

WARRANTY

This radio is covered by a two year limited parts and labor warranty.

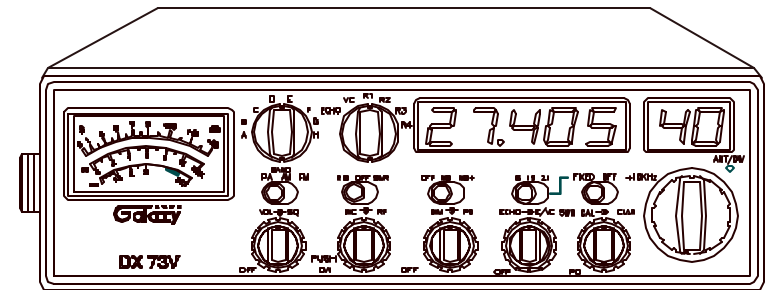
- "Limited" means that we will repair problems caused by factory defects or normal use at no charge.
- Before returning a radio to us for warranty service, please call our Service Department for a Repair Authorization Number (RAN). This RAN must be written below your return address on the outside of the shipping box. Boxes, which arrive without a RAN, will be refused, and the shipping company will return the unopened box to you. Be sure to have a pen and paper ready along with the serial number of your radio before calling. We will give you the RAN and our shipping address over the phone. The telephone number of the Service Department is (760) 480-8800, and we suggest calling between 10:00 AM and 4:00 PM Pacific Time.
- Please include a note with a detailed description of the symptoms. This is important because it will help the technician who works on your radio to locate your problem. Intermittent problems are easily overlooked, so be sure to give as much detail as possible in your note. Also, please include your telephone number in case our technicians have any additional questions.
- Do not send your power cord or microphone unless we ask for these items during our telephone conversation.
- You are responsible for getting the radio safely to us. (We suggest using United Parcel Service.) You must pay to ship the radio to us, and we will pay to ship the radio back to you. Since we use UPS and they do not ship to Post Offices boxes, please provide us with a street address for the return of your radio.
- We will repair and return your radio as soon as we can. We appreciate your choosing a Galaxy radio and we want you to be on the air as much as possible!
Be sure to visit our web site at

www.GalaxyRadios.com

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Galaxy

DX-73V



FULL FEATURED
AM/FM MOBILE TRANSCEIVER

OWNER'S MANUAL

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Specifications

GENERAL

Frequency Range	28.315 ~ 28.755 MHz
Channels	40 CH
Frequency Control	Phase Lock Loop (PLL) synthesizer.
Frequency Stability	0.005%
Temperature Range	-30 to +55
Input Voltage	DC 13.8V
Size	2-3/8" (H) x 7-7/8" (W) x 9-1/4" (D).
Weight	5 lbs. 8 oz.
Antenna Impedance	50 Ohms

TRANSMITTER

RF Power output	10W.
RF Transmit Modes	AM/FM
Antenna Connector	UHF Type, 50 Ohms
Audio Distortion	10%
Frequency Response	450 to 2500Hz
Spurious Emissions	-50dB
Microphone	Dynamic

RECEIVER

Sensitivity for 10dB S+N/N	AM 1.0uV
Sensitivity for 20dB S+N/N	FM 1.0uV
Squelch Sensitivity	0.5uV
Image Rejection	-60dB
AGC Figure of Merit	AM : 70dB for 50mV for 10dB Change in Audio Output
Audio Distortion @ 3W	10%

Installation

LOCATION

Plan the location of the transceiver and microphone bracket before starting the installation. Select a location that is convenient for operation and does not interfere with the driver or passengers in the vehicles. In automobiles, the transceiver is usually mounted below the dash panel, with the microphone bracket beside it.

