

OPERATING AND SERVICE MANUAL

THREE – PORT JUNCTION BOX

MODEL QF11300

1. GENERAL DESCRIPTION

Designed for splitting up into or combining together two channels with correct impedance matching, this three-port junction box is especially suitable for making adjacent channel selectivity measurements of mobile radio receivers in which two signal sources should be used. It is equipped with three N female connectors. Matching is achieved by $Z/3$ impedances in a star configuration.

2. SPECIFICATIONS

2.1 Frequency range:	DC ~ 1GHz
2.2 SWR:	< 1.2
2.3 Insertion loss:	$6\text{dB} \pm 0.5\text{dB}$
2.4 Maximum input:	3 Volt
2.5 Input impedance:	50 ohm
2.6 DC Resistance between any two ports:	33.4 ± 0.67 ohm
2.7 Size:	$76 \times 58 \times 33\text{mm}$
2.8 Weight:	250g

3. PRINCIPLES OF OPERATION

The junction box is actually a " T " resistor pad (see Schematic QR2.968. 002DL) mounted in a coaxial cavity. Three N connectors (female) are furnished for connection with other devices.

4. STRUCTURE

The body of junction box is composed of an upper part and a lower part. Two perpendicular holes bored on the body form a coaxial cavity where the " T " resistor pad is mounted. The three connectors are configured in a " T " shape for ease of connection.

5. OPERATION

Ensure reliable connection between the junction box and other devices for minimum signal reflection.

6. CHECK AND SERVICE

Check and make sure that the DC resistance between any two ports meets the specification given in 2.6. Any obvious deviation suggests a decayed or even broken resistor pad. It should be replaced.

The " T " resistor pad consists of three 16.67 ohm resistors. They should be configured exactly to form a " T " pad and well soldered together. The contact of the " T " pad with the inner conductors of the connectors should be reliable.