System Two

The recognized standard worldwide for audio testing, System Two is a computer controlled integrated multifunction audio testing instrument. Various models and configurations are available for measuring and testing analog and digital audio, as well as serial digital audio interface formats. System Two combines industry-wide acceptance with automation and ease of use for both design and production testing. System Two models include extremely high performance analog generation and analysis hardware for measurement of analog signals to the highest precision. System Two is designed for use either from an external computer with APWIN software, or via an IEEE-488 GPIB interface, with user-developed programs. System Two provides the most complete set of audio test and measurement capabilities available. Signals generated (some require options) in both analog and digital domains include sinewaves, squarewaves, white and pink noise, burst USASI noise, and SMPTE/DIN, CCIF and DIM/TIM IMD signals. IMD tests may expose shortcomings in audio devices which are not evident with the single-tone stimulus of harmonic distortion techniques. Four basic System Two configurations are available:

Versions:

SYS-2022 (A or G)

Two-channel (stereo) analog domain test set: generates and analyzes all signals via analog hardware. Key analog generator specifications include spurious and harmonic specifications of -120 dB and flatness of ±0.008 dB. Analog analyzer specs feature residual noise of less than 1 microvolt (-118 dBu), flatness of ±0.008 dB and residual THD+N of -108 dB (0.0004%). Measures **amplitude**, **level**, **ratio**, **crosstalk**, **bandpass amplitude**, **frequency**, **phase**, **THD+N**, and optionally **IMD** and **wow & flutter**.

SYS-2222 (A or G)

System Two+DSP analog domain test set with all of the analog capability of the SYS-2022, plus DSP modules for generation and analysis of **multitone signals, FFT spectrum analysis**, **waveform display**, **MLS** (maximum length sequence) quasi-anechoic acoustic testing, objective **testing of low-bit-rate coders**, and other advanced applications. In addition to the analog generator and analyzer, DSP generated signals (including stereo sine, dual sine, variable phase sine, shaped burst and IMD) are available, as well as a **DSP Audio Analyzer** with an AC reading meter, two AC level meters and two phase meters.

SYS-2322 (A or G)

System Two Dual Domain test set: also DSP-equipped, includes all SYS-2222 capability plus **digital domain signal generation and analysis** capability via **digital input and outpu**t in the AES/EBU (balanced and unbalanced) and consumer (coaxial and optical) formats, plus parallel, and general purpose serial I/O. The SYS-2322 includes the most complete AES/EBU and consumer digital interface stimulus and measurement capability in the industry (**INTERVU**™). With dual domain architecture, the analog hardware generator and analog hardware analyzer for analog domain devices are separate and independent from DSP modules which stimulate and analyze digital domain devices, including digital data testing with **BITTEST**™.

SYS-2300 (A or G)

Digital domain test set with all the digital interface features of the SYS-2322 but without analog domain capability.

"A" versions include APWIN software, manuals, interface card & cable.

"G" versions operate from user-developed GPIB programs.

Internal Options

System Two's architecture is internally modular. This permits configuration to your exact needs at the time of purchase, and later upgrades as needs change. Three major internal analog domain options may be fitted to any of the first three basic configurations.

- The **BUR** option adds analog domain generation of burst sine waves with controllable burst duration, interval, and lower amplitude between bursts, plus squarewaves to 20kHz, analog random and pseudorandom white and pink noise, and bandpass filtered pink noise.
- The **IMD** option analyzes analog domain devices for intermodulation distortion to the SMPTE/DIN, CCIF/DFD (twin tone or difference tone) and DIM/TIM (dynamic/transient intermodulation distortion) standards.
- The **W&F** option measures wow and flutter to the IEC/DIN, NAB, JIS, and scrape flutter standards, weighted or unweighted.

System Two GPIB

System Two "G" versions include an IEEE Std 488.2 GPIB port supporting settings and measurements for all GPIB configurations of standard System Two as well as the SWR-2122 switcher and DCX-127 Multifunction Module products.

An IVI instrument software driver is available for current versions of National Instruments LabWindows/CVI and LabView. The driver supports all standard System Two configurations, SWR-2122 switchers and the DCX-127 Multifunction Module as above.

System Two "G" versions do not include APWIN software or an APIB interface card, but do include an APIB port. The System Two GPIB Audio Test Developer's Kit (S2G-DEV-XXX) is strongly recommended for program developers. It permits APIB port access for fast test development within the interactive APWIN environment prior to GPIB code implementation. Included are APWIN software and manuals, APIB interface card and cable, GPIB Programmer's Reference Manual, and a CD ROM with online manuals, Visual Basic sample code, and utility programs for Windows 95/98/NT.

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