MOUNTING THE RADIO

Your transceiver is supplied with a universal mounting bracket. When mounting the bracket and radio to your car, make sure it is mechanically strong. Also provide a good electrical connection to the chassis of the vehicle. Proceed as follows to mount the transceiver:

1. After you have determined the most convenient location in your vehicle, hold the transceiver with mounting bracket in the exact location desired. If nothing will interfere with mounting it in the desired position, remove the mounting bolts. Before drilling the holes, make sure nothing will interfere with the installation of the mounting bolts.
2. Connect the antenna cable plug to the standard receptacle on the rear panel. Most antennas are terminated with a type PL-259 plug and mate with the receptacle.
3. Connect the red DC power input wire (with the fuse) to +13.8V DC. This wire extends from the rear panel. In automobile installation, +13.8V DC is usually obtained from the accessory contact on the ignition switch. This prevents the set being left on accidentally when the driver leaves the car and also permits operating the unit without the engine running. Locate the accessory contact on most ignition switches by tracing the power wire from the AM broadcast receiver in the car.
4. Connect the black lead to -13.8V DC. This is usually the chassis of the car. Any convenient location with good electrical contact (remove paint) may be used.
5. Mount the microphone bracket on the right side of the transceiver or near the transceiver, using two screws supplied. When mounting in an automobile, place the bracket under the dash so the microphone is readily accessible.

IGNITION NOISE INTERFERENCE

Use of a mobile receiver at low signal levels is normally limited by the presence of electrical noise. The primary source of noise in automobile installations is from the generator and ignition system in the vehicle. Under most operating conditions, when signal level is adequate, the background noise does not present a serious problem. Also, when extremely low level signals are being received, the transceiver may be operated with vehicle engine turned off. The unit requires very little current and therefore will not significantly discharge the vehicle battery.

Even though the transceiver has NB and NB+ controls, in some installations ignition interference may be high enough to make good communications impossible. The electrical noise may come from several sources. Many possibilities exist and variations between vehicles require different solutions to reduce the noise.

ANTENNA

A vertically polarized, quarter-wavelength whip antenna provides the most reliable operation and greatest range. Shorter, loaded-type whip antennas are more attractive, compact and adequate for applications where the maximum possible distance is not required. Also, the loaded whips do not present the problems of height imposed by a full quarter-wavelength whip.

Mobile whip antennas utilize the metal body of the vehicle as a ground plane. When mounted at a corner of the vehicle they are slightly directional, in the direction of the body of the vehicle. For all practical purpose, however, the radiation pattern is nondirectional. The slight directional characteristic will be observed only at extreme distance. A standard antenna connector (type SO239) is provided on the transceiver for easy connection to a standard PL 259 cable termination.

If the transceiver is not mounted on a metal surface, it is necessary to run a separate ground wire from the unit to a good metal electrical ground in the vehicle. When installed in a boat, the transceiver will not operate at maximum efficiency without a ground plate, unless the vessel has a steel hull.

Before installing the transceiver in a boat, consult your dealer for information regarding an adequate grounding system and prevention of electrolysis between fittings in the hull and water.

TUNING THE ANTENNA FOR OPTIMUM SWR

Since there is such a wide variety of base and mobile antennas, this section will strictly concern itself to the various types of mobile adjustable antennas.

Because the antenna length is directly related to the channel frequency, it must be tuned to resonate optimally all channels of the transceiver. Low Channel (CH1) requires a longer antenna than High Channel (CH40) because it is lower in operate frequency.

Due to the various methods of adjusting antennas for proper SWR we have chosen what we think is the optimum method:

A. Antennas with adjustment screws (set screws)

1. Start with the antenna extended and tightens the set screw lightly enough so that the antenna can be lightly tapped with your finger for easy adjustment.
2. Set your transceiver to middle channel (CH 20). Press the PTT (push-to-talk) switch, and tap the antenna (making it shorten). The S.W.R. meter will show a lower reading each time the antenna is tapped. By continuing to shorten the antenna you will notice the S.W.R. reading will reach a low point and then start rising again. This means that you have passed the optimum point for channel 20. Extend the antenna a short distance and again follow the procedure above.
When the lowest point has been reached, switch to Low channel (CH 1) or high channel (CH 40) and compare S.W.R. readings. They should be almost equal.

B. Antennas which must be cut to proper length.

1. Follow the same procedure as above, but adjust the length by cutting in 1/8" increments until a good match is obtained.
2. *Be very careful not to cut too much at one time, as one it is cut, it can no longer be lengthed.*
3. The whip is easily cut by filing a notch all the way around and breaking the piece off with pliers.

NOTE

THE PROPER SETTING IS ACHIEVED WHEN THE SWR IS 1.5 OR BELOW, AND WHEN IT HAS THE SAME READING FOR LOW OR HIGH CHANNELS.

