Анализаторы спектра

NS-30

Анализаторы спектра цифровые
NS-30, NS-132, NS-265
NEX1

- Полностью синтезированные анализаторы спектра с диапазоном частот от 1 кГц до 26,5 ГГц
- Фильтры полос пропускания от 300 Гц до 3 МГц
- Диапазон входных уровней –110…30 дБмВт
- Встроенный предусилитель, следящий генератор (опции)
- Превосходный динамический диапазон по вносимым искажениям
- Режим приемника сигналов с ЧМ и АМ демодуляторами
- Маркерные измерения (до 10), память и дисковод 3,5"
- Квази-пиковый детектор и фильтры ЭМС (опция)
- Цветной ЖКИ дисплей
- Наличие автоматических и маркерных измерений
- Режим частотомера
- Интерфейс: RS-232 (GPIB опция)
- Автоматическая и ручная калибровка
- Компактный, легкий (до 12 кг)

Технические данные:

ХАРАКТЕРИСТИКИ	ПАРАМЕТРЫ	NS-30	NS-132	NS-265
ЧАСТОТА	Частотный диапазон	1 кГц…3 ГГц	9 кГц…13,2 ГГц	9 кГц…26,5 ГГц
	Погрешность источника опорной частоты	$\pm 10^{-6}$ в диапазоне температур 0…50 °С		
	Полоса обзора	Нулевая; 10 Гц/дел…2000 МГц/дел (1-2-5); весь диапазон		
	Погрешность установки полосы обзора	±3%		
	Скорость развертки	50 мс…1000 с		
	Частотомер	Разрешение 1 Гц Чувствительность -70 дБмВт		
ПОЛОСА ПРОПУСКАНИЯ	Полоса пропускания ПЧ	300 Гц … 3 МГц; 10 Гц … 100 Гц цифровые фильтры (опция)		
	Погрешность установки полосы пропускания ПЧ	± 20 %		
	Видеофильтр (VBW)	1 Гц…1 МГц		
АМПЛИТУДА	Диапазон опорных уровней	-110…+30 дБмВт		
	Средний уровень собственных шумов (полоса пропускания 300 Гц)	Не более -100 дБмВт, с включенным встроенным предусилителем не более -130 дБмВт (опция)		
	Диапазон, отображаемый на экране (аттенюатор ПЧ)	100 дБ (10 дБ/дел)		
	Аттенюатор ВЧ	0…55 дБ		
	Неравномерность АЧХ	± 1,0 …± 3,0 дБ в зависимости от частоты		
	Погрешность логарифмической шкалы дисплея	±1,0 дБ		
	Погрешность аттенюатора ВЧ	±1,0 дБ		
	Погрешность установки опорного уровня	±1,0 дБ во всем диапазоне частот		
	Негармонические искажения	< -60 дБн при вх. уровне не превышающем отн. опорный уровень		
	Интермодуляционные искажения 3-го порядка	< -70 дБн при входном уровне –40 дБмВт		
ВХОД	ВЧ вход	Соединитель N-типа; 50 Ом; КСВН < 1,5 при аттенюаторе ВЧ 10 дБ		
	Вход опорной частоты	Соединитель BNC-типа ;10 МГц		
	Интерфейс	RS-232, GPIB (опция)		
	Триггер	Вход внешнего запуска		
ДОПОЛНИТЕЛЬНЫЕ ФУНКЦИИ	Память	Запись 1000 спектрограмм, 2000 профилей во внутреннюю память; дисковод 3,5"		
	Маркерные измерения	10 маркеров с функциями: Δ-измерения; установка на пик. значения; трекинг		
	Отображение спектрограмм	2 спектрограммы при разделении дисплея на 2 части		
	Калибратор	20 МГц, -20 дБмВт ± 0,3 дБ		
ОБЩИЕ ДАННЫЕ	Дисплей	Графический цветной ЖК-дисплей с разрешением 640 x 480		
	Напряжение питания	100…240 В, 48…63 Гц (автовыбор)		
	Габаритные размеры	350 × 185 × 395 мм		
	Масса	12 кг		
	Комплект поставки	Шнур питания (1), руководство по эксплуатации (1), руководство по эксплуатации (1)		

Анализаторы спектра

Опции к анализаторам спектра серии NS:

