A cost effective alternative for analog cellular, SSB, paging and mobile radio testing

- Analog meter and VFD (Vacuum Fluorescent Display) offer high visibility in all lighting conditions
- Convenient service analyzer with duplex and simplex connectors
- Standard internal spectrum analyzer to 1 GHz
- Built-in 1 MHz oscilloscope
- Comprehensive testing of analog and advanced digital paging with the AC510 option

RF Solutions
Designed for land mobile professionals with demanding RF testing requirements, the 1200 Super S has a sensitive 2 µV triple conversion receiver capable of monitoring AM, FM and SSB carriers within the low band, VHF, UHF and high band ranges.

Depending on your specific needs, the 1200 Super S also gives you the choice of receiving straight "off the air" or through a direct connection to a T/R port.

Recognized for its versatility, the 1200 Super S supports DCS, DTMF and pulsed audio signaling formats.

The 1200 Super S also meets RF measurement needs for:

- RF frequency error
- RF power
- Audio frequency error
- CTCSS frequency
- CTCSS modulation

In duplex mode the 1200 Super S is capable of simultaneously generating and receiving frequency offsets in 2.5 kHz steps. The duplex feature can be configured to operate in three modes:

- Testing using separate transmit and receive ports
- Testing using one common transmit/receive port
- "Off-the-air" duplex testing

With standard features like a 1000 MHz spectrum analyzer and built-in 1 MHz oscilloscope, the 1200 Super S virtually eliminates the need for costly additional equipment purchases. An optional tracking generator makes cable testing simple.

Paging Solutions
The versatility of the 1200 Super S also allows comprehensive testing of the most popular paging protocols, including encode/decode or 2-tone sequential, 5/6 Tone testing.

For those involved with advanced paging protocol systems, the AC510 option supports the following paging standards:

- Flex
- POC-SAG
- Golay Sequential Code (GSC)
- NEC D3

Trunking Solutions
With the CLEARCHANNEL LTR\textsuperscript{Tm} trunking option, the 1200 Super S is an ideal platform for testing LTR mobiles, portables and repeaters. For basic repeater testing, the 1200 Super S allows you to perform extensive receiver and transmitter tests.

For more in-depth analysis, the LTR test option emulates the repeater system and allows testing of home repeater access and next repeater access, including Handshake and Hand-off operation.

In addition, with 760 trunking channels, an internal tracking generator and user friendly LTR programming screens, the 1200 Super S is designed to give you the greatest control and flexibility possible.

Complex Functionality That’s Simple to Use
From the user interface to functions and displays, the 1200 Super S allows technicians of any skill level to fully utilize its vast testing resources.

- Intuitive user interface makes complex testing simple and efficient.
- CTCSS encode/decode feature makes it easy to work with sub-audible tones.
- A standard RS-232 port allows remote testing.
- Internal memory allows storage of up to 99 RF frequencies.

From programming automatic test sequences to executing standard measurements, the operating system of the 1200 Super S provides a high level of testing. Yet the 1200 Super S is so user-friendly, you’ll spend less time setting up tests and more time testing.

http://www.ifrinternational.com
1200 Super S

Specification

**RF Signal Generator**

- **Frequency Range**: 250 kHz to 999.9999 MHz
- **Resolution**: 100 Hz
- **Accuracy**: Same as Master Oscillator

**Output (T/R)**

- **Range**: -127 to -20 dBm
- **Resolution**: 10 dB steps with 11 dB vernier
- **Accuracy**: Same as Master Oscillator

**Spectral Purity Harmonics**

- -30 dBc

**Spectral Purity Nonharmonics**

- -55 dBc

**IF Image**

- ≤ -35 dB

**Residual FM**

- < 100 Hz RMS (0.3 to 3 kHz BW)

**Input Protection**

- 150 W

**Duplex Generator**

- **Frequency Range**: 0 to ±49.9975 MHz from receive frequency
- **Resolution**: 2.5 kHz
- **Accuracy**: Same as Master Oscillator

**T/R Port**

- -85 dBm ±10 dB fixed level

**Modulation**

- **Internal Frequency Modulation Range**: 0 to 50 kHz (1 kHz tone)
- **FM Rate**: 10 Hz to 30 kHz (Internal) 2 Hz to 30 kHz (External) (DC when in variable generate)
- **FM Accuracy**: ±5% of reading, ±3% of full scale (1 kHz tone)
- **FM Distortion**: < 1% (to 20 kHz deviation)
- **EXT MOD Sensitivity**: 0.1 VRMS/KHz (-90 to +30%)
- **Amplitude Modulation Range**: 0 to 50%
- **AM Rate**: 10 Hz to 10 kHz (30% maximum modulation above 5 kHz)
- **AM Accuracy**: ±5% of reading, ±3% of full scale (1 kHz tone)
- **AM Distortion**: < 10% (to 60% modulation)
- **EXT MOD sensitivity**: 0.01 VRMS (0% to +30%)

**Audio Generators**

- **Generator #1 Frequency Range**: 1 kHz

**AM Modulation Meter**

- **Meter Range**: 60% and 200% full scale
- **Meter Accuracy**: ±5% of reading, ±3% of full scale (1 kHz tone)

