



WESTFALIA TECHNICA

**10 m Amateurband Transceiver
Best.-Nr. 35 99 50**

**INSTRUCTION MANUAL
FOR
ALL MODE 10 METER 2-WAY TRANSCEIVER**

SPECIFICATIONS

10 M AMATEUR BAND-TRANSCEIVER AM/FM/SSB(160CH) 4W/4W/12W Best.-Nr. 35 99 50

TRANSMITTER SECTION

RF POWER OUTPUT (13.8V DC)	FM: 4 Watt Max. AM: 4 Watt Max. SSB (Up to 12Watt PEP).
FREQUENCY RANGE	AMATEUR BAND :28.006-29.345MHz CB BAND :26.995 -27.405MHz(RX)
EMISSIOn.....	F3E(FM), G3E(AM)
MODULATION CAPABILITY	FM : 2.0 +/- 0.2kHz AM : 90 +/- 5 % SSB: MAX 12W
SPURIOUS EMISSION	Better than -60dB

RECEIVER SECTION

SENSITIVITY at 10dB S+N/N	FM : 0.5uV AM : 1.0uV SSB : 0.2 uV
SQUELCH SENSITIVITY	Threshold : 0.5uV Maximum stop :1mV
SELECTIVITY	60 dB down at +10 KHz
IF FREQUENCY	1st IF:10.695MHz 2nd IF:488KHz
IMAGE REJECTION	60 dB
AUDIO OUTPUT	2.5 W Max. at 8 ohm load
CURRENT DRAIN	450 mA on standby (no signal) less than 1.5 A (Max. signal)
ANTENNA	Nominal 50 ohm impedance
POWER SOURCE	Operates from nominal 13.8 V DC, negative ground system.
DIMENSION(HOUSING)	254mm(D)x183mm(W)x50mm(H)

DESCRIPTION

This transceiver is an all-solid state designed for either mobile or fixed operation. For fixed operation a 6 amp, 13.8VDC regulated power supply will be required. DC current drain is extremely low so operation over long periods of time, even with your car engine off are possible.

RECEIVER

The receiver is a sensitive and highly selective dual-conversion superheterodyne type. The circuit incorporates an effective full time Automatic Noise Limiter in the audio stages. A ceramic filter provides sharp selectivity. A variable squelch control is incorporated to "silence" the receiver when no signals are present. The variable squelch control provides varying degrees of sensitivity to received signals.

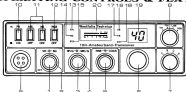
TRANSMITTER

The transmitter is crystal-controlled and provides 5 watts DC power input to the final RF stage. High level modulation is maintained through selection of low-loss component, computer grade printed circuit boards and wiring harnesses.

POWER SUPPLY

The transceiver is ready for connection to a 12 volt DC, negative or positive ground system. DC power is provide to the Transceiver by means of a fused power lead.

OPERATING CONTROLS & FEATURES



1. VOLUME CONTROL WITH POWER SWITCH

The volume control adjusts sound output of the speaker. Turn the control clockwise to increase volume and counter clockwise to decrease volume.

2. SQUELCH CONTROL

The word "squench" means to silence. The control will eliminate unwanted hash or atmospheric noise which is present in all HF (high frequency) bands. To set squelch properly turn control very slowly clockwise until the background noise disappears. To disengage, rotate control counter clockwise until back ground noise returns.

3. MICROPHONE GAIN CONTROL

This control provides the proper or desired modulation or PA audio level.

4. RF GAIN CONTROL

This control is used to increase the sensitivity of the receiver so that distant stations may be received more clearly, or to decrease the sensitivity so that very strong stations may be received more clearly.

5. CLARIFIER (FINE/ COARSE)

This control provides an adjustment for TUNING-IN stations which are slightly OFF frequency, to optimize the AM and SSB reception.

6. CHANNEL SELECTOR

The Channel Selector sets the channel frequencies simultaneously for the receiving and transmitting modes.