If you are having difficulties in adjusting your antenna, check the following:

- A. All doors must be closed when adjusting the antenna.
- B. Make sure the antenna base is grounded.

- C. Check your coaxial cable routing (it may be pinched when routed into the car).
- D. Try a different location on your car (keeping in mind the radiation pattern you wish)
- E. Is the antenna perfectly vertical?
- F. Try a different location in your neighborhood. Stay away from large metal objects when adjusting (metal telephone or light posts, fences, etc.).

NOTE

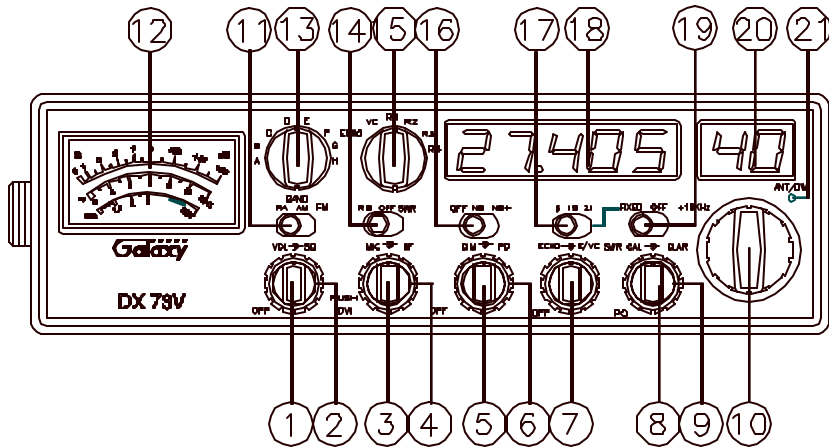
The transceiver will operate into an SWR of 2 to 1 indefinitely and sustain an SWR of 20:1 for a maximum of 5 minutes at rated operating conditions.

EXTERNAL SPEAKER

The external speaker jack (EXT.SPK) on the rear panel is used for remote receiver monitoring. The external speaker should have 8 ohms impedance and be able to handle at least 4 watts. When the external speaker is plugged in, the internal speaker is disconnected.

Operation

CONTROL FUNCTIONS



FRONT PANEL

1. **OFF/ON/VOLUME:** Turn clockwise to apply power to the radio and to set the desired listening level.
2. **SQUELCH CONTROL:** This control is used to cut off or eliminate receiver background noise in the absence of an incoming signal. For maximum receiver sensitivity it is desired that the control be adjusted only to the point where the receiver background noise or ambient backgrounds noise is eliminated. Turn fully counterclockwise then slowly clockwise until the receiver noise disappears. Any signal to be received must now be slightly stronger than the average received noise. Further clockwise rotation will increase the threshold level, which a signal must overcome in order to be heard. Only strong signals will be heard at a maximum clockwise setting.
3. **MIC GAIN CONTROL:** This control adjusts the microphone gain in the transmit mode. This feature is designed for use in a high-ambient noise environment or to maximize talk power.
4. **RF GAIN CONTROL:** This control is used to reduce the gain of the RF amplifier under strong signal conditions.

DUAL WATCH: This circuit will “Watch” for activity on any one of the three fixed channels (6,19 or 21) while you are operating on your normal frequency. The radio cycles back and forth between the two frequencies and it will stop cycling as soon as a signal is detected on the channel you are “watching”. Naturally, you will need to use the Squelch because even noise will be considered a “signal” and the cycling will stop. This circuit is turned ON and OFF by pushing the MIC gain knob. Please note that the LED under the channel display will be green when the Dual-Watch is ON.

5. **DIMMER CONTROL:** Dims the meter lamp and all LED readouts. In the “OFF” position, the meter lamp and all LED readouts are OFF.
6. **RF POWER CONTROL:** Adjusts power output in AM and FM transmission.
7. **ECHO AND E/VC CONTROL:**

ECHO: To use the ECHO, switch 15 must be in “ECHO” and the switch on this pot must be ON, both the inner and outer controls adjust the ECHO SOUND.

VOICE CHANGER: The voice changer changes the pitch of your voice. When the outer pot is turned counterclockwise, your voice will sound lower. When this pot is turned clockwise, your voice will sound higher. The inner pot and the switch on the inner pot do not affect the voice changer. VC is turned ON at switch 15.

