

INSTRUCTION MANUAL

# Electrophone:::

27MHz AM/SSB TRANSCEIVER



**TX565**

**STANDARD COMMUNICATIONS PTY. LTD.**

Downloaded from [www.cbradio.nl](http://www.cbradio.nl)

# General description

Thank you for your confidence in selecting an Electrophone CB radio. We know you will find your transceiver as exciting as it is practical. We have combined superb workmanship and modern styling with the very latest state-of-art circuitry to bring you the new TX565 AM/SSB Citizens Band Slimline Transceiver. It has been especially designed to give you maximum performance and reliability. Your TX565 AM/SSB is completely factory aligned and quality assurance tested. To obtain the maximum benefit and pleasure from your TX565 AM/SSB, please read the contents of this manual very carefully before attempting to install or operate the transceiver.

## Features.

Compact size, smaller than most other AM/SSB transceivers, takes up less space in your vehicle.

**Full 40 channel operation:** PLL frequency Synthesised circuitry allows transmission and reception on all 40 channels of the 27MHz Citizens Band Radio Service.

**Large L. E. D. function indicator:** Indicates with bright easy to read L.E.D.'s the:

- (i) Selected channel,
- (ii) Received signal strength,
- (iii) Transmit indicator,
- (iv) Receive indicator,
- (v) Public address operation,
- (vi) SWR Indicator.

**Clean signal:** Transmitter audio processing circuitry produces a clean signal with maximum legal modulation, for best range.

**Quiet reception:** Effective squelch and automatic noise limiting for superior quieting.

**Effective AGC:** Receiver amplified automatic gain control (AGC) reduces the effect of differences in received signal strengths. No distracting "blasting" or "fading" of signals.

**An efficient transmitter:** Provides maximum power to the antenna. 4 watts on A.M., 12 watts P.E.P. on S.S.B.

**Public address function:** Useful for paging and announcements.

## contents

General description .....	2
Specifications .....	3
Operating controls .....	4
Rear panel connections .....	5
Installation .....	6
Channel information .....	7
Antenna installation .....	8
Operating instructions .....	9
Base station operation .....	10
Optional accessories .....	10-11

# Specifications TX565

## General.

Frequency range: 26.965 MHz - 27.405MHz  
No. of channels: 40  
Power supply: 12.6 volts D.C.  
negative ground.

Power consumption: Receive: 0.3 Amps  
full audio.  
Transmit: 2.2 Amps  
full modulation.

## Controls:

Channel selector,  
Volume/Power  
ON/OFF, Squelch,  
Clarifer.

## Switches:

Noise blanker, CB-  
public address, auto-  
matic noise limiter,  
AM/LSB/USB,  
local/distant.

## Connections:

Microphone socket, D.C.  
power input socket,  
Public address speaker  
socket, external loud-  
speaker socket.

## Transmitter.

Power output: AM: 4 watts R.M.S.  
SSB: 12 watts P.E.P.

Transmitter modes: AM: Amplitude mod-  
ulation, high  
level class B.  
SSB: Sideband, car-  
rier suppression  
more than  
40dB.  
Unwanted side-  
band suppres-  
sion more than  
58dB down.

Harmonic suppression: More than 70dB down.

## Receiver.

System: AM/SSB: Single  
conversion superhetero-  
dyne.

IF: AM/SSB: 10.695  
MHz (separate crystal  
filters for AM and  
SSB)

Sensitivity: SSB: 0.25 microvolts  
for 12dB SINAD.

A.M.: 0.6 microvolts  
for 12dB SINAD.

Selectivity: SSB: 2kHz -6dB  
10kHz -60dB.

AM: 5kHz -6dB;  
±10kHz -60dB.

