

# FADING SIMULATOR

# 4409A

## General

This unit is low cost fading simulator for broadcasting wave connected with Multi System Digital Signal Generator (3511C / 3535A / 3530A). Number of paths is maximum 40 paths and this unit corresponds to profile of 20 paths model of 3GPP regulation and more than number of paths. (20 paths model and 40 paths model are possible to select.) Also, noise generator is built-in and noise can be added to signal after fading process. Also, signal of center frequency 36~44 MHz (Band width: 8 MHz) is able to be input to IF INPUT terminal of this unit.

※Fading is phenomenon that electric field strength at receiving point is varying every moment due to the change of condition of propagation route



## Features

### Number of paths needed to 3GPP regulation is realized.

Number of fading paths is 40 paths, and this unit corresponds to profile of 20 paths model of 3GPP regulation and more than number of paths. (20 paths model and 40 paths model are possible to select.)

### Small-size and Light-weight are realized.

Height is kept to 2U size, and small-size and light-weight are realized.

### Stand alone usage is possible.

Notwithstanding small size, exclusive Keys and ten-Keys are equipped and vacuum fluorescence display of 40 characters x 4 rows is adopted for indication, so that stand alone operation is possible.

### Easy connection with Multi System Digital Modulator

Input IF center frequency is 36 ~ 44 MHz (10 kHz step). Output IF center frequency is 37.15 and 44.0MHz. Connection with Eiden's Multi System Digital Signal Generator (3511C / 3535A / 3530A) is made easily.

### Correspondence to terrestrial digital broadcasting wave in the world is possible.

All terrestrial digital broadcasting signals, such as DVB-T/H, ATSC, ISDB-T, DMB-T, ADTB-T and etc. can be processed.

### Sufficient Static Path Setting

Absolute delay amount of each path is  $\pm 1$  ms (Min. delay resolution 1 ns), phase setting is  $\pm 180^\circ$  (Min. resolution  $1^\circ$ ) and attenuation amount is 0 ~ 50 dB (Min. resolution 0.1 dB).

### Rayleigh Fading can be output on all paths.

Rayleigh fading can be realized on all 40 paths. Also, Doppler frequency is possible to be set to 1 Hz~2000 Hz (Min. resolution 0.01 Hz).

### Noise generator is built-in.

Noise generator is built-in. C/N setting range is 0 ~ 40 dB (Min. resolution 0.1 dB).

### Remote Control

Remote control by GP-IB (IEEE-488.2) is possible. Also, remote control by ETHERNET (10Base-T / 100Base-TX) as option is possible.

- Main unit** ..... 1  
425(W) × 88(H) × 480(D) mm Weight Approx. 7Kg
- Accessories** Power Cable (Including 3pin→2pin converter) ..... 1  
Instruction Manual ..... 1
- Power Source** Input Voltage Allowable Range : AC90V~250V (50Hz/60Hz)  
Power Consumption Approx. 60VA
- Operating Environment**  
Temperature : 0°C~+45°C  
Humidity : Less than 90%RH (No dew generation)

## Type List

Type	Number of path	Remote Interface
4409A-201	20	GP-IB
4409A-202		GP-IB & 10Base-T/100Base-Tx
4409A-401	40	GP-IB
4409A-402		GP-IB & 10Base-T/100Base-Tx