

NEXUS BROADCAST PRODUCTS

Please observe safety precautions when handling this unit. This equipment contains dangerous currents and high voltages.

This manual is written as a general guide for those having previous knowledge and experience with this kind of equipment. It is not intended to contain a complete statement of all safety warnings which should be observed by personnel in using this or other electronic equipment.

Nexus Broadcast is not responsible for injury or damage resulting from improper procedures or practices by untrained/unqualified personnel in the handling of this unit.

Please observe all local codes and fire protection standards in the operations of this unit.

CAUTION: always disconnect power before opening covers or removing any part of this unit. Use appropriate grounding procedures to short out capacitors and high voltage points before servicing.

Any damage to the goods must be reported to the carrier in writing on the shipment receipt. Any discrepancy or damage discovered subsequent to delivery, shall be reported to Nexus Broadcast within seven (7) days from its receipt.

Nexus Broadcast extends to the original end-user purchaser all original manufacturers warranties which are transferable and all claims are to be made directly to Nexus Broadcast per indicated procedures.

All manufacturers warranties will be supported by Nexus Broadcast to ensure precise and speedy service where possible.

Nexus Broadcast shall not be liable for any damage of whatsoever nature, arising out of or in connection with the product or its use thereof.

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Nexus Broadcast's warranty shall not include:

- Re-shipment of the unit to **Nexus Broadcast** for repair purposes;
- Any unauthorized repair/modification;
- Incidental/consequential damages as a result of any defect;
- Nominal non-incidental defects;
- Re-shipment costs or insurance of the unit or replacement units/parts.

Warranty shall come into force from invoice date and for the period of the manufactures warranty.

To claim your rights under this warranty:

Contact the dealer or distributor where you purchased the unit. Describe the problem and ask if he has an easy solution. Dealers and Distributors are supplied with all the information about problems that may occur and usually they can repair the unit quicker than what the manufacturer could do. Very often installing errors are discovered by dealers.

If your dealer cannot help you, contact **Nexus Broadcast** and explain the problem. If it is decided to return the unit to the factory, **Nexus Broadcast** will mail you a regular authorization with all the necessary instructions to send back the goods.

When you receive the authorization, you can return the unit. Pack it carefully for the shipment, preferably using the original packing and seal the package perfectly. The customer always assumes the risks of loss (i.e., **Nexus Broadcast** is never responsible for damage or loss), until the package reaches **Nexus Broadcast** premises. For this reason, we suggest you to insure the goods for the whole value.

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(PREPAID) to the address specified by **Nexus Broadcast's** service manager on the authorization. **DO NOT RETURN UNITS WITHOUT OUR AUTHORIZATION AS THEY WILL BE REFUSED.** Be sure to enclose a written technical report where mention all the problems found and a copy of your original invoice establishing the starting date of the warranty.

Replacement and warranty parts may be order from the following address. Be sure to include the equipment model and serial number as well as part description and part number.

**Nexus Broadcast
P.O. Box 433
500 East Main #20
Mount Vernon, TX 75457
Tel. 903-524-4166
Fax 903-524-2260
Email:info@NexusBroadcast.com**

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The model NBE-25 is an FM broadcast exciter transmitter based upon a totally solid state design, using the latest modern and reliable techniques on the market.

The main characteristics of the equipment are:

- Output power adjustable from frontal panel between 0 to 20 Watts, with automatic power control, the output power does not vary with change of temperature.
- Protection for excessive reflected power: if it goes over 5 W the incident power is reduced to ensure the reflection level does not exceed 5 W;
- The power stage allows open circuit and short circuit operation of the output, due to use of an MRF173 MOSFET that has a maximum RF power of 80 W;
- The control-interface unit is a microprocessor which by using the front panel push buttons can program the VCO frequency from 87.50 MHz to 108.00 Mhz. In order to change the frequency a password is required.

This exciter is built into one 19" rack space, comprising a number of interconnections between modules mounted internally on the bottom of the apparatus, for easy removal and replacement.

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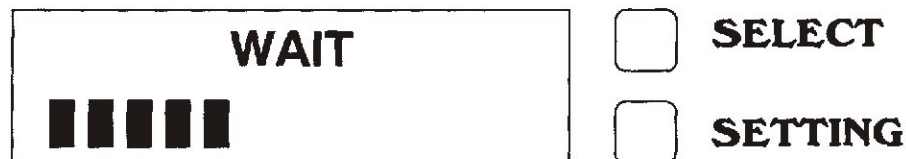
Connected a 50 Ω load or 50 Ω antenna to the RF output, connect the equipment into a mains supply (100÷240 VAC) with earth point. The equipment is factory pre-set to 5 W.

Switch ON the power switch and the yellow V POWER led will light.

The Display will show:

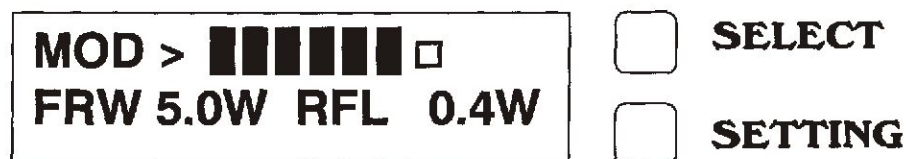


After 3 seconds the green PLL LOCK led will light and the Display will show an increasing bar, after a further 5 seconds the green ON AIR led will light and there will be output power.



