

PC-2X

CATV Return Band Two Carrier Generator User Instructions



Definitions:

- Network: An arrangement of coaxial cable and devices connected in such a manner to allow the transport of RF, video, audio, and data.
- DUT: Device-Under-Test
- RF: Radio frequency signals
- Cable: 75 Ohm coaxial cable

Introduction:

The PC-2X is a handheld RF signal generator. It generates two CW carriers that are extremely clean and stable.

The PC-2X is popular with CATV installers and service technicians who align and test the return path (return band). It is also handy for measuring insertion loss of cable, splitters, taps, and more when used in conjunction with a signal level meter or spectrum analyzer.

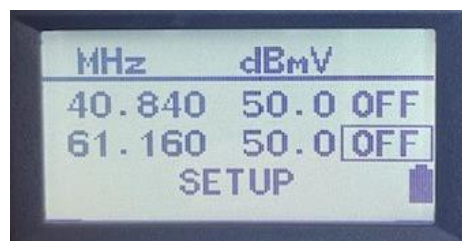
Because of its excellent frequency and amplitude accuracy, the PC-2X is great for calibrating signal level meters and spectrum analyzers.

By injecting the PC-2X's signal into the network or DUT at Point A, a technician can determine the network's or DUT's dB signal loss by connecting a spectrum analyzer or signal level meter (such as Applied Instruments's AI XR-3 with Cable-Air meter module) at point B.

A 5V 3A power cube is included with each PC-2X Test Signal Generator. An optional padded case is also available.

Channel Setup:

- Press the power button in the lower left of the keypad. The frequency and amplitude of the channels will be displayed on the LCD screen.



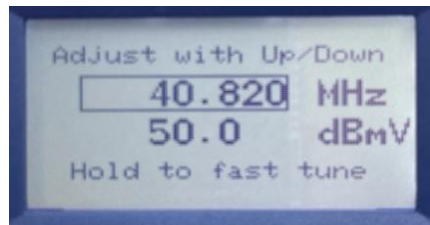
- Using the up/down arrow keys, highlight SETUP and press SELECT.



- Using the up/down arrow keys, highlight the desired channel and press SELECT.



- Use the up/down arrow keys to select the field to change and press SELECT.



- Make fine adjustments by pressing the up/down arrow keys or press and hold to fast tune. Once both channels have the desired frequency and amplitude, press the BACK button until you see the main run screen.

Display Backlight:

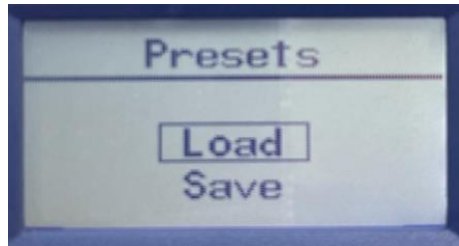
- Press and hold both the up and down arrows simultaneously to power on and off the backlight.

Presets:

- The PC-2X can hold up to 9 desired frequency and amplitude channel configurations.
- From the main run screen, highlight SETUP and press SELECT.



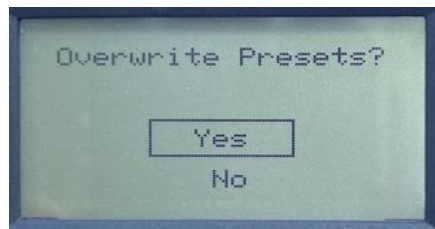
- Use the down arrow to highlight Presets and press SELECT.



- From the Presets menu, you can load an existing saved configuration or save the current configuration.
- To load an existing configuration, highlight Load and press SELECT.
- Using the up/down arrow keys, select the desired slot from 1-9.



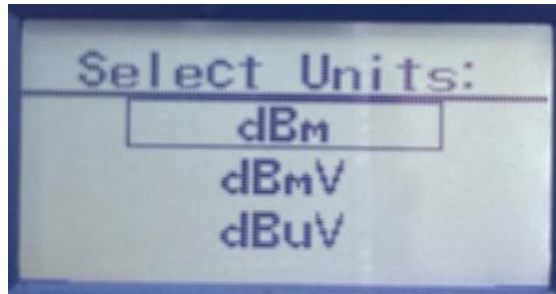
- Once you have the desired slot, press the SELECT button. The PC-2X will load the desired configuration and take you back to the main run screen.
- To save a new configuration in the PC-2X, set the desired frequency and amplitude for channels 1 and 2. See channel setup instructions.
- Once you have the desired configuration, highlight SETUP and press SELECT. Highlight Presets and press SELECT. Highlight Save and press SELECT. Use the up down arrow keys to select the desired slot number and press SELECT.



- Press SELECT on Yes if you are sure you want to overwrite the current slot configuration.
- The configuration will be saved and take you back to the main run screen.

Level Units:

- The PC-2X can display the level in several different units of measure (dBm, dBmV, and dBuV).
- To change the level's unit of measure, highlight SETUP and press SELECT. Highlight Level Units and press SELECT.



- Highlight the desired unit of measure and press SELECT. The PC-2X will take you back to the main run screen. The unit of measure will be displayed in the top right portion of the LCD display.

Operation:

- Connect a coaxial cable from the RF OUTPUT port of the PC-2X to your receiving device. Turn the PC-2X's power on. Using the up/down arrow keys, highlight OFF and press SELECT to toggle each carrier ON.
- Using your receiving device, note the level of the frequency range you are testing. This is your reference level.
- Next, connect the coaxial cable from the RF OUTPUT port of the PC-2X to your network or DUT. Connect your receiving device to the output point of your network or DUT. Use your receiving device to measure and note the level. Subtract this level from your reference level to obtain the dB RF signal level loss of your network or DUT.

Specifications:

RF Carrier Type (each)	Adjustable in 5 KHz increments, Continuous Wave (CW)
Frequency Range	Channel 1: 5 MHz to 50 MHz Channel 2: 50 MHz to 204 MHz
Frequency Accuracy	Greater of 0.01% or 1.0 kHz
Amplitude Output Level	Maximum +50 dBmV (110 dBuV) Adjustable from 20 dBmv to 50 DbmV in .5dB steps for each channel individually
Amplitude Stability	+/- 0.2 dB
Spectral Purity	at least -50 dBc
Output Impedance	75 Ohm
Operating Temperature Range	0°F to 120°F (-18°C to +50°C)
Power DC	Internal, rechargeable LiPo battery 3.7V, 3450mAh
Operation Time per Battery	Approximately 3 hours continuous after full charge at full output
Low Battery Indicator	Can be monitored on the LCD display
Low Battery Cutoff	Turns off carriers when battery power is insufficient
Enclosure Type, Size, Weight	ABS Plastic, 6.1"W x 3.5"H x 1.3"D, 9.6 oz. (155 x 88 x 33 mm, 272 g)

Specifications subject to change without notice.

Warranty:

The PC-2X has a limited warranty against defects in materials and workmanship for a period of 12 months. Applied Instruments agrees to repair or replace any assembly, or component found to be defective under normal use during this period. Applied Instruments' obligation under this warranty is limited solely to repairing the instrument proved to be defective within the scope of the warranty when returned to the factory. Transportation to the factory is to be arranged and prepaid by the customer. Authorization by Applied Instruments is required prior to shipment. Warranty will cover the return shipping within the continental USA. Transportation from the factory must be paid by the customer if ship-to address is outside of the continental USA.

PLEASE KEEP YOUR RECEIPT OF PURCHASE TO VERIFY WARRANTY DATE

If it becomes necessary to have your PC-2X serviced, you can request a RMA online at:

<https://appliedinstruments.com/pages/request-rma>

You can also email your request to support@appliedin.com

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