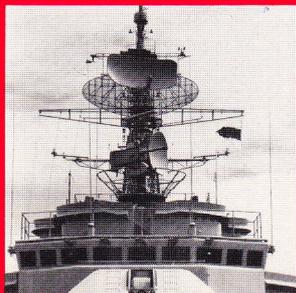


LOCATES MULTIPLE FAULTS IN COAX AND WAVEGUIDE TRANSMISSION LINES

- SELF-TEACHING, EASY TO OPERATE
- LIGHTWEIGHT, PORTABLE, WITH BUILT-IN TEST
- IDENTIFIES TRUE VSWR, FAULT LOCATION,
AND INSERTION LOSS
- PRINTS TEST RESULTS IN LESS THAN 2 MINUTES



AN/PSM-40
U.S. Navy Version



Self-Teaching Analyzer Locates And Prints Out Even

Utilizing digital-signal processing and Frequency Domain Reflectometry techniques, Systron Donner's Model 5220 Transline Analyzer will identify, measure, and chart the true value of multiple faults and insertion loss in coax and waveguide transmission lines.

Within a few minutes, the Transline Analyzer gives you an easy-to-understand log of the precise distance to each mismatch, along with the exact VSWR of each mismatch corrected for line attenuation and preceding mismatches. Best of all, the analyzer's reproduceable hard-copy printout requires absolutely no subjective analysis by the operator.

Portable, Easy To Operate

Both the analyzer and its interchangeable RF heads are designed to be carried easily and operated with minimal training in remote, hard-to-reach locations.

Every step of operation, from power-up to final test results, is covered by a master menu in the unit's tutorial software and communicated to the operator via an easy-to-read liquid crystal display. Through a logical sequence of prompts and simple yes/no questions, the analyzer literally takes the operator by the hand and guides him effortlessly through a successful test.

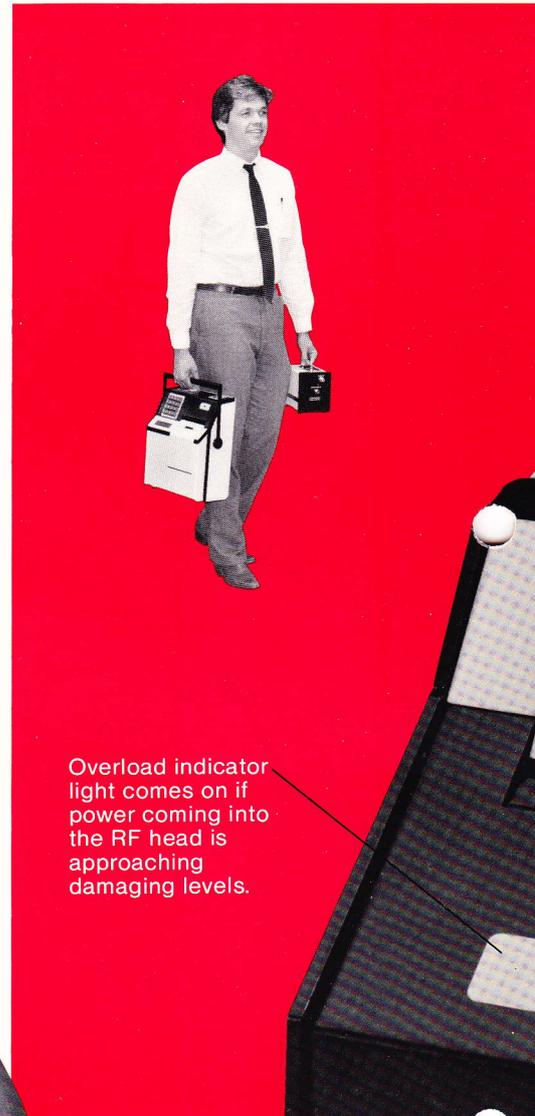
The ana-

lyzer features four modes of operation: transmission line test mode (fault location and line loss) reflectometer mode (VSWR vs. frequency), instructional mode (operator prompt), and a built-in self-test mode.