НАИМЕНОВАНИЕ	ОСНОВНЫЕ ХАРАКТЕРИСТИКИ	СОВМЕСТИМОСТЬ С МОДЕЛЯМИ
Следящий генератор O-TG-02	9 кГц – 3 ГГц, 0…-70 дБмВт	NS-30
Высокостабильный источник опорной частоты O-HS-01	10 МГц $\pm 0{,}2 \times 10^{-6}$	Все
Анализатор ЭМС O-EM-01	До 3 ГГц: кондуктивные и индуктивные помехи	Все
Квазипиковый детектор O-QP-01	150 кГц - 30 МГц, 30 кГц – 1 ГГц	Все
Генератор тестовых сигналов O-SG-01	800 МГц – 1 ГГц, 1,6 – 2 ГГц, 0…-30 дБмВт	NS-30
Цифровые фильтры O-DR-01	10, 30, 100 Гц	Все
Измеритель расстояния до места повреждения кабеля O-DF-01	-	NS-30
Измеритель потерь отражения O-RB-01	-	Все
Анализатор кабельного телевидения O-CT-01	NTSC, PAL	Все
Сумка O-SB-01	-	Все
Пробник O-PB-01	0… 3 ГГц	Все

NS-265(Nex1 Spectrum Analyzer) Spec

Specifications		Descriptions
Frequency	Tuning Range	9kHz to 26.5GHz
		Range / Band / Harmonics(N)
		9kHz ~ 3GHz / 0 / 1
		2.9GHz ~ 6.4GHz / 1 / 1
		6.3GHz ~ 13GHz / 2 / 2
		12.9GHz ~ 26.5GHz / 3 / 4
	Tuning Resolution	1Hz(Minimum)
	Frequency Span Width	100Hz/div to Full Span
		Start, stop, span manual selections
	Span Accuracy	±3% of the indicated Span Width
	Readout Accuracy	Span accuracy+Reference accuracy+50% of RBW
	Frequency Counter	
	Resolution	1kHz, 100Hz, 10Hz, 1Hz
	Accuracy	(Reference frequency error+counter resolution±1count)
	Sensitivity	≤-70dBm
	Stability	
	Residual FM	≤100Hzp-p 200ms @1kHz RBW, 1kHz VBW
	Noise Sidebands	-90dBc/Hz+20log N for Frequency 3GHz @ 10kHz offset
		N=LO Harmonic Mixing Mode
Amplitude	Measurement Range	+30dBm to displayed average noise level(RBW:1kHz, VBW:10Hz)
	Displayed Average Noise Level	≤-105dBm, 50kHz to 100kHz
		≤-110dBm, 100kHz to 2.8GHz
		≤-105dBm, 2.8GHz to 3.0GHz
		≤-115dBm, 3.0GHz to 13.2GHz
		≤-100dBm, 13.2GHz to 26.5GHz
		Pre-amplifier(option)
		≤-115dBm, 50kHz to 50MHz
		≤-130dBm, 50MHz to 1.8GHz
		≤-129dBm, 1.8GHz to 3.0GHz
	1dB Compression Point	-10dBm, 100kHz to 3.0GHz(0dB attenuation)
		0dBm, 3~13.2gHz(0dB attenuation)
	Display Scale	100dB in 10dB/div log scale
		50dB in 5dB/div log scale
		20dB in 2dB/div log scale
		10 divisions with linear scale
	Amplitude Units	
	Log Scale Mode	dBmV or dBm units
	Linear Scale Mode	V(uV, mV, etc) pr dBV(dBmV)
	Quasi Peak Enabled	dBuV, dBmV or dBm
	Display Linearity	5 or 10dB/div<±1.0dB over 10 divisions
		1 or 2dB/div<±0.5dB over 10 divisions
		Linear, <±3% of Reference Level over 10 divisions
	Frequency Response	≤-3.0~+1dB, 9kHz to 5MHz
		≤±1.0dB, 5MHz to 2.9GHz
		≤±1.5dB, 3GHz to 6.4GHz
		≤±2.2dB, 6.4GHz to 13.2GHz
		≤±3.0dB, 13.2GHz to 26.5GHz
	Attenuator	
	Range	0 to 55dB (Manual or Auto)
	Resolution	5dB steps
	Accuracy	±0.5 dB/±1dB peak-peak(50kHz to 26.5GHz)
	Reference Level	
	Accuracy	±1.5dB(50kHz to 13.2GHz)
	Range	-110dBm to +30dBm
	Resolution	0.1dB
	Residual Spurious	≤-85dBm(Input terminated, 0dB atenuation)
	Harmonic Distortion	≤-65dBc, -30dBm Input, 0dB attenuation
	Intermodulation Distortion	-70dBc, 100MHz to 26.5GHz
		-65dBc, 1MHz to 100MHz, -30dBm Input, 0dB attenuation
	Other Input Related Spurious	-60dBc, 10mHz to 26.5GHz, -30dBm Input
	Resolution Bandwidth Selections	300Hz, 1kHz, 3kHz, 10kHz, 30kHz, 100kHz, 300kHz, 1MHz, 3MHz
		9k, 120kHz : Quasi-Peak Detection(option)
		10Hz, 30Hz, 100Hz : D-RBW(option)
	Accuracy	<±20%
	Selectivity	60dB/3dB ratio<15:1
		60dB/6dB ratio<12:1, 9kHz & 120kHz(Quasi Peak Option)
	Switching Error	<±1.0dB(3kHz Reference RBW)
	Video Bandwidth Selection	10Hz to 1MHz in 1-3-10 steps plus None
Sweep	Rate	20ms to 1000sec
		25us to 15sec (Zero span)
	Sweep Rate Accuracy	<±10%, <100msec
		<±5%, for all other sweep rates
	Trigger	
	Source	External(rear), Line, Video, Free run, TV trig(option)
	Modes	Continuous, Single
	Coupling	DC
	External Level(Rear)	TTL level
	Delay	±1sweep time(zero span)

