



Antenna / Line Monitor



The patented design of the TASC Systems Antenna/Line Monitor is the most advanced measurement system of its type currently available with broadband capability. The performance of the device has been demonstrated in a large number of installations across various cellular and land mobile technologies.

The TASC Antenna/Line Monitor (ALM), RF Power and VSWR monitoring device, is a precision tool for measuring and monitoring forward and reflected power. The device provides highly accurate forward and reverse power measurements in real time with forward power levels up to 500 Watts average power regardless of the modulation scheme deployed. The device can be connected to any existing radio system for immediate reliable monitoring. The device is built utilizing a unique, patented, proprietary airline multi-section dual directional coupler that provides low insertion loss and low passive intermodulation levels.

It is becoming increasingly necessary for equipment to be placed between the BTS and the antenna as channel counts continually rise to meet capacity demands. In some cases a high power linear amplifier might be added after a number of combiners. The BTS would now see this equipment at the output of the transmitter and may be completely blind to the antenna line and antenna. The ALM can be placed after the high Power Amplifier (PA) to monitor the antenna, the antenna line, as well as, diplex filters and TMA's that may be in line with the antenna. The dynamic range and accuracy of the ALM allows the user to see weak reflected power levels and be alerted to changes that would have been too subtle for other products to interpret.

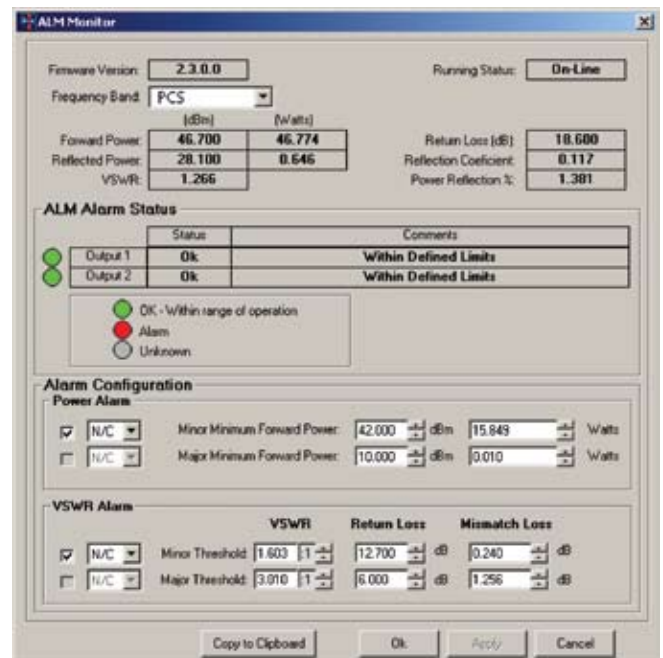
The ALM includes a user-friendly Windows™ based configuration utility, which enables the user to set the alarm types and levels, and to view the information in real time. Data is displayed in several formats allowing the user to immediately interpret the measurements in terms of return loss, VSWR, and percentage of reflected power. The frequency range and the modulation type for the device may also be specified, ensuring a very accurate measurement.

Through the accurate measurement of forward and reflected power, the ALM calculates VSWR and return loss. Alarm outputs can be mapped to a user configurable threshold. Any two of the three alarms can be assigned to individual Form C relays. The user can also select whether the relays should operate as Normally Open or Normally Closed.

Product Highlights & Benefits

Unique features of the device are:

- insertion loss of less than 0.1 dB
- the power sensors are calibrated over a 35 dB dynamic range at 0.5 dB increments to ensure that the directivity of this novel coaxial structure is fully exploited
- directivity of greater than 30 dB
- reduced downtime through real-time, accurate forward and reflected power measurements
- the ability to measure return loss at both the cellular and PCS bands simultaneously
- wide frequency range of 40-2000 MHz



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Specifications

General	
Directivity:	> 30 dB
Frequency Range:	40 – 2000 MHz
Measurement Range:	2 – 500 Watts Average Power
Insertion Loss:	< 0.1 dB
Input VSWR:	1.12:1 Maximum
Power Handling:	> 500 watts Average Power
Passive Intermodulation:	<-160 dBc IM3 2 tones @43 dBm
Power Requirements:	10 – 35 VDC @ 30 mA typical (90 mA both relays energized)