At this point the Display will show the next parameter:

- Level Modulation (MOD > );
- Forward Power (FRW 5.0W);
- Reflected Power (RFL 0.4W).



The default frequency is 98.000 MHz.

To display the frequency push the SETTING key.

In order to display the parameter push the SELECT key.

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Display Password

The Password mode is factory set to enable, and is not possible change this setting.

The default password is 1 2 3.

The WAIT of changing the password is as follows:

- Press for 3 seconds the SELECT key;

PASSWORD <u>0</u> 1 2 3 4 5 6 7 8 9	☐ SELECT ☐ SETTING
--	---

- Press the SELECT key for move the underscore character position at the required digit, and press the SETTING key to confirm the digit.

PASSWORD * 0 1 2 3 4 5 6 7 8 9	☐ SELECT ☐ SETTING
---	---

Carry out the same operation for the two remaining digits.

PASSWORD * * * 0 1 2 3 4 5 6 7 8 9	☐ SELECT ☐ SETTING
---	---

- If the password is corrected press SETTING key to confirm, otherwise press SELECT key to leave the choice.

CONFIRM (Y/N) ? N=SEL. Y=SET.	☐ SELECT ☐ SETTING
---	---

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If the password is not corrected an error is displayed:

**ERROR
PASSWORD**

☐ **SELECT**
☐ **SETTING**

After few seconds display will show again the parameters.

- When the password is corrected the display will show:

**NEW PASS . = SEL .
NEW FREQ . = SET .**

☐ **SELECT**
☐ **SETTING**

To change the password press the SETTING key.

To change the frequency press the SELECT key.

- For changing the password proceed at the same method for the required password:

NEW PASSWORD
0 1 2 3 4 5 6 7 8 9

☐ **SELECT**
☐ **SETTING**

The confirmation password will be required.

CONFIRMATION
0 1 2 3 4 5 6 7 8 9

☐ **SELECT**
☐ **SETTING**

If the password is corrected the display will show:

**STORED
NEW PASSWORD**

☐ **SELECT**
☐ **SETTING**

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If the confirmation password is wrong the display will show:

**ERROR
CONFIRMATION**

☐

SELECT

☐

SETTING

IMPORTANT NOTE

! BE CAREFULLY !

Once the password is set, it must be remembered otherwise neither can the frequency be changed or a new password entered.

Display Change of Frequency.

- Press 3 seconds the SELECT key and put the correct password, at this point press again the SELECT key:

**NEW PASS . = SEL .
NEW FREQ . = SET .**

☐

SELECT

☐

SETTING

- Press the SELECT key to change the digit and press the SETTING key to confirm the digit.

**FREQUENCY ?
MHz 103.900**

☐

SELECT

☐

SETTING

The underscore character move the position one place to the left.

When the five digit is changed the further press SETTING key confirm the new frequency.

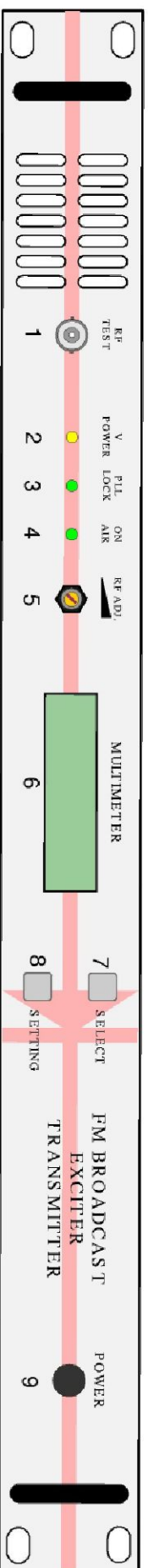
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At this operation follows the WAIT cycle and after this the display will show the parameters:

MOD > ■■■■■■ □	☐ SELECT
FRW 5.0W RFL 0.4W	☐ SETTING

After 7 minutes the display light switch off and the display will show:

NEXUS BROADCAST	☐ SELECT
MHz 103.900	☐ SETTING



- 1 - RF SAMPLER 20W OUT = 0dBm
- 2 - POWER STAGE SUPPLY CORRECT OPERATION YELLOW INDICATOR
- 3 - PLL LOCK FREQUENCY CONTROL CORRECT OPERATION CIRCUIT GREEN INDICATOR
- 4 - PRESENCE OF RF POWER AT FREQUENCY SET ON OUTPUT CONNECTOR GREEN INDICATOR
- 5 - RF OUTPUT POWER ADJUSTING FROM 0 TO OVER 20W
- 6 - LCD MULTIMETER DISPLAY SHOWING:
 - operational frequency
 - modulation
 - forward rf power
 - reflected power
- 7 - 8 - THESE PUSH BUTTONS ALLOW TO TO SELECT ON LCD DISPLAY THE FOLLOWING MENU:
 - display parameter
 - password
 - change of operational frequency
- 9 - MAINS SWITCH

TITLE		
FM EXCITER		
front panel layout		
DATE	sept 2000	DRAWING NO. frontpanel.adr