NS-265(Nex1 Spectrum Analyzer) Spec

Specifications		Descriptions
Memory	Trace Storage	Maximum 1,000 traces(*.TRC)
	Setup Storage	Maximum 2,000 states(*.STS)
	Image Storage	30~200 storage(*.BMP, *.JPG)
Display	Type	6.4" Color TFT LCD
	Digital Resolution	640H X 480V active display area
	Marker Modes	Peak search, Peak Track, Delta Marker, 1/Delta
		Marker shift, 9 Markers maximum
RF Input	Connector	N-type female, 2.92mm APC Type
	VSWR	150kHz to 3.0GHz, VSWR<1.5:1(with 10dB Input attenuation)
	Maximum Input level	±50VDC +30dBm
Output	IF Output	10.7MHz, sweeped signal
	Video Output	0~5VDC
	Swp Gate	TTL level(high level at sweep)
	VGA Out	External VGA Output(Color Output)
	Probe Power	3Pin(+15V, -12V, GND) connector
AM Demodulation	Demodulation Range	5% to 90% @1kHz, 50% modulation, -20dBm Input
	Input Level Range	-2.0dBm to -75dBm @1kHz, 50% modulation
	Frequency Response	20Hz to 30kHz @-20dBm Input
	Distortion	≤5% @90% modulation @1kHz, -20dBm Input
		≤2% @50% modulation @1kHz, -20dBm Input
FM Demodulation	Demodulation Range	≤100kHz
	Input Level Range	-2.0dBm to -75dBm @50kHz deviation
	Frequency Response	20Hz to 100kHz @-20dBm Input
	Distortion	≤5% @20kHz deviation @ 1kHz, -20dBm Input
		≤2% @50kHz deviation @ 1kHz, -20dBm Input
Quasi Peak Detector (option)	Band B Frequency Range	0.15MHz to 30MHz
	Charge Time	1ms
	Discharge Time	160ms
	Display Time	160ms
	Band C Frequency Range	30MHz to 100MHz
	Charge Time	1ms
	Discharge Time	550ms
	Display Time	100ms
Reference Frequency	Temperature Stability	±2ppm / ±0.2ppm(High Stability option)
	Aging	±1ppm/year / ±0.1ppm/year(High Stability option)
	Connector	BNC female connector
	Input Level	5dBm to +15dBm
	Output Level	+5dBm nominal
IEEE-488 (GPIB) Interface	Specifications	IEEE-Standard 488.1 - 1987, 488.2 - 1992
	Interface	SH1, AH1, T5, L3, SR1, RL1, PP0, DC1, DT1, C0
		SR0, DC0, DT0, C1, C2, C3
RS-232C Interface	Type	Null Modem
	Baud Rate	600bps, 1200bps, 2400bps, 4800bps, 9600bps, 19.2kbps
		38.4kbps, 57.6kbps, 115.2kbps
	Parity Check	Odd, Even or None, Mark, Space
	Data Length	7bits, 8bits
	Stop Bits	1bit, 2bit
	Protocol	None, Xon-Xoff, RTS-CTS, DTR-DSR
Print	Drivers	PCL3 or higher
	Connection	Standard 25Pin female D-Sub parallel printer
General Characteristics	Dimensions	350mm(W) X 185mm(H) X 381mm(D)
	Weight	11.8Kg
	Warm-up Time	15minutes for the accurate measurement
	Power Resources(standard)	
	Source Voltage & Frequency	90-250VAC 50/60Hz
	Power Consumption	90Watts maximum (without options)
	Fuse	
	F1 and F2	3.15A, 250V, Type T
	Environmental Specifications	
	Place	Indoors
	Operation Temperature	0 to 40℃
	Storage Temperature	-20 to 70℃
	Temperature / Humidity	MIL-T-28800E : Type 2, Class 5(Operating : 85%, Storage : 90%)
	Vibration / Shock	MIL-T-28800 : Type 2, Class 5
	Altitude Limit	Up to 3,000 meter(operation)
		Up to 40,000 feet(none-operation)]
	Safety Standard	EN61010-1:2001
	Main supply voltage fluctuations	Nominal voltage 10%
	Transient overvoltage	Installation Category II
	Pollution degree	2
	RF emissions and immunity	
	RF emissions	EN55011 : 1991, Class A
	RF immunity	EN50082-1 : 1997

