Focus Microwaves Inc.
970 Montée-de-Liesse,suite 308
Ville St-Laurent, Québec, Canada H4T 1W7
Tel: 514-335-6227 Fax: 514-335-6287
E-mail: info@focus-microwaves.com

Product Note 32

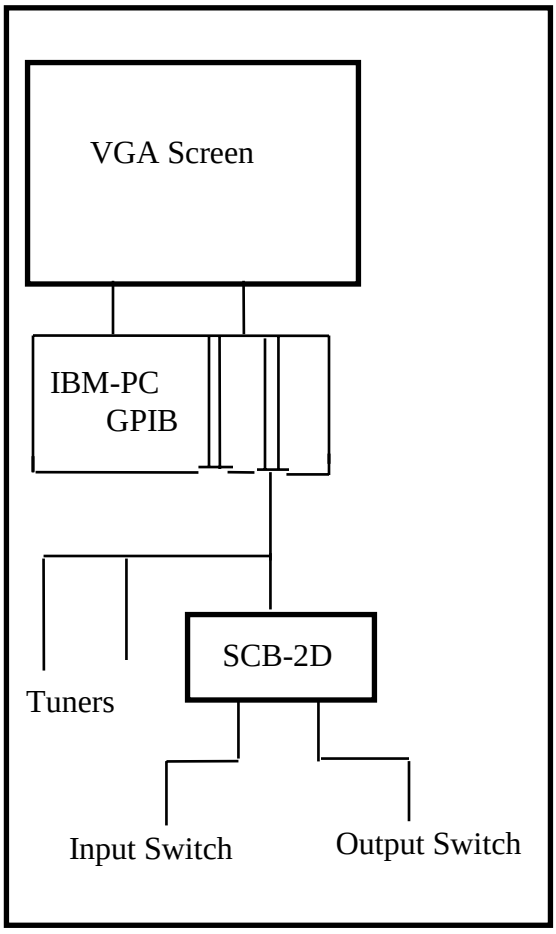
New RF Switch Control Box for Automatic Noise and Load Pull Measurement Setups

Following its tradition since 1988, of being at the forefront of Microwave Technology with innovative products and services, FOCUS introduces a new RF switch control box for On-Wafer Load Pull and Noise Measurement. The new card eliminates the hassle of installing a separate card in your PC (the analog control card, model AB08R) dedicated for the control of the RF switch relays. This note describe a New Tuner Controller Card with Integrated Analog Control card that can be connected directly to the New Switch Control Box, model SCB-2D. The SCB-2D can remotely control up to 2 RF switches relays with no need to external DC power supply.

Figure 1 : RF Switch Control Box, model SCB-2D

May 1997

Configuration



For Load Pull and Noise Measurement, the Setup consist of two programmable tuners, a Vector Network Analyzer (VNA), two power meters, a power supply, a noise analyzer and a noise source, all GPIB programmable and other passive components such as bias tees, isolators and attenuators. The setup is remotely controlled by an IBM-PC compatible controller with tuners control and GPIB interface. Automatic On-Wafer Load Pull and Noise Measurement operations require the " in situ " use of a VNA to be switched in and out of the setup during the measurement. This is done automatically using remote control SPDT RF switch relays. These relays can now be controlled using the IBM-PC system controller via a New Tuner Controller card with relay control option. The new card has an extension of 15 pins that can be connected to a Switch Control Box , model SCB-2D. The DC power is supplied to the SCB-2D via this 15 pins connection, directly from the PC. This new option can be configured to match a variety of commercial RF switches (SP2T for Load Pull or Noise setup, SP3T for Load Pull and Noise setup or Transfer switches).

Figure 2 : Configuration of the SCB-2D

The basic automatic controller will include :

1. The new Tuner Controller card with "R" option.
2. A switch Control Box, model SCB-2D

This means that the Analog card AB08R, will not be required any more and FOCUS will stop manufacturing and supplying it starting next year. On the other hand, you still have to get the 2 appropriate RF relays that will go with the switch box

As an option, you may get from FOCUS :

1. Two RF relay (DC-18 GHz) latch, already connected to the switch box.

and/or

2. A switch box with BNC-type connector for noise source control used with the spectrum analyzer.