**RT 279/APX**

Coder circuits

After the original **RT-82/APX-6** was modified to **APX-6A** by withdrawal of the destructors, a new modification changed the number to **RT-279**. The modification adds a plug and a switch with positions "norm" and "mod" to the RT-82. **Norm** brings the RT-279 back to the original RT-82 in case an external coder is not available or wanted. **Mod** enables the new plug, which connects to the external unit **KY-95/APX** to provide a much more refined MkX-SIF reply than from the original RT-82/APX6. In the "mod" position, the gray area in the diagram on page 1 of the RT-279 is inoperative.

This external unit receives the decoded mode 1, 2 and 3 challenges and returns the proper reply pulse string as was set on the control panel. The coder is powered by 115Vac and 28Vdc from the RT-279 over the same plug and cable as the signals.

The Black Maria (BM) BNC input and relay input on the RT-82 are no longer used, nor are the destructors. New is the "indicate position" (I/P) feature, which repeats the reply strings once in the coder as long as the microphone button is pushed thus helping to identify the "talking" aircraft on the radar. In emergency mode the coder even repeats the string 3 times, so a total of 4 (identical) replies are transmitted.

The transmit and receive frequency of the RT279 were reduced to a small band around 1090 resp. 1030 MHz, and the APX-6 system was renamed to APX-25.

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**APX-25 parts**

**RT-279/APX-25** receiver/transmitter is identical to the RT-82/APX-6, but without destructors, a reduced frequency adjustment range, and a plug for the coder.

**KY-95 /APX-25** or **KY –97/APX-25** is the coder unit. The mode-2 reply code is set on the front of the coder, behind a hinged door (KY-95) or on thumb wheels (KY-97). The plugs on the front of the coder connect to the RT and to the SIF control panel.

**C-1158/APX** is the control panel for the receiver/transmitter, and connects to the RT

**C-1128/APX** is the SIF control panel to set the mode 1 and mode 3 reply codes. This panel connects only to the KY95 or KY 97 coder unit.

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The mode-1 code was a 5 bit code, octal numbers 00 … 37
The mode-2 code was a 12 bit code ( octal numbers 0000 … 7777, set behind a door on the front of the coder. This is the aircraft’s "tail" number.

The mode-3 code was a 6 bit code, octal numbers 00 … 77