Spectrum Analyzers

2395 9 kHz to 26.5 GHz Spectrum Analyzer

AEROFLEX
A passion for performance.

A spectrum analyzer with outstanding performance and a user friendly visual interface simplifying many complex measurements

- 9 kHz to 26.5 GHz fully synthesized frequency range
- Lightweight, portable and rugged construction at 12 kg
- Excellent TFT color display
- Comprehensive marker facility
- Wide input signal range +30 dBm to -110 dBm
- Semi-automated measurements
- Floppy disk drive
- Extremely user friendly MMI reduces risk of operator error
- Tune facility
- GPIB as standard
- AM/FM demodulation

A "Value for Money" Product

The 2395 is the latest in the range of spectrum analyzers from Aeroflex providing exceptional performance at an exceptional price.

Frequency Accuracy

The local oscillator system in the 2395 is fully synthesized thus providing accurate frequency measurements with 1 Hz resolution.

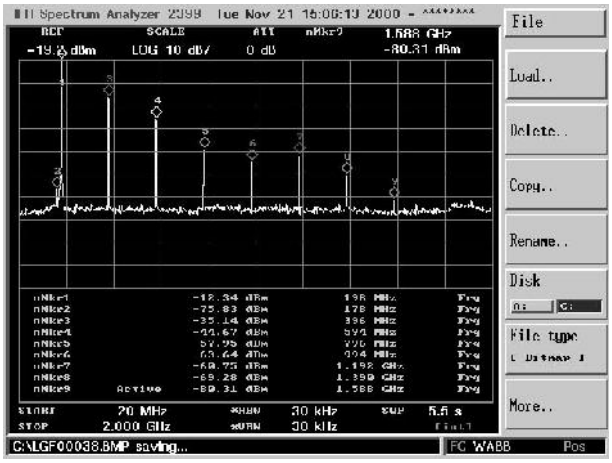
Portability

With a weight of only 12 kg the 2395 is one of the lightest microwave spectrum analyzers available. A truly portable unit!

Color Display

The 6.4 inch TFT color LCD in the 2395 provides a clear, bright, sharp display with a 640 x 480 pixel active display area viewable in high ambient light conditions.

Comprehensive Marker System



Marker table

The marker system allows up to a maximum of 9 markers to be displayed on the screen at any one time. A marker table shows the frequency and level of each marker selected thus allowing multiple signals to be evaluated simultaneously. In addition to the Normal markers 2395 provides Delta, Peak Search, Peak Track, 1/Delta, Marker Track, Marker to Center, and Marker to Reference capabilities.

