

The Model 3918 P/AR Module measures and displays the P/AR rating of a channel in a single-width module that plugs into the Model 3900 Communications Test System. Designed to Bell System specifications, the P/AR (peak-to-average ratio) rating measures the simultaneous effects of envelope delay distortion, frequency response problems, and poor return loss on voiceband data signals.

P/AR readings from 0 to 120 are displayed on its own digital display. The reading fluctuations can be damped with the DAMP pushbutton. The received test signal level is simultaneously displayed by the Basic Unit. A CAUTION indicator shows the presence of interfering signals or low test signal level that could cause errors in the reading.

The module generates the complex P/AR signal spectrum and sends it to the Basic Unit for line interfacing and send level control. A unique TEST pushbutton generates a test signal with a known P/AR rating for verifying module operation.

The module is compatible with all other P/AR measuring equipment meeting current Bell System specifications.

The "Exclusive Measurement" interlock ensures that no conflicting modules are active during P/AR measurement.

The Model 3918 is a single-width module weighing 18 oz. It may be located in any plug-in location, including the Model 3910 Expander Unit, and can be easily inserted and extracted without the use of hand tools.

## SPECIFICATIONS\*

### OPERATING MODES

#### P/AR MEASUREMENT

Accuracy	$\pm 2$ P/AR units (30 – 110) $\pm 4$ P/AR units (0 – 120)
Resolution	1 P/AR unit
Range	0 to 120 P/AR units
Input Level Range	0 to –40 dBm
Detection	Full-wave rectified average detector and absolute peak detector

#### DIGITAL DISPLAY

3 digits, direct reading in P/AR units

#### DISPLAY

#### RESPONSE TIME

5 seconds from no signal  
3 seconds for 10 P/AR unit step  
Damped (average of 10 readings)

#### OVERRANGE INDICATION

Flashing display

#### UNDERRANGE INDICATION

Blank display with – sign (includes sine wave signal inputs)

#### SELF-TEST

Type of Circuit  
Test Configuration

All-pass network  
Pushing test button applies P/AR disturbed signal to module input and generator output

### GENERATOR

#### Line Spectrum

Designed to meet the requirements of Bell PUB 41009 for frequency, magnitude, phase, and distortion.

#### Line Signal Stability Send Level

64 ms period,  $\pm 0.1\%$   
Variable from 0 dBm to –39.9 dBm True RMS via SEND LEVEL thumb-wheel switches on basic unit.

### MODULE INTERLOCKS

"Exclusive Measurement" interlock

### INDICATORS

CAUTION  
Module ON

### MODULE SIZE

Single-width module

### MODULE WEIGHT

18 oz.

### OPTIONS

.04 Remote control

\*All stated and unstated specifications are intended to comply with Bell System standards as contained in Bell System Technical Reference PUB 41009 dated May 1975

HLI reserves the right to make changes in specifications at anytime without notice.