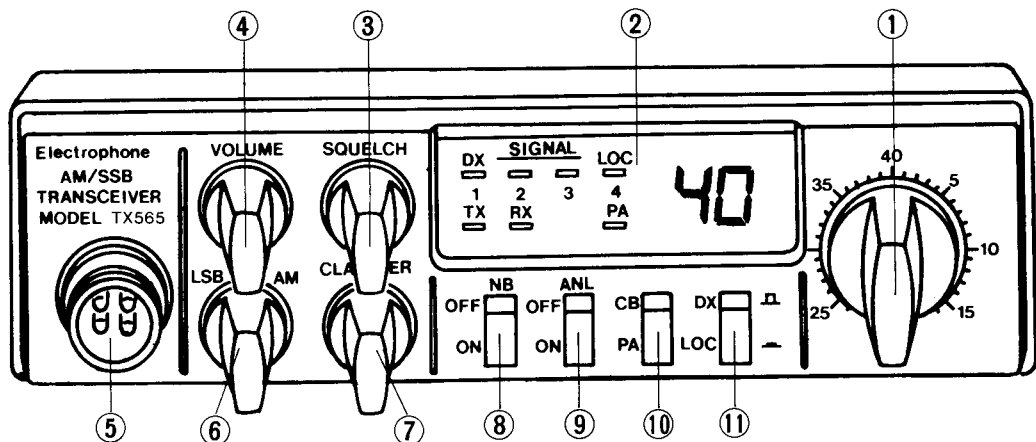
Clarifier: ±1200Hz range.

Audio output: 2.5 watts at 8 ohms.

Squelch range: SSB: 0.7 to 500  
microvolts.

AM: 1 to 500  
microvolts.

# Operating controls



## 1. CHANNEL SELECTOR.

Selects any one of the 40 operating channels in the 27MHz CB band.

## 2. L.E.D. FUNCTION INDICATOR.

This serves the following functions:

- Gives a bright L.E.D. indication of the actual channel number.
- Signal strength meter. 1-4 red L.E.D.'s light up according to signal strength. Weak signal indication by DX - (1) .5uV, (2) 1.5uV, (3) 8uV, (4) 30uV. Strong signal (marked L.O.C.).
- Indicates when transmitting (TX) red or receiving (RX) green.
- Indicates when switched to public address.

## 3. SQUELCH CONTROL.

Turn the knob clockwise until background noise disappears. Now you can hear signals without annoying background noises. Rotating the squelch too far clockwise decreases reception sensitivity, and very weak stations would not be received. Therefore, when you are in communication with a distant weak station, rotate the squelch all the way counterclockwise.

## 4. VOLUME CONTROL/POWER SWITCH.

This turns power ON or OFF and controls the sound output level from the speaker.

## 5. MICROPHONE SOCKET.

Accepts the microphone plug. A push to talk microphone is supplied with the transceiver.

## 6. MODE SWITCH.

Selects mode of operation LSB/USB or AM.

## 7. CLARIFIER.

This control is used on the LSB/USB mode to fine tune the signal (on receive only). Adjust this control either way to receive the clearest or most intelligible signal.

## 8. N.B. SWITCH.

This switch pushed "IN", actuates the noise blanker circuit which considerably reduces impulse type noises such as interference from spark plugs.

## 9. ANL SWITCH.

Push "IN" to actuate ANL (automatic noise limiter) circuit to reduce atmospheric noise interference.