Measurement Limits

The Limits facility allows an Upper and/or a Lower Limit to be set on the screen of the 2395. Should the signal being displayed fall out-

side either limit a message will appear on the screen showing which limit has been exceeded and how many times this has happened.

Wide Signal Measurement Range

The 50 Ohm input on the 2395 can accept signals between +30 dBm and -110 dBm while providing protection to ±50 VDC.

Semi-Automated Measurements

The MMI on the 2395 has been designed to simplify many of the measurements required for the evaluation of today's sophisticated communications systems. These include Adjacent Channel Power, X dB Down, Occupied Bandwidth, Channel Power and Harmonic Distortion.

Tune Function

Use of this function allows an unknown signal to be quickly captured and displayed on the screen. The 2395 will search its complete frequency range for the highest level signal, capture it, display it in the center of the screen with both the span and resolution bandwidths being automatically set to the optimal state for best viewing.

Spectral Purity

The phase noise on the 2395 is specified at -90 dBc at 10 kHz offset which allows its use for evaluating the spectral purity and noise performance of systems and sub-systems.

Signal Demodulation

Demodulation of both AM and FM signals allows full testing on a wide range of communications systems. The demodulated signal can be viewed on the screen and is also available on the internal loudspeaker and on headphones via a connector on the front panel. The FM peak deviation and AM modulation depth can be measured using the markers provided in the 2395.

Information Storage

The 2395 is provided with the capability of internally storing up to 1,000 screen traces and 2,000 operational states. The spectrum analyzer is also fitted with a 3.5 inch FDD for bulk storage.

Input Connector

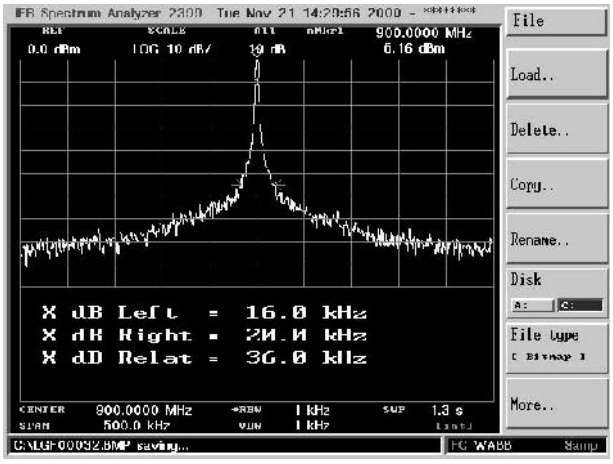
The 2395 input connector is a planar crown® adapter and both type N and PC 2.92 mm adapters are supplied. The PC 2.92 mm is required for operation to 26.5 GHz and input specifications are measured with this adapter fitted. The type N adapter can be used for operation up to 18 GHz or where low frequency operation in a type N cable system demands the appropriate connector.

® planar crown is a trade mark of Weinschel Corporation.

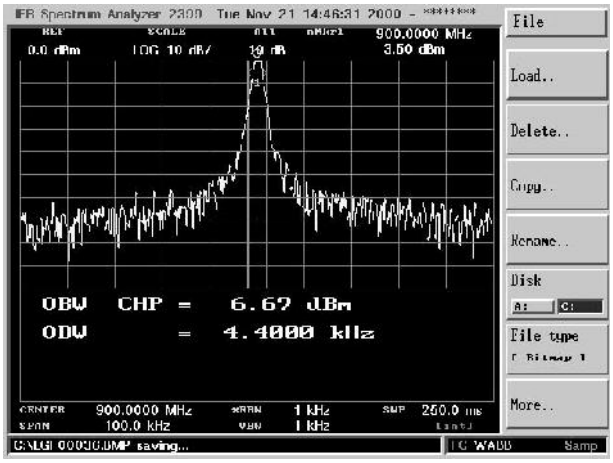
Interfaces

IEEE 488-2, RS-232 and Printer (PCL5) interfaces are provided as standard on the 2395 allowing its integration into automated test systems and the print-out of screen displays.