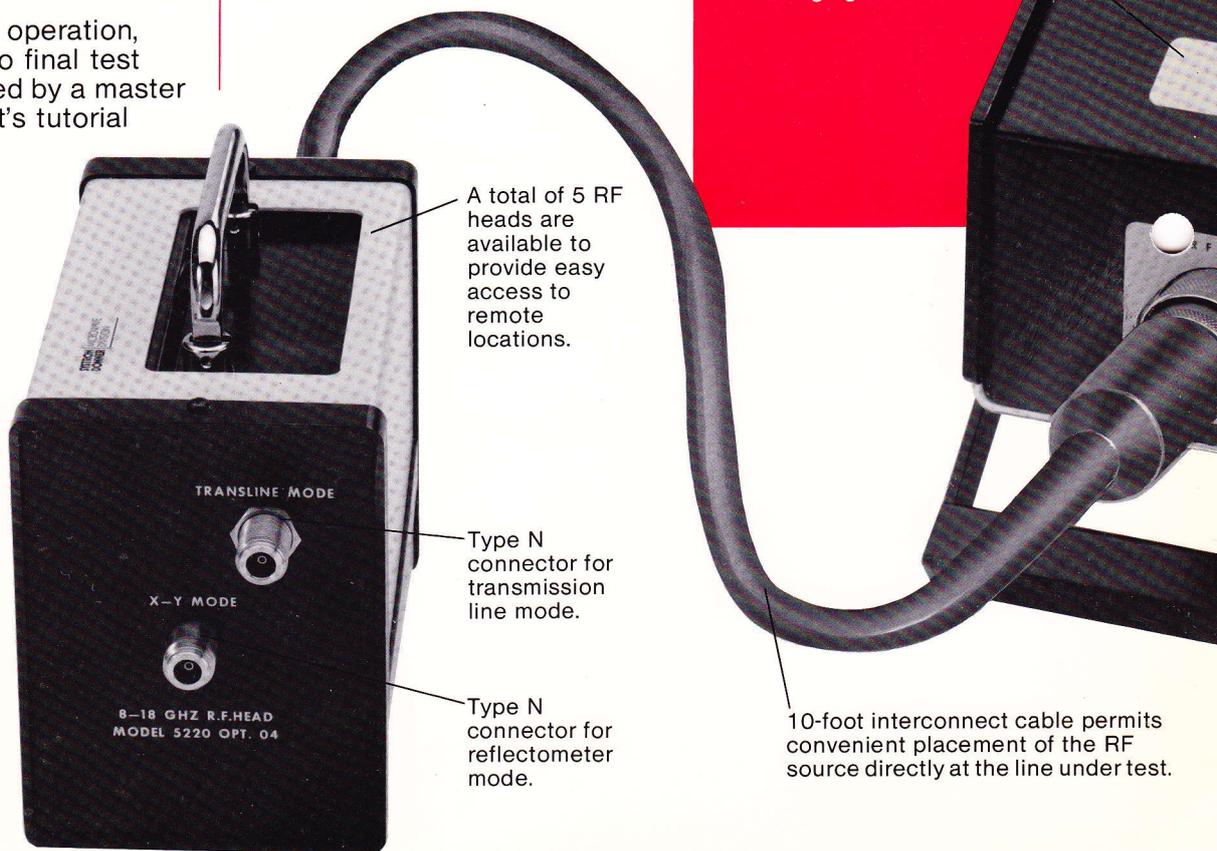
Other features include:

- One-port operation. For operator convenience, all tests are made from only one end of the transmission line.
- Foreign signal and harmonic rejection. Systron Donner holds U.S. Patent No. 4630228 for developing and introducing this unique technique.
- 2 MHz to 18 GHz frequency range. One of five remote RF heads is easily connected to the mainframe in seconds via a ten-foot cable.
- Standard IEEE 488 and RS-232C interfaces.

Call or write Systron Donner for more information and a demonstration.



Overload indicator light comes on if power coming into the RF head is approaching damaging levels.



Transmission Line Fault in Less Than Two Minutes!



44-character, alpha-numeric printer/plotter provides hard-copy documentation.

40-character Liquid Crystal Display prompts the operator for effortless testing.

Both IEEE 488 and RS-232C interfaces are standard.

Keyboard for inputting values and answering questions prompted by the LCD.

Back-lighted power switch.

Four-position carrying handle conveniently positions the analyzer in different operating attitudes for easy viewing.

Reset switch, used to interrupt any test procedure and return to the master menu.

