the *Ambstzusatz*. Press the red disconnection button on top of the switchboard, the two lines are now connected.

When an outgoing call is requested by a field net participant, enquire as to the number to be called and put the caller on hold. Place the Kellogg switch of the *Amtszusatz* in the “*Abfragen*” position (the dialling tone should now be heard in the field telephone) and dial the requested number using the dialling disk. When the phone is answered, notify the recipient that he has a call from the field and place the interconnection cord of the caller into the interconnection cable socket of the *Amtszusatz*. Place the Kellogg switch in the middle position; the two lines are now connected.



**Figure 142: Line 4 of the Klappenschrank connected to an external line**

When the call is finished, the field net participant has to crank the field telephone generator to indicate the end of the call. This will result in the relevant indicator flap on the switchboard to drop and reveal the line number. Disconnect the interconnection cable and replace it into its storage socket. Depress the “*Trennen*” button on the *Amtszusatz* to generate the end-pulse to disconnect from the public network. The unit is now ready to receive the next call. Failure to press the “*Trennen*” button will be equivalent to leaving the phone off the hook; any public caller to the switchboard will get an engaged signal.