TABLE 2: TYPICAL TRIODE DEVICE CHARACTERISTICS (EACH SIDE) – R_K = 240 Ω, E_b = 130 V			
PARAMETER	UNITS	12AT7 VACUUM	TS12AT7 SOLID-STATE
Plate voltage breakdown	V	400+	350
Plate resistance	kΩ	15	250
Transconductance	μmhos	4,000	3,000
Plate current (R_K = 240 Ω)	mA	5.0	9.0
Grid voltage for I_b = 10 μA	V	−7.0	−7.0
Amplification factor	—	60	750
Input capacitance	pF	2.2	25
Output capacitance	pF	1.5	3.5

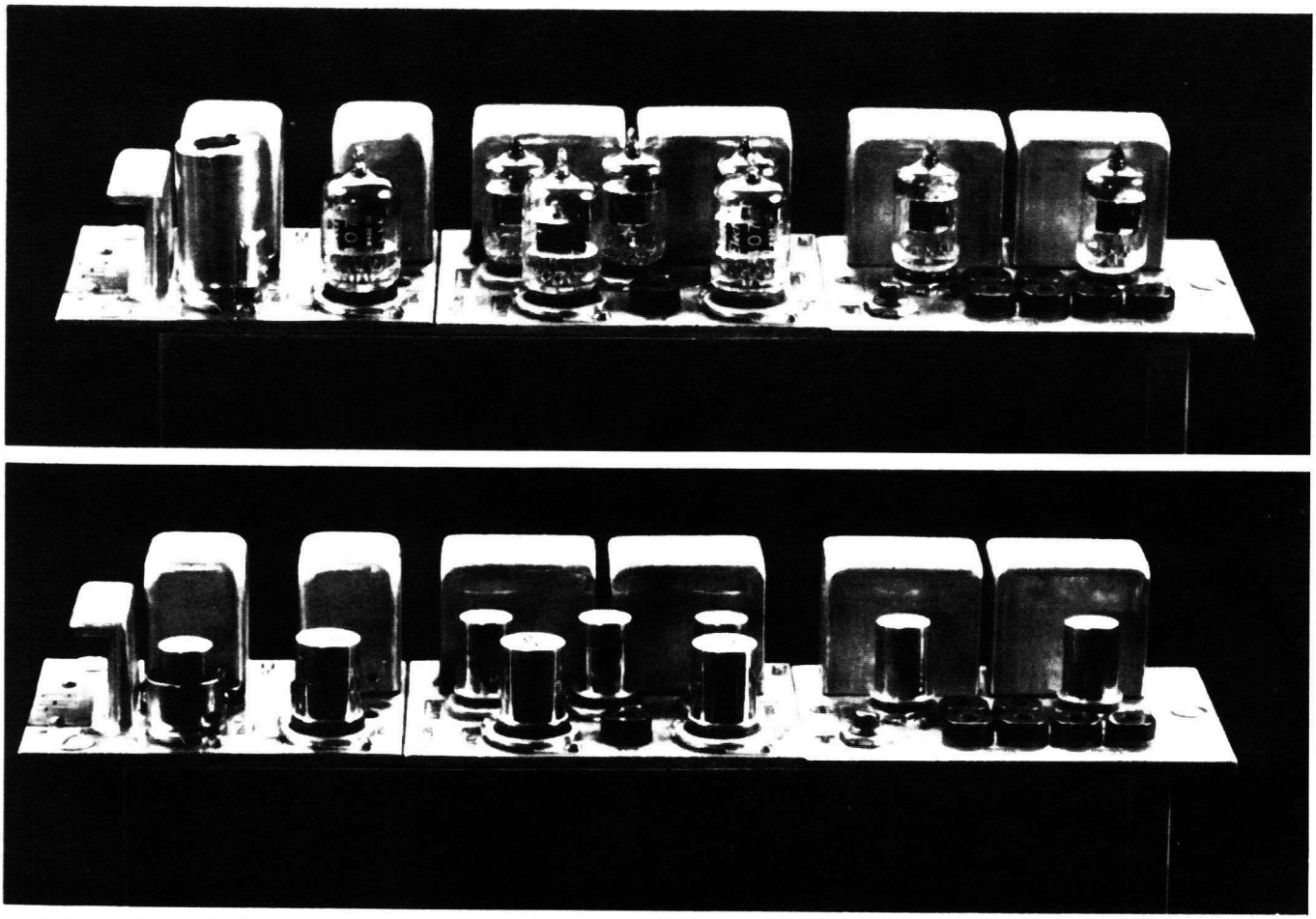
demultiplexing in a carrier office is now equipped with Fetrons.

What next?

There are numerous tube types that can be made with the basic Fetron designs. Types such as the 6JC6 and 6EW6, which have transconductances in the vicinity of 25,000 micromhos and plate currents in the 40-mA range and which have already been made, can be combined with the 6AK5, 12AT7, and their derivatives so as to make Fetron versions of the great majority of popular tube types. Next to be tackled will be the power pentode devices, such as 6AQ5, 6V6, and remote cutoff pentodes, such as 6BA6. Indeed, with volume production and some packaging changes, the Fetron could go on to become a low-cost replacement for most tubes. □

REFERENCES

1. F. E. Terman, "Radio Engineers' Handbook," 1st ed., McGraw-Hill Book Co., 1943, p.469.
2. R. L. Berger, "The Direct Replacement of Pentode Vacuum Tubes with Cascode Field Effect Transistors," Mid-America Electronics Conference, Kansas City, Mo., October, 1971.



9. Finding their place. In the above amplifier, all the 6AK5 and 12AT7 tubes have been replaced with equivalent Fetrons.