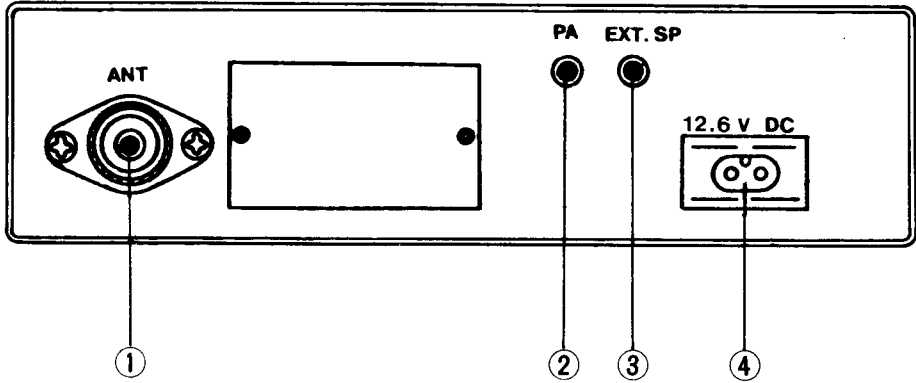
## 10. PA/CB

Your transceiver is equipped with a PA (public address) amplifying system which works in conjunction with volume control. Switch to P.A. ("IN") for PA operation & switch ("OUT") to CB for normal 27MHz transmit and receive operation.

## 11. LOCAL/DISTANT SWITCH.

Select distant position ("OUT" position) for weak signals or normal signals. Select local position ("IN" position) if very strong signals are causing overload and spluttering.

# Rear panel connections



## 1. ANTENNA CONNECTOR.

Used for connecting the antenna and matches PL-259 type coaxial plug.

## 2. PA SOCKET

This socket is used to plug in an external horn speaker (8 Ohm) and the transceiver can then be used as a public address system or loud hailer. Uses a standard 3.5mm mini-type phone plug.

## 3. EXT SP SOCKET.

Used for connecting an external speaker (impedance: 8 to 16 Ohm). Matches 3.5mm Standard mini-type phone plug. Insertion of an external speaker into this jack will automatically silence the built in speaker.

## 4. DC POWER SOCKET.

The DC power cord supplied plugs into this socket and connects to the 12V battery system. Do not force the power plug into the pins. Align the key in the plug to the keyway in the socket.

# 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 passenger in the vehicle.

In most vehicles, the transceiver is usually mounted to the dash panel with the microphone bracket beside it.

## Mounting and connection

Your TX565 is supplied with a shock proof/heavy duty mounting bracket. The transceiver is held in the bracket by the two thumb screws (supplied), permitting adjustment to the most convenient angle. The bracket must be mounted with the machine screws (supplied). The mounting surface must be mechanically strong. Proceed as follows to mount the transceiver:

After you have determined the most convenient location in your vehicle, hold the TX565 with mounting bracket in the exact location desired. If nothing interferes with mounting it in that position, remove the transceiver and mark the mounting holes using the bracket as a template. Before drilling the holes, make sure nothing will interfere with the installation of the mounting bolts. Drill the holes and mount the bracket and then install the transceiver. Connect the antenna cable plug to the standard receptacle on the rear panel. Most CB antennas are terminated with a type PL-259 plug which mates with the receptacle on the rear panel.

## Battery connection

Your TX565 may be installed & used only in a 12V DC negative ground system vehicle. Most new cars or small trucks use a negative ground system while some older cars and some newer large trucks may use a positive ground system. Installation into a positive ground may cause severe damage to the radio.

**Negative ground system:** Connect the red power lead from the TX565 to the positive or (+) battery terminal or other convenient point, and connect the black power lead to the chassis or vehicle frame or (-) battery terminal.

For vehicle installation, +12V 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 radio without the engine running. You can locate the accessory contact on most ignition switches by tracing the power wire from the broadcast receiver existing in the car.

**WARNING: Accidental reversal of the positive and negative connections may cause serious damage to the transceiver which would void the warranty. If the fuse blows replace it with a 3Amp 3AG type.**

