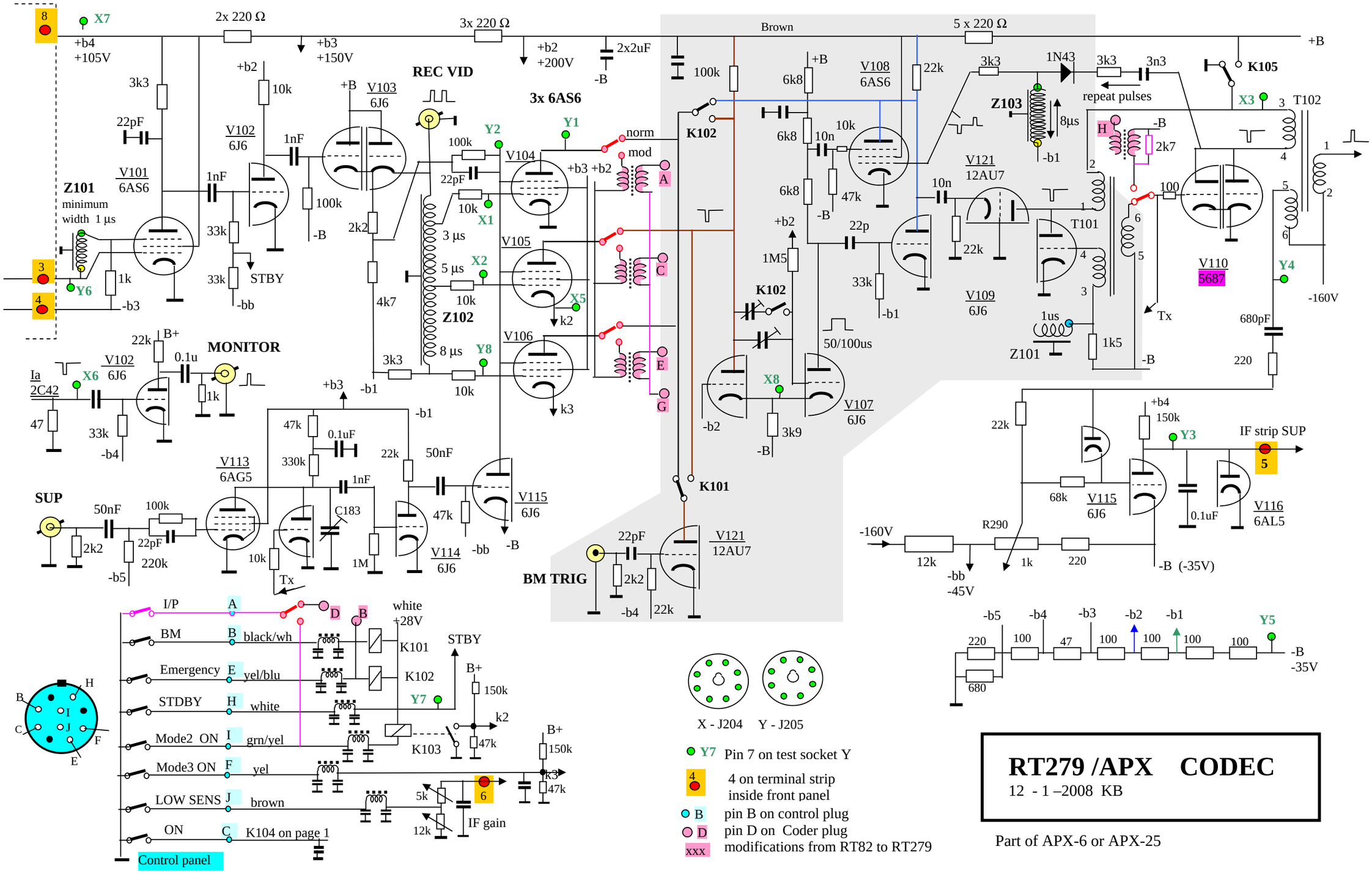


RT279 /APX CODEC

12 - 1 –2008 KB

Part of APX-6 or APX-25

RT 279/APX

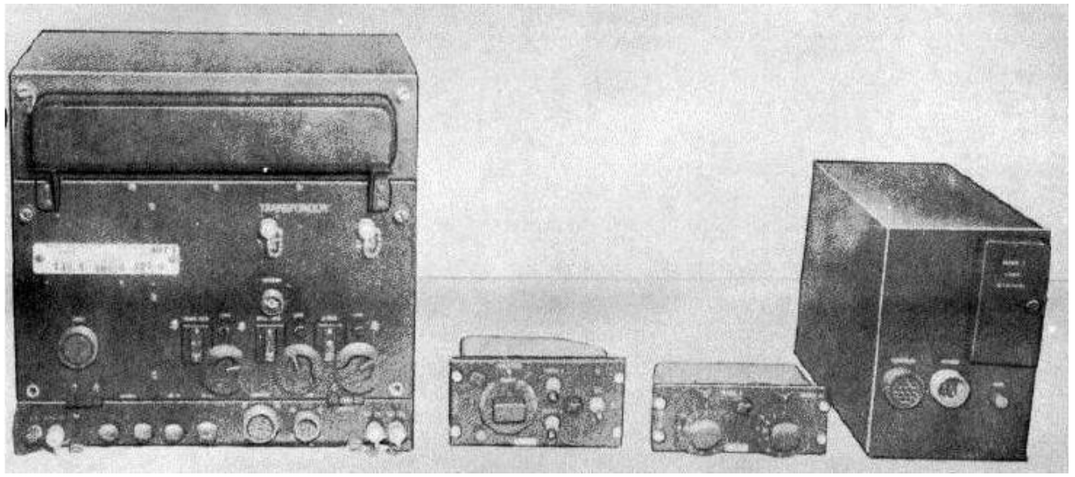
Coder circuits

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 RT279 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.



RT-279/APX-25 C-1158/APX-25 C-1128/APX-25 KY-95/APX-25

Photo courtesy
http://www.tpub.com/content/radar/TM-11-487C-1/TM-11-487C-10920.htm

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.

Control panels

C-1158/APX-25
This panel is connected to the RT-279/APX, except two wires : one connected to the variable dashboard light bus, the other to an earthing contact of the microphone's push to talk switch.

C-1128/APX-25
Is connected to the KY95 coder unit.

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 aircrafts "tail" number.

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