**RF Power Meter**

- **Input Level Ranges**: 0 to 15 W and 0 to 150 W (peak or average responding)
- **Accuracy**: ±7% of reading, ±3% of full scale (1 to 600 MHz)
- ±20% of reading, ±3% of full scale (600 to 1000 MHz)

**Distortion Meter**

- **Range**: 0 to 20 % at 1 kHz
- **Accuracy**: ± 1 % (at 10% distortion)

**Signal Frequency**

- 1 kHz

**Input Level**

- 0.25 to 2 VRMS

**Input Impedance**

- 10 kΩ nominal

**SINAD Meter**

- **Range**: 3 to 20 dB at 1 kHz
- **Accuracy**: ± 1 dB (at 12 dB SINAD)

**Signal Frequency**

- 1 kHz

**Input Level**

- 0.25 to 2 VRMS

**Input Impedance**

- 10 kΩ nominal

**Spectrum Analyzer**

- **Level Display**: 10 dB/div
- **Dynamic Range**: 70 dB
- **Log Linearity**: ±2 dB (-90 to -30 dBm)

**Frequency Span Modes**

- **Scan Width**
  - RBW: 1 MHz/div 30 kHz
  - 500 kHz/div 30 kHz
  - 200 kHz/div 30 kHz
  - 100 kHz/div 30 kHz
  - 50 kHz/div 30 kHz
  - 20 kHz/div 3 kHz
  - 10 kHz/div 3 kHz
  - 5 kHz/div 3 kHz
  - 2 kHz/div 3 kHz
  - 1 kHz/div 3 kHz

**RF Frequency Error Meter**

- **Meter Range**: ± 30 Hz to ± 10 kHz (full scale, 1-3-10 sequence)
- **Meter Accuracy**: ± Master Oscillator, ±3% of full scale

**AF Frequency Error Meter**

- **Frequency Range**: 10 Hz to 12 kHz
- **Meter Range**: ± 3 Hz to ± 300 Hz (full scale, decade sequence)
- **Meter Accuracy**: ±0.01%, ±3% of full scale

**FM Deviation Meter**

- **Frequency Range**: 2 kHz to 60 kHz (full scale, 2-6-20 sequence)
- **Meter Accuracy**: ±5% of reading, ±3% of full scale (1 kHz tone)

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Digital Voltmeter

AC VOLTS
Voltage Range
0 to 100 VRMS
Accuracy
10% ± 2 counts
Frequency Range
45 Hz to 10 kHz

DC VOLTS
Voltage Range
0 to 100 V
Accuracy
10% ± 2 counts

Master Oscillator

TCXO
Temperature Stability
±0.2 ppm (0 to 50°C)
Ageing
±0.5 ppm/year

Power Requirements

Line Voltage
105 to 130 VAC
210 to 260 VAC
Frequency
50 to 400 Hz
Power Consumption
60 W typical
DC Input
12 to 30 VDC

General Characteristics

Dimensions
332 mm (13.06 in) wide, 185 mm (7.3 in) high, 445 mm (17.5 in) deep
Weight
17.2 kg (38 lbs) without options

0.05 ppm OCXO (Premium)

Stability
0.05 ppm/year (0 to 50°C)

Generate Amplifier (Premium)

Gain
30 dB (±2 dB) typical, 250 kHz to 1000 kHz

Test Set Output with Analyzer Installed
Variable to +10 dBm, FM and CW
Variable to +4 dBm, AM

Tracking Generator (Premium)

Frequency Range
1 to 999.9999 MHz
Output Level
Track High -5 dBm (+3/-5 dB)
Track Mid -15 dBm (+7 dB)
Track Low -40 dBm (+5/-10 dB)
Flatness
±1 dB over center 30% of display
±5 dB over remaining display
Tracking Span
10 kHz to 10 MHz
Output Impedance
50 Ω (nominal)

Spurious
Harmonic and non harmonic are <5 dBC, <10 dB typical
Image (RF + 180 MHz) 0 dB typical

Dynamic Range
70 dB
Tracking Range
200 Hz to 1.0 kHz

Versions and Accessories

When ordering please quote the full order number information

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<td>1200 Super S, 110 VAC with Certificate of Calibration</td>
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<td>1200SS-220</td>
<td>1200 Super S, 220 VAC operation</td>
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<tr>
<td>1200SSH-110</td>
<td>1200 Super S Hi Stability (0.05 ppm OCXO time base, tracking generator) 110 VAC operation</td>
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<td>1200SSH-110-C</td>
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<td>1200SSH-220</td>
<td>1200 Super S Hi Stability, 220 VAC operation</td>
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<td>1200 Super S Hi Stability, 220 VAC with Certificate of Calibration</td>
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Accessories

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<tr>
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<tr>
<td>AC0002</td>
<td>Soft padded carrying case</td>
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<td>AC0488</td>
<td>IEEE-488 (in lieu of RS-232) (not avail. with 1200SSP or AC0450)</td>
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<td>AC0489</td>
<td>CLEAR CHANNEL LTR</td>
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<td>AC510</td>
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<td>AC1201</td>
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<td>AC4101</td>
<td>Return loss bridge 5 MHz to 1 GHz (req. 1200 Super S Premium)</td>
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<tr>
<td>AC5249</td>
<td>Generate Amplifier +30 dBm</td>
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