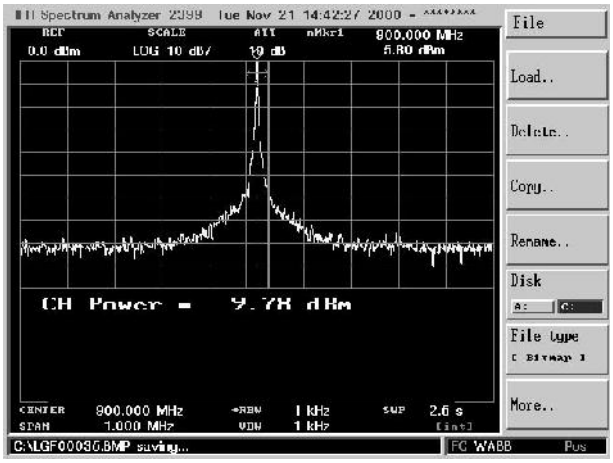
The 2395 has been designed with future flexibility and expansion in mind. The operating system and system memory has the capability to have additional facilities incorporated.



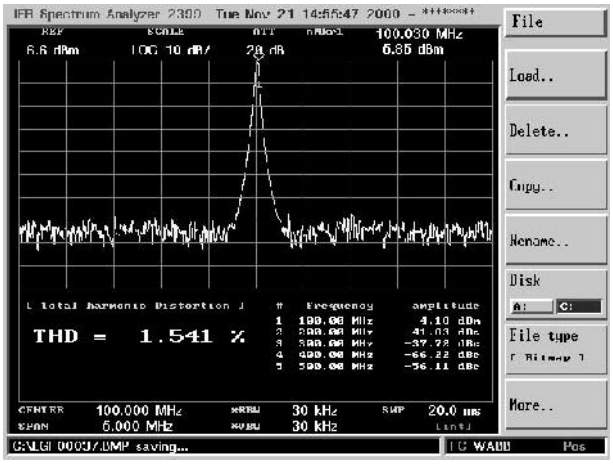
X dB down



Occupied Bandwidth



Channel Power



Harmonic Distortion

SPECIFICATION

FREQUENCY

Tuning Range

9 kHz to 26.5 GHz

Range	*Band*	*Mixing Mode*
9 kHz to 3 GHz	*0*	*1*
2.9 to 6.4 GHz	*1*	*1*
6.3 to 13 GHz	*2*	*2*
12.9 to 26.5 GHz	*3*	*4*

Resolution

1 Hz

Frequency Span Width

100 Hz/div to 2000 MHz/div in 1, 2, 5 step selections (auto-selected)
Zero span and Full span (9 kHz to 26.5 GHz)
Manual selection of Start, Stop and Span

Span Accuracy

<±3% of indicated span width

Readout Accuracy

± (Span Accuracy + Frequency Standard Accuracy + 50% of RBW)

Stability

Residual FM ≤100 x N Hz p-p at 1 kHz RBW, 1 kHz VBW
(p-p in 200 ms)

Noise Sidebands

<-90 +20 LogN dBc/Hz

where N is mixing mode shown in frequency table (previous page)

FREQUENCY COUNTER

Resolution

1 Hz, 10 Hz, 100 Hz and 1 kHz

Accuracy

±(Reference frequency error + frequency readout accuracy + counter resolution ± 1 count)

Sensitivity

<-70 dBm from 50 kHz to 26.5 GHz

AMPLITUDE

Measurement Range

+30 dBm to -110 dBm

DANL

50 kHz to 100 kHz <-105 dBm, typically -105 dBm
100 kHz to 2.8 GHz <-110 dBm, typically -110 dBm
2.8 GHz to 3.0 GHz <-95 dBm, typically -105 dBm
3.0 GHz to 13.2 GHz <-110 dBm, typically -115 dBm
13.2 GHz to 26.5 GHz <-100 dBm
300 Hz RBW, 10 Hz VBW

1 dB Compression Point

>-10 dBm, 100 kHz to 26.5 GHz at 0 dB attenuation

Displayed Range

100 dB in 10 dB/div log scale
50 dB in 5 dB/div log scale
20 dB in 2 dB/div log scale
10 dB in 1 dB/div log scale 10 divisions with linear amplitude scale

Amplitude Units

Log scale mode dBm and dBmV. Linear scale mode V (µV, mV, etc.) or dBV (dBmV only). Quasi Peak mode dBµV, dBmV or dBm

