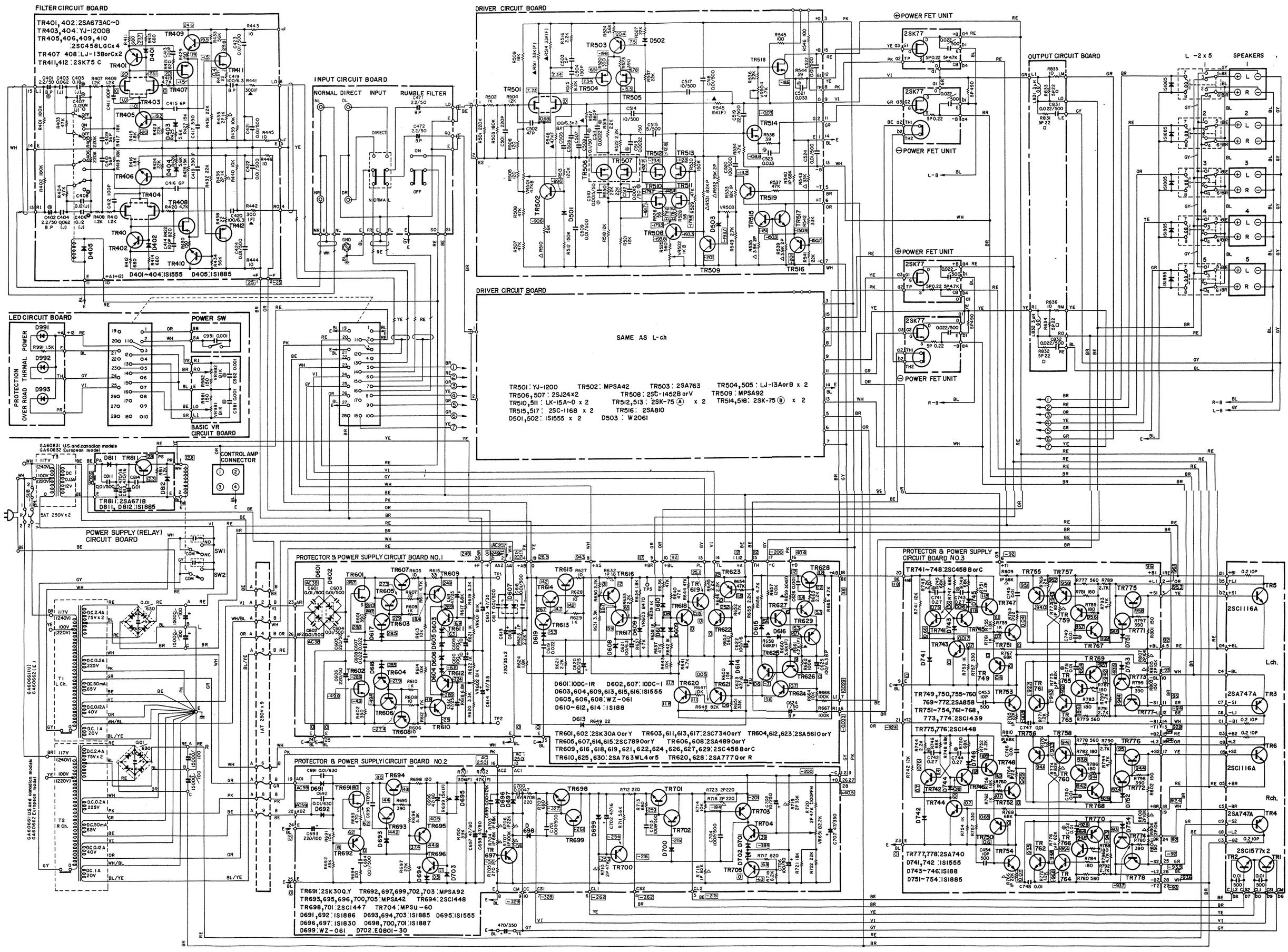B-I SCHEMATIC DIAGRAM