U.H.F. CONVERTER CO2/517

Introduction

The CO2/517 is a broadband u.h.f. converter designed for use in television monitoring receivers[1] in conditions of high signal strength. The unit consists of a 6-dB 50-ohm pad followed by a screened broadband balanced crystal mixer, mounted in a CH1/12A chassis.

Signal connections to the converter are made through BNC sockets on the front panel.

General Specification

Input Frequency	Any channel in Bands IV and V
Output Frequency	
Vision carrier	37·5MHz
Sound carrier	31·5MHz
Local Oscillator Frequency	37·5MHz above vision carrier
Local Oscillator Input Signal Level	1V r.m.s. across 50 ohms
Input Impedance	50 ohms nominal
Input VSWR	Not greater than 1·2
Maximum Input Peak-sync Vision Carrier	240mV r.m.s.
Maximum Output across 75 ohms Peak-sync Vision Carrier	60mV r.m.s.
Power Loss driven from 50 ohms, loaded with 75 ohms	13dB ±1 dB
Amplitude/frequency Characteristic over any 8MHz Channel	flat within 0·1dB
Noise Figure	14dB
Weight	1¾ lb.

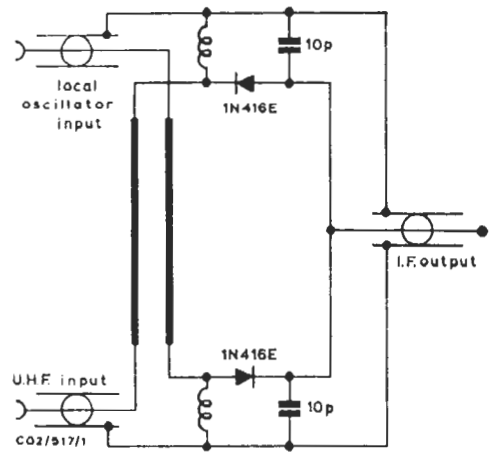

Fig. 1 Circuit of the CO2/517

Circuit Description

The circuit diagram is given in Fig. 1. The crystal mixer is a Sage Laboratories wide-band balanced mixer, model 2513 R. The mixer circuit is a 3-dB directional coupler type; u.h.f. chokes provide d.c. returns for the diodes and the two 10 pf capacitors provide u.h.f. decoupling, all these components being built into the diode holders.

Maintenance

Routine maintenance is not required.

References

1. U.H.F. Transmitter Demodulator DM1M/501
2. Designs Department Specification No. 6.120(67) AIB 10/68