Display Linearity

5 and 10 dB/div, ±0.1 dB/dB, ± 1.0 dB over 10 divisions
1 and 2 dB/div, ±0.5 dB over 10 divisions
Linear, ± 10 % of Reference Level over 10 divisions

Frequency Response Flatness

9 kHz to 5 MHz	*-3 dB to +1 dB*
5 MHz to 2.9 GHz	*≤±1.0 dB*
2.9 GHz to 6.4 GHz	*<±1.5 dB*
6.4 GHz to 13.2 GHz	*<±2.2 dB*
13.2 GHz to 26.5 GHz	*<±3.0 dB*

Measured with 10 dB of input attenuation at 23°C ±3°C

ATTENUATOR

Range

0 dB to 55 dB in 5 dB steps selected manually or automatically coupled to the Reference Level

Accuracy

±0.5 dB/step up to ± 1.0 dB maximum

REFERENCE LEVEL

Range

-110 dBm to +30 dBm with 1 kHz filter using 1 dB/div scale

Accuracy

±1.0 dB (50 kHz to 26.5 GHz)

Resolution

0.1 dB steps

Residual Spurious

-85 dBm (input terminated, 0 dB attenuation)

Harmonic Distortion

-60 dBc (-40 dBm input at 0 dB attenuation)

Intermodulation Distortion

-70 dBc 100 MHz to 26.5 GHz
-65 dBc 1 MHz to 100 MHz
(at -30 dBm input, 0 dB input attenuation)

Other Spurious

-60 dBc (10 MHz to 26.5 GHz at -30 dBm input)

RESOLUTION BANDWIDTH

Selection

300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, 1 MHz, 3 MHz

9 kHz and 120 kHz (Quasi-Peak Detector Option)

100 Hz, 30 Hz, 10 Hz (Digital Resolution Bandwidth Option)

Accuracy

±20%

Selectivity

-60 dB/3 dB ratio <15:1 except 3 MHz filter
50 dB/3 dB ratio <15:1, 60 dB/6 dB ratio <12:1 for 9 kHz and 120 kHz Quasi Peak filters

RBW Switching Error

<±1.0 dB referred to 3 kHz resolution bandwidth

Video Selection

10 Hz to 1 MHz in 1-3-10 sequence plus full BW

SWEEP

Rate (full screen)

50 ms to 1000 s in 1-2-5 sequence, 5 ms to 20 s in Zero Span

Sweep Rate Accuracy

<±20% for <100 ms, ±10 % for all other sweep rates

Trigger Source

External, Line, Video, Free run

Trigger Modes

Continuous, Single

Trigger Level

Internal Trigger: Adjustable over 10 divisions
External Trigger (Rear): TTL Level

Trigger Delay

± One sweep time

DISPLAY

Type

6.4 inch TFT Color LCD

Digital Resolution

640 H x 480 V active display area

MARKERS

Number

Up to 9 colored Markers available plus Delta Marker

Modes

Normal, Delta, Peak Search, Peak Track, 1/Delta, Marker Track, Marker to Center, Marker to Reference, All Markers to peak

Marker

Marker Track, Marker to Center, Marker to Reference, Marker to Peak

MEMORY

Trace storage

Up to 1,000 stored traces stored internally

Setup Storage

Up to 2,000 operational states stored internally

External

3.5 inch FDD for bulk storage

Display Traces

2 maximum

INPUTS

RF Input

50 Ohm planar crown connector
Supplied with Type (N) and PC 2.92 mm (f) adapters

Input VSWR (9 kHz - 26.5 GHz)

≤1.5 : 1 with 10 dB Input Attenuation, with 2.92 mm female adapter

Maximum Input

+30 dBm with 10 dB attenuation, 50 VDC

LO Emissions

-70 dBm with 0 dB attenuation

OUTPUTS

IF Output

10.7 MHz nominal

Video Output

0 to 5 VDC, VGA output

Printer Drivers

PCL5 compatible via standard 25 pin female D-Sub Parallel Printer

Probe Power

+15 V, -12 V and Ground

Cal Signal

20 MHz, -20 dBm ±0.3 dB from front panel BNC connector

FREQUENCY STANDARD

Frequency

10 MHz

Output Level

+5 dBm nominal

Temperature Stability

<±2 ppm

Aging Rate

<±1 ppm/year

Connector

BNC female

External Input

-5 dBm to +15 dBm

INTERFACES

GPIB

Conforms to IEEE 488.1 – 1987, 488.2 – 1992

Subsets

SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, C0, LE0, TE0

RS-232C

Full Duplex

Baud Rate

110 bps, 300 bps, 600 bps, 1200 bps, 2400 bps, 4800 bps, 9600 bps, 19.2 kbps, 38.4 kbps, 57.6 kbps, 115.2 kbps