LINE FAMILY: RG-51, NR-112
CENTER FREQUENCY: 8500.000 MHz
CABLE ATTENUATION: 3.672 DB
VELOCITY FACTOR: 0.786
TWO WAY RTN: 100 FEET
RETURN LOSS: 10.448 DB
COMPOSITE VSWR: 11.430 DB
VSWR THRESHOLD: 1.733:1
1.050:1
REF. EXTENSION CABLE WAS NOT USED.
LENGTH OF TRANSMISSION LINE WAS CALCULATED TO BE: 63.54 FEET

MISMATCH LOG
CORRECTED
#####

LOCATION FEET	VSWR	RETURN LOSS
25.11		
38.94	1.11	25.66
53.53	1.08	28.08
	1.15	22.94

SYSTON DONNER MICROWAVE DIVISION
Transline Analyzer MODEL 5220

RESET
POWER

Transline Analyzer[®] Model 5220

Specifications

Transline Mode: (Distance to Fault and Line Loss)

- **Frequency Range**
2 MHz to 18 GHz
- **Frequency Accuracy**
<±1% or 150 KHz, whichever is greater
- **Dynamic Range**
80 dB nom
- **Output Impedance:** 50 ohms nom
- **Two Way Attenuation Accuracy:**
0.002 to 2 GHz <±1.5 dB or 10%, whichever is greater
2 to 4 GHz <±2.0 dB or 10%, whichever is greater
4 to 8 GHz <±2.5 dB or 10%, whichever is greater
8 to 18 GHz <±4.0 dB or 10%, whichever is greater
- **VSWR Accuracy for a Single Fault Along Waveguide or Coax Cable**
<±5% of indicated VSWR from 1.1:1 to 1.99:1;
<±10% of indicated VSWR for 2.0:1 or higher
- **Location Measurement Accuracy**
Swept Bandwidth Equal to 4% of Overall Frequency Coverage of RF Head with Known Velocity of Propagation
2 MHz to 1 GHz (RF Head—01) and 1-2 GHz (RF Head—02)
<±1.5 feet or ±1%, whichever is greater
2-4 GHz (RF Head—03)
<±1 foot or ±1%, whichever is greater
4-8 GHz (RF Head—04)
<±6.0 inches or ±1%, whichever is greater
8-18 GHz (RF Head—05)
<±5.0 inches or ±1%, whichever is greater
- **Foreign Signal Rejection**
+17 dBm nominal within 10% of operating frequency
- **Overload Input:**
+30 dBm without damage. Test operations halted and test inhibited indicator turns on when overload is greater than +17 dBm.

Remote Programming

- **Serial Interface:** RS-232C
- **Parallel Interface:** IEEE 488-1978

Contact Factory for Custom Specifications.
Specifications subject to change without notice.

Reflectometer Mode: (Return Loss and VSWR vs. Frequency)

- **Frequency Range:** 2 MHz to 18 GHz
- **Frequency Accuracy:**
±1% or 150 KHz, whichever is greater
- **Dynamic Range:** 30 dB nom
- **Output Impedance:** 50 ohms nom
- **VSWR Accuracy**
<±5% of indicated VSWR from 1.1:1 to 1.99:1;
<±10% of indicated VSWR for 2.0:1 or higher
- **Foreign Signal Rejection**
0 dBm nominal within 10% of operating frequency (RF Head—01)

General

- **Data Entry:** 16-key keypad
- **Data Display:**
Two-line, 40-character LCD Alphanumeric display
- **Printer:**
44-column thermal graphics printer
- **Self Test:**
Built-in test (BIT) test of mainframe and RF head
- **Self Teaching Capability**
Display prompts and instructions built-in
- **Input Power:**
100, 120, 220, 240 Vac ±10%, 46 to 440 Hz,
75 Watts
- **Operating Temperature:**
0° to 50°C (32° to 122°F)
- **Warm-up Time:** 2 minutes typ.
- **Dimensions:**
Mainframe: 6½"H x 12½"W x 14½"D
(165 x 317 x 368mm)
RF Head-01, 02, 03: 7⅞"H x 6¼"W x 10"D
(181 x 159 x 254mm)
RF Head-04, 05: 6⅞"H x 5"W x 8⅞"D
(155 x 127 x 206mm)
- **Weight:**
Mainframe: 30 lbs (13.61 kg)
RF Head-01: 17 lbs (7.71 kg)
RF Head-02, 03: 14 lbs (6.35 kg)
RF Head-04, 05: 10 lbs (4.54 kg)
- **Ruggedized Construction**
MIL-T-28800C, Type II, Class 5, Style E
- **EMI Compatibility**
Complies with MIL-STD 461B Class 4A, CE01, CE03, CS01, CS02, RE01, RE02, RS01, RS02, RS03 (U.S. Navy AN/PSM-40)

Practical technology from

**SYSTRON MICROWAVE
DONNER DIVISION**

14844 Oxnard St., Van Nuys, CA 91409 • (818) 786-1760
TWX: 910-495-1786 FAX: (818) 786-2945