# Channel information

## Channel/Frequency Chart

<b>Ch.</b>	<b>Frequency</b>	<b>Suggested Usage</b>	<b>Ch.</b>	<b>Frequency</b>	<b>Suggested Usage</b>
1	26.965MHz.	General AM	21	27.215MHz.	General SSB
2	26.975MHz.	" "	22	27.225MHz.	" "
3	26.985MHz.	" "	23	27.255MHz.	" "
4	27.005MHz.	" "	24	27.235MHz.	" "
5	27.015MHz.	" "	25	27.245MHz.	" "
6	27.025MHz.	" "	26	27.265MHz.	" "
7	27.035MHz.	" "	27	27.275MHz.	" "
8	27.055MHz.	" " (3)	28	27.285MHz.	" "
9	27.065MHz.	Emergency Channel (1)	29	27.295MHz.	" "
10	27.075MHz.	General AM	30	27.305MHz.	" "
11	27.085MHz.	Call Channel AM (1)	31	27.315MHz.	" "
12	27.105MHz.	General AM	32	27.325MHz.	" "
13	27.115MHz.	" "	33	27.335MHz.	" "
14	27.125MHz.	" "	34	27.345MHz.	" "
15	27.135MHz.	" "	35	27.355MHz.	" " (2)
16	27.155MHz.	Call Channel SSB (1)	36	27.365MHz.	" "
17	27.165MHz.	General SSB	37	27.375MHz.	" "
18	27.175MHz.	" "	38	27.385MHz.	" "
19	27.185MHz.	" "	39	27.395MHz.	" "
20	27.205MHz.	" "	40	27.405MHz.	" "

(1) Legally Designated. (2) Suggested 2nd SSB Call Channel. (3) Suggested Road Channel.

## Ignition noise interference

Use of the mobile transceiver at low level signal conditions is normally limited by the presence of electrical noises. The primary source of noise in a vehicle installation is from the generator (or alternator) and the 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 the vehicle engine off.

If you are receiving excessive interference from the electrical system on your vehicle contact your dealer or an auto electrician for advice.

# Antenna installation

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## Antenna selection

Your TX565 is designed to operate into a 50 ohm 27 MHz C.B. Radio antenna. Best results will be obtained from your transceiver if you use a good antenna, properly installed. (Refer to the antenna installation instructions included with your antenna.)

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

Mobile whip antennas utilize the metal body of the vehicle as a ground plane. When mounted on a corner of the vehicle, they are slightly directional, in the direction of the body of the vehicle. For all practical purposes, however, the radiation pattern is non-directional. A slight directional characteristic will be observed only at extreme distances. A standard antenna connector (Type SO-239) is provided on the transceiver for easy connection to a standard PL-259 cable termination.

There are many types of approved aerials and mounts for the motor vehicle, the most common of which is the 1.5metre fibreglass helical whip (AE217). For the best performance, this type of aerial is fitted to an (AB201) vehicle mount situated in the centre of the vehicle roof. The connection of a (LE50-2) 4 metre lead from the mount to the TX565 completes the ideal aerial system. The aerial is then tuned to maximum performance with the aid of an S.W.R. meter ME310. Either your C.B. dealer will do this for you or show you how. If it is not desirable to drill a hole in your vehicle roof, other mounts are available i.e. the (MB03) gutter mount or the (MB401) roof rack mount. Alternative length helical whip aerials are also available (see "Optional accessories"). For vehicles with non metallic (i.e. trucks with fibreglass cabin tops)

the aerial may be mounted on the cabin roof or on the rear vision mirror bracket.

Because of the absence of a metal ground plane, best performance will be obtained by connecting the aerial to a matcher unit (Type ME140) which must be adjusted with an S.W.R. meter (ME310). The output of the ME310 then connects to the antenna socket on the transceiver.



# Operating instructions

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## Important

**NEVER ATTEMPT TO TRANSMIT WITHOUT AN ANTENNA CONNECTED TO THE TRANSCEIVER OTHERWISE DAMAGE MAY OCCUR TO THE OUTPUT TRANSISTORS WHICH WOULD VOID THE WARRANTY.**

## AM operation

### Receive operating procedure

1. Place the CB-PA switch in CB position.
2. Place the LSB/USB/AM switch in the AM position.
3. Turn the set on by turning the VOLUME CONTROL clockwise, past click.  
**NOTE:** Microphone must be plugged in for receiver to operate.
4. Set the VOLUME CONTROL for a comfortable audio level.
5. Listen to the background noise from the speaker. Turn the SQUELCH CONTROL slowly clockwise, until the noise just disappears. The squelch is now properly adjusted. The receiver will remain quiet until a signal is received. Do not advance the control too far, as some of the weaker signals will not open the squelch.
6. Set the CHANNEL SELECTOR switch to the desired channel.