ROBOT: There are four different robot sounds. They are turned ON using switch 15. They are not adjustable and this pot does not affect the robot sound in any way.

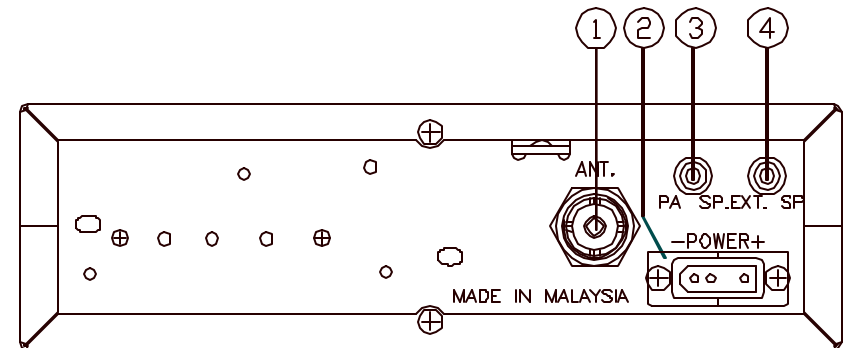
TALKBACK: This radio has a talkback circuit in order to monitor the sound affects (Echo, voice, changer, robot). There is a switch on the back of the microphone to turn the talkback circuit ON or OFF.

8. **SWR CAL CONTROL:** Normally this switch is set to “PO”. Then, during transmission, the meter indicates output power. To read SWR, rotate this knob during transmission until the needle moves to the “SET” point on the SWR scale. Then, while still transmitting, set the R.B./SWR switch to SWR.
9. **CLARIFIER CONTROL:** Allows for ± 5 KHz adjustment of the channel frequency.

10. **CHANNEL SELECTOR:** This control is used to select a desired transmit and receive channel.
11. **MODEL CONTROL:** This control allows you to select one of three following operating modes: FM/AM/PA.
12. **FRONT PANEL METER:** The front panel meter allows the user to monitor signal strength, RF power out and SWR level.
13. **BAND CONTROL:** The Band control allows the user to select the desired band.
14. **ROGER BEEP/SWR:** When this roger beep is ON, an audio tone is transmitted at the end of your transmission. This lets the person you are talking to know that you are done speaking. The SWR position is explained above (number eight).
15. **ECHO/ROBOT/VC SWITCH:** Selects between one of the three sound effects-Echo, Robot or Voice Changer.
16. **NOISE BLANKER SWITCH:** The middle position means the noise blanker/noise limiter circuit is ON. The right position means that the noise blanker/noise limiter is ON and the frequency display digits are turned OFF. The left position of this switch turns the noise blanker/noise limiter OFF and the frequency display digits remain ON.
17. **CHANNEL 6/19/21:** The switch selects between channels, 6,19 or 21 for use with the “fixed” switch (switch 19) or with the Dual-Watch function. This means you can go to any one of these three channels immediately or you can “watch” any one of these three channels with the Dual-Watch feature. This is our exclusive “TRIPLE-CHANNEL DUAL-WATCH”.
18. **FREQUENCY DISPLAY:** Displays the frequency that the radio is tuned to.
19. **FIXED/OFF/+10KHZ SWITCH:** The left position puts the radio on one of the three fixed channels that is selected by the channel switch (6,19, or 21). This over-rides the channel selected by the 40 channel knob. The right position adds 10KHz to whatever frequency you are ON. In the middle, both features are OFF.
20. **CHANNEL DISPLAY:** The channel display indicates the current selected channel.

21. **ANT/DW LED:** This LED lights green when the dual-watch circuit is ON. It lights red when your SWR is higher than about 3:1. This is not an exact indicator of 3:1 SWR, but it is an indication that you should check your SWR reading.

REAR PANEL



1. **ANTENNA:** Accepts 50 ohm coaxial cable with a type PL-259 plug to be connected.
2. **POWER:** Accepts 13.8V DC power cables with built-in fuse (4 amp.) to be connected.
3. **PA. SP:** Used to connect a PA speaker (8 ohm 4W) for PA operation. Before operating PA you must first connect a PA speaker to this jack.
4. **EXT SP:** Accepts 4 to 8 ohms, 5 watt external speaker to be connected. When external speaker is connected to this jack, the built-in speaker is automatically disconnected.

