A/DA TEST FIXTURE FOR RETICON SAD1024A

This unit is designed to aid in rapid selection of Reticon SAD1024A devices to meet the requirements of the A/DA HARMONY SYNTHESIZER. It is provided with a zero-insertion-force ic socket with the location of pin 1 clearly marked. If this socket assembly comes unplugged, it may be reinserted easily by pushing it gently into the 16-pin socket below the hole in the test fixture. The chassis is connected to ground through the A.C. power cord for operator safety. All of the internal circuitry is transformer isolated from the A.C. power line. All inputs and outputs are through BNC terminations.

The A.C. power cord must be connected to a grounded A.C. receptable which provides 110VAC 60 HZ. power. All other connections require co-axial cables with BNC terminations. The GATED AUDIO OUT is connected to the vertical input of an oscilloscope. The oscilloscope must have a bandwidth of 15 MHZ or better in order to display accurate noise amplitude. The vertical input must be DC coupled to display the "tilt" phenomenon. Oscilloscope sweep synchronization is achieved through the SYNC OUT or the SYNC OUT terminations. These terminations provide 15 v p-p square waves which are DC coupled from cmos logic and have 50% duty cycles. One of these sync terminations should be connected to the external trigger input of the oscilloscope. An audio generator may be connected to the AUDIO IN termination if it is desired to see how a given device under test will behave. However, the audio generator is not required at present for HARMONY SYNTHESIZER chip selection.

The present purpose of this fixture is to select SAD1024A devices for acceptable noise and "tilt" parameters as required for the A/DA HARMONY SYNTHESIZER. For these tests the AUDIO IN Termination may be left unconnected and the AUDIO IN switch placed in the GND position. The device selection procedure is divided into two parts. Each part of the selection procedure requires categorization of the noise and "tilt" phenomena. The "A" test uses a clock which is in continuous operation even though it may be shifted in frequency during each sync period. The "B" test clock is similarly shifted in frequency during each sync period, but is also gated "off" during part of each sync period. This condition creates much more noise in the SAD1024A output than is observed with the continuous clock used in the "A" test. These clock conditions are selected on the test fixture by the switch labelled "A"TEST/"B" TEST. Further test conditions are applied by the four-position FUNCTION SWITCH which simulates the four extremes of clock frequency and delay times which are generated by the A/DA HARMONY SYNTHESIZER. The four switch positions are as follows:

1) Audio input shifted down two octaves with long delay
2) Audio shifted up one octave with long delay
3) Audio shifted down two octaves with short delay
4) Audio shifted up one octave with short delay

The two remaining switch positions have no connections to them and are not used at this time. The FUNCTION switch provides "worst case" conditions for selection of SAD1024A devices.