### Transmit operating procedure

1. Select the desired channel you wish to transmit on.
2. If the channel is clear, depress the push-to-talk switch on the microphone and speak into the microphone in a normal voice.
3. When transmitting, if all four (4) LEDs light up, antenna system is good. If less than four light up, check antenna connections and low D.C. voltage.

## S.S.B. operation

You may only use S.S.B. operation when talking to another station which also has an S.S.B. transceiver. Stations which have A.M. mode only

will not be able to understand your transmission. The recommended procedure is to initially communicate on A.M. and if the reception in either direction is becoming weak, select in conjunction with the other station, either USB or LSB mode and stronger signals will be received. It will be necessary to adjust the clarifier control for clearest reception.

## Public address operation

For P.A. (Public Address) operation use an external 8-16 ohm Speaker.

1. Connect PA speaker or Loudhailer using a "MINI PLUG" (3.5mm) to the PA socket on the rear of the set.
2. Press in the CB-PA button.
3. Press the microphone button. Speak into the microphone and turn the volume control in a clockwise direction to adjust the volume from the PA speaker. The internal speaker of the transceiver is disconnected when in the PA mode.

# Base station operation

The TX565 may be operated as a base station by connecting to a 240V A.C. power supply with an output of 13.8 volts D.C. and a continuous current rating of 4Amps. (PSE124)

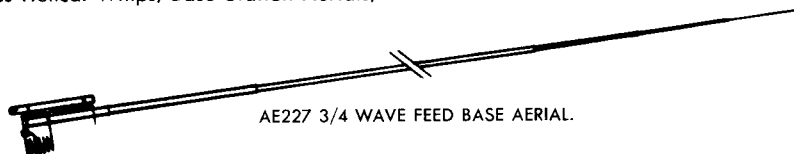
A base station antenna (AE227) should be mounted as high as possible e.g. on a chimney and low loss 50 ohm coaxial cable type RG213U used to run from the aerial to the transceiver.

## Optional accessories Available from your Electrophone Dealer.

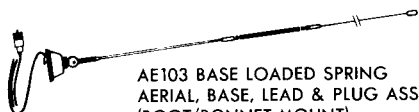
STANDARD COMMUNICATIONS PTY. LTD. supply a wide range of quality accessories for the C.B. Radio operator which are available from your local dealer:

Fibreglass Helical Whips, Base Station Aerials,

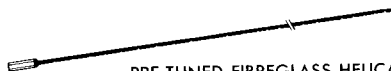
Aerial Bases, Adaptors, Cable and Connecting Leads, Antenna Matchers, S.W.R. Meters, Plugs and Sockets, Interference Filters, Horns and Speakers, Power Supplies, Microphones. Some Items are Illustrated Here.



AE227 3/4 WAVE FEED BASE AERIAL.



AE103 BASE LOADED SPRING AERIAL, BASE, LEAD & PLUG ASSY. (BOOT/BONNET MOUNT).



PRE-TUNED FIBREGLASS HELICALS  
AE214 AE218



ADJUSTABLE TIP FIBREGLASS HELICALS  
AE202 AE207 AE211 AE219



FIBREGLASS HELICALS AE201 AE206  
AE210 AE217 AE223 AE224



AE109 CENTRE LOAD AERIAL,  
BASE, MOUNT, LEAD & PLUG ASSY.  
(GUTTER TYPE).



AE108 CENTRE LOAD AERIAL,  
BASE, MOUNT, LEAD & PLUG ASSY.  
(MAGNETIC).