Optional	
Internal:	DC bias circuit
Band Specific Directivity:	Directivity > 40 dB

Measurement	
Power Accuracy:	+ / - 0.5 dB
VSWR:	1.08:1 minimum

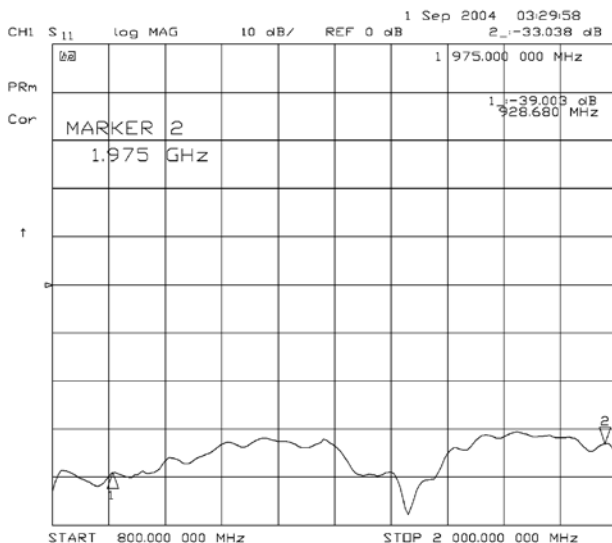
User Interface	
Software:	Windows based PC application
LED Bicolor:	Normal/Alarm

Alarm Characteristics	
Alarm Set Point:	Variable
Relay Contact Type:	2 x Form C isolated
Contact Rating:	60 VDC @ 1 A
Alarm Types:	Forward power threshold VSWR threshold major, minor
Reset:	Automatic

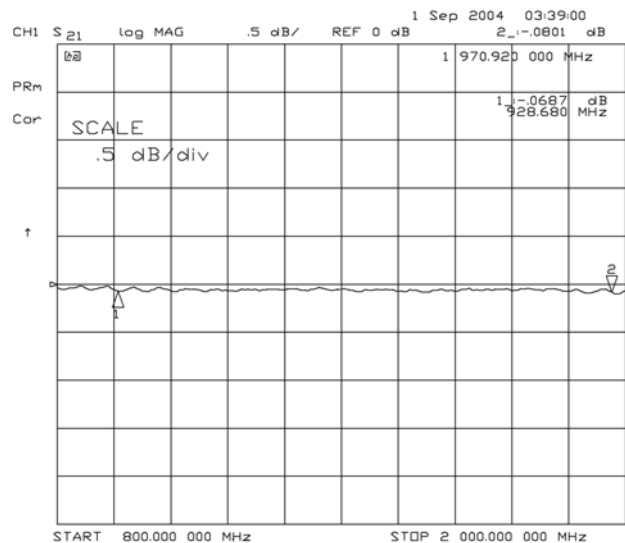
Mechanical	
RF Connectors:	7/16 DIN M-F, N type F-F
Power Connector:	2 pin press lock
Alarm Connector:	D subminiature 9 pin
Operating Temperature:	-40 to + 50 degrees C
Humidity:	98% non-condensing
Dimensions:	200mm X 90mm X 40mm (8" x 3.5" x 1.5")

Weight:	
Housing Material:	Aluminum, iridite coating
PC Interface:	RS232, DB9

Return Loss



Insertion Loss



TASC Systems Inc. is continuously working to improve system performance and expand product capabilities.

Specifications are subject to change without notice. 2009

NOTICE: Given the variety of factors that can affect the use and performance of a TASC Systems Product (the "Product"), it is essential that User evaluate the TASC Systems Product and software to determine whether it is suitable for User's particular purpose and suitable for User's method of application. TASC Systems' statements, engineering/technical information, and recommendations are provided for User's convenience. TASC Systems products and software are not specifically designed for use in "life support" applications. TASC Systems products and software should not be used in such applications without TASC Systems' express written consent.



9415 202 Street
Langley BC
Canada
V1M 4B5

T: 604-455-2000
F: 604-888-2712
sales@tascsystems.com
www.tascsystems.com