Parity Check

Odd, Even or None

Data Length

7 bit or 8 bit selectable

Stop Bits

1 bit or 2 bit

Protocol

None, Xon-Xoff, RTS-CTS, DTR-DSR

ENVIRONMENTAL

Operating

0 to 40°C

Storage

-20 to +60°C

Temperature & Humidity

Meets MIL-T-28800E for Type 2, Class 5, non-condensing (85 % operating, 90 % storage)

Vibration/Shock

Meets MIL-T-28800E for Type 2, Class 5

Altitude

Operational up to 3,000 meters, non-operational to 12,200 meters

PRODUCT SAFETY

Conforms to EN61010-1 for Class 1 portable equipment and is for use in a pollution degree 2 environment. The instrument is designed to operate from an Installation Category II.

ELECTROMAGNETIC COMPATABILITY

Complies with the limits specified in the following standard: EN61326

GENERAL CHARACTERISTICS

DIMENSIONS

350 mm (13.78 in) W, 185 mm (7.28 in) H, 395 mm (15.5 in) D including handle

Weight

<12 kg (without options)

Warm-up Time

15 minutes for specified accuracy

POWER REQUIREMENTS

Voltage

90 to 250 VAC ± 10 %

Frequency

50-60 Hz

Power Consumption

100 W maximum without options fitted

HARDWARE OPTIONS

High Stability Timebase (Option 03)

Temperature Stability

<±0.2 ppm

Ageing Rate

<±0.1 ppm/year

Quasi-Peak Detector (Option 04)

Quasi-Peak detector and EMC filters

RBW	***9 kHz Band B***	***120 kHz Band C***
Frequency Range	150 kHz to 30 MHz	30 MHz to 1 GHz
Charge Time (ms)	1 ±20%	1 ±20%
Discharge Time (ms)	160 ±20%	550 ±20%
Display Time (ms)	160 ±20%	100 ±20%

Digital Resolution Bandwidth Filters (Option 05)

Bandwidths

100 Hz, 30 Hz, 10 Hz

Bandwidth accuracy

±20%

Selectivity (-60 dB/-3 dB)

<5:1

Maximum span

1 MHz

Sweep times for 10 kHz span

RBW	*100 Hz*	*<0.9 sec*
	30 Hz	*<3 sec*
	10 Hz	*<4.5 sec*

Displayed Average Noise Levels (DANL) between 1 MHz and 13 GHz reduces DANL by typically 5 dB from the values in the 300 Hz resolution bandwidth filter.

SOFTWARE OPTIONS

Option 12 - Marker Label Edit

This software option allows the user to change the marker label from the normal numeric format to a user defined 4 digit alpha-numeric label.

Option 13 - EMC

This software option, which must be used in conjunction with Option 04 (Quasi-peak detectors and filters) provides the user with some of the facilities required for EMC pre-compliance testing. Features include:

Entry of correction factors for:
- *Test Antenna*
- *Cable loss*
- *Transducer characteristics*

Addition of limit lines
Choice of Log or Linear frequency scales
Semi-automated operation of quasi-peak functions

VERSIONS, OPTIONS AND ACCESSORIES

When ordering please quote the full ordering number information.

Ordering Numbers	Versions
2395/0	9 kHz to 26.5 GHz Spectrum Analyzer
	Options
03	High stability timebase
04	Quasi-peak detectors & filters
05	Digital resolution bandwidth filters
06	AC/DC power supply
12	Marker label edit software
13	EMC software
	Supplied Accessories
	Front cover
	Operation manual
	Programming manual
	AC supply lead
	RS-232 cable
	2 x 250 V, 3.15 A fuses
	3.5 mm (f) and type (N) planar crown adapters
80010	Soft carry case
	Optional Accessories
	Maintenance manual
AC2621	Rack mount kit
AC5008	DC block N type
80010	Soft carry case