

# **RF-1310 SERIES EXCITER**

## **INSTRUCTION MANUAL**

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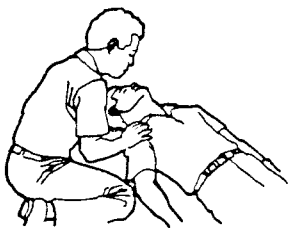
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Equipment manufactured by Harris Corporation, RF Communications Group meets stringent quality and safety standards. However, high voltages are present in many radio products, and only a skilled technician should attempt to remove outer covers and make adjustments or repairs. All personnel who operate and maintain the equipment should be familiar with this page as a safety preparedness measure. Although this procedure is reproduced as a service to the personnel involved with this equipment, Harris Corporation assumes no liability regarding any injuries incurred during the operation and repair of such equipment, or the administration of this suggested procedure.

#### **ELECTRICAL SHOCK: EMERGENCY PROCEDURE**

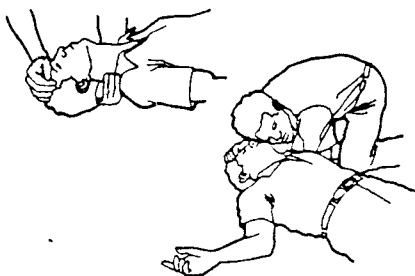
The victim will appear unconscious and may not be breathing. If the victim is still in contact with the voltage source, disconnect the power source in a manner safe to you, or remove the victim from the source with an insulated aid (wooden pole or rope). Next, determine if the victim is breathing and has a pulse. If there is a pulse but no breathing, administer artificial respiration. If there is no pulse and no breathing, perform CPR (if you have been trained to do so). If you have not been trained to perform CPR, administer artificial respiration anyway. Never give fluids to an unconscious person.

## **WHEN BREATHING STOPS**

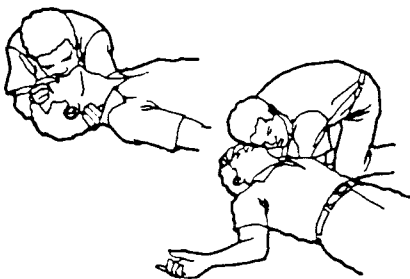


**FIRST**, send someone to get a **DOCTOR**.  
**THEN**, administer first aid to restore breathing (artificial respiration):

**1 IF A VICTIM APPEARS TO BE UNCONSCIOUS**  
TAP VICTIM ON THE SHOULDER AND SHOUT, "ARE YOU OKAY?"



**2 IF THERE IS NO RESPONSE**  
TILT THE VICTIM'S HEAD, CHIN POINTING UP. Place one hand under the victim's neck and gently lift. At the same time, push with the other hand on the victim's forehead. This will move the tongue away from the back of the throat to open the airway.  
IMMEDIATELY LOOK, LISTEN, AND FEEL FOR AIR.  
While maintaining the backward head tilt position, place your cheek and ear close to the victim's mouth and nose. Look for the chest to rise and fall while you listen and feel for the return of air. Check for about five seconds.



**3 IF THE VICTIM IS NOT BREATHING**  
GIVE FOUR QUICK BREATHS.  
Maintain the backward head tilt, pinch the victim's nose with the hand that is on the victim's forehead to prevent leakage of air, open your mouth wide, take a deep breath, seal your mouth around the victim's mouth, and blow into the victim's mouth with four quick but full breaths just as fast as you can. When blowing, use only enough time between breaths to lift your head slightly for better inhalation.  
If you do not get an air exchange when you blow, it may help to reposition the head and try again.  
AGAIN, LOOK, LISTEN, AND FEEL FOR AIR EXCHANGE.



**4 IF THERE IS STILL NO BREATHING**  
CHANGE RATE TO ONE BREATH EVERY FIVE SECONDS.

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**A2 CONVERTER ASSEMBLY**
**A3 ELECTRONIC KEYER**
**A4 COMBINER ASSEMBLY**
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**SPECIFICATIONS FOR RF-1310 MF/HF-SSB SYNTHESIZED EXCITER**

Frequency Range	405 kHz to 29.99999 MHz
Frequency Resolution	10 Hz increments standard
Tuning	Keypad entry
Tuning Time	Tuning time between any two frequencies is less than 20 milliseconds.
Frequency Stability (Internal)	$\pm 1$ part in $10^8$ - oven
Frequency Standard I/O	Input - 1 MHz, 5 MHz, or 10 MHz, at $0.5 V_{rms}$ into 50 ohm load Output - frequency same as input, at $0.5 V_{rms}$ / 50 ohms (daisy chain feature)
Channel Memory	100-channel capacity, capable of being loaded locally or remotely with complete exciter parameters, retention of operational parameters without power is provided for one month minimum.
Readout/Display	Exciter frequency, mode, channel assignment, carrier reduction, power output reduction (vacuum fluorescent), input line audio level (meter), and RF power output level (meter)
Modes of Operation	A1 - CW A2 - MCW A3A - Reduced Carrier (-16, -26 dB) A3H - AME (-6 dB carrier) A3J - USB, LSB A3B - 2 ISB F1 - FSK 6F3 - FM AFSK 4 ISB (optional)
Power Output	Nominal 100 mW - Peak or Average Maximum Output - 400 mW
Intermodulation Distortion	-45 dB relative to either tone of a two-tone signal at 100 mW
Signal Processor	Signal clipper with internal adjustment for increased average power for voice or multitone data signals
Spurious Outputs	-75 dB relative to rated output, except harmonics, which are -40 dB or greater, and unwanted sideband, -60 dB, carrier rejection -60 dB



**SPECIFICATIONS FOR RF-1310 MF/HF-SSB SYNTHESIZED EXCITER (Cont.)**

<b>Inputs</b>	Line 600 ohms, -26 dBm to + 10 dBm; trimpot adjustment or Automatic Level Control (ALC)
<b>Microphone Input</b>	150 ohms, -56 dBm
<b>Sideband Response</b>	300 to 3000 Hz (other filters optionally available)
<b>Built-In Test Diagnostics</b>	Fault isolation to a replaceable module, with front panel display indication
<b>Power Requirements</b>	115/230 Vac, $\pm 15\%$ 47-63 Hz, 100 watts
<b>Temperature</b>	Operating -10°C to + 55°C Nonoperating -62°C to + 71°C
<b>Humidity</b>	0 to 95%
<b>Size</b>	Rack mount or stack mount - 7 H x 19 W x 20.5 D inches maximum (17.8 H x 48.3 W x 52 D cm)
<b>Weight</b>	40 lbs (18.5 kg)
<b>Remote Control</b>	Internal module. A microprocessor-based system capable of accepting asynchronous serial data in accordance with data standards MIL-STD-188C, EIA RS-232 or RS-422. Functions include frequency, mode keying, power output level, clipper on/off, and BITE.

## ABOUT THIS MANUAL

Section 1 gives a general description of the exciter and lists some of its key features. Section 2 covers the installation procedure. Section 3 describes the exciter operation. Section 4 covers a general explanation of the exciter circuitry. Section 5 provides BITE self-test information.

The subsections (white tabs) cover each individual exciter assembly. Each subsection covers general information, interface connections, maintenance procedures, parts list, component location diagrams, and schematic diagrams.

Subsection A18A2 is system specific and is supplied separately to be inserted by the customer.