7. BAND SWITCH

For frequency selection.

Band A: 26.905 - 27.405MHz, Band B: 28.005 - 28.405MHz,

Band C: 28.455 - 28.855MHz, Band D: 29.905 - 29.345MHz

8. MODE CONTROL SWITCH

This selector enables the operator to select the mode of operation, upper or lower sideband or AM or FM. The switch changes both the transmitter and the receiver.

9. MICROPHONE JACK

This jack accommodates the microphone connector, and is wired to provide transmit when microphone switch is keyed.

10. PA/CH(TX) SWITCH

This switch selects the mode of operation. When set in the CB(TX) position, the transceiver will function. In the PA position the radio functions as a public address system when used in conjunction with an external PA speaker.

11. NB & ANL ON/OFF SWITCH

(Noise Blanker & Automatic Noise Limiter)

Excessive electrical noise, ignition and other atmospheric disturbances will be greatly reduced when this control is in the ON position. For normal conditions set the switch in the OFF position.

12. RGR ON/OFF SWITCH (Roger Beep Tones)

This switch selects the roger beep mode.

Press the microphone switch and transmitter is activated. When set in the RGR position, the transceiver will beep the moment the microphone switch is released for receiving.

13. ANL LED LAMP

This yellow led lamp will light when the ANL/OFF switch is set to pushed ANL position.

14. NB LED LAMP

This green led lamp will light when the NB/OFF switch is set to pushed NB position.

15. RGR LED LAMP

This red led lamp will light when the RGR/OFF switch is set to pushed RGR position.

16. AM MODE LED LAMP

This yellow led lamp will light when the mode control switch is set to AM position.

17. FM MODE LED LAMP

This green led lamp will light when the mode control switch is set to FM position.

18. SSB MODE LED LAMP

This red led lamp will light when the mode control switch is set to SSB(LSB or USB) position.

19. LED CHANNEL INDICATOR

The number of selected channel will appear on this display panel.

20. R.F. OUTPUT POWER LEVEL METER

This meter shows transmitter power when transmitting and input signal strength when receiving.

21. ANTENNA CONNECTION

To match antenna lead-in cable(HG 58/U or HG-8/U) with PL-329 type coaxial connector.

22. PA SPEAKER JACK

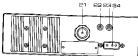
For Public Address(PA) operation, horn impedance should be in 8-16 ohm range.

23. EXTERNAL SPEAKER JACK

Impedance of any device such as headphones connected to this jack should be 8-16 ohms. Insertion of plug into jack automatically silences the transceiver internal speaker.

24. DC POWER CONNECTOR

12 volts DC for transceiver supplied.



TRANSCIVER INSTALLATION

MOUNTING:

Always mount where controls are readily accessible. Unit may be mounted to the underside of the dashboard of a car, truck, etc., utilizing special bracket included with transceiver.

Attach bracket to the underside of the dashboard using the self-tapping screws supplied. Attach the transceiver to the bracket using the two knurled securing screws at the side. Tilt the unit to the most convenient angle before tightening securing screws.

DC POWER CONNECTION:

With regards to the connection of the power cords, it may be possible or desirable to connect the red lead(for negative ground systems) or the black lead(for positive ground systems) to the ignition switch accessory terminal so that the radio is automatically turned off when the ignition switch(key) is turned off.

Alternately, the power lead may be connected to an available terminal on the fuse block or even to a point in the wiring harness. Care must be taken, however, to guard against a short circuit condition. When in doubt, please contact your vehicle dealer for specific information for your vehicle.

GROUND INFORMATION:

Most newer U.S. and foreign-made cars and small trucks use a negative ground system, while some older cars and some newer, larger trucks may use a positive ground system.

A negative ground system is generally identified by the "-" battery terminal being connected to the vehicle motor block, but if you cannot determine the polarity of your vehicle, consult your vehicle dealer for information.

NOTE : This radio may be installed and used in any 12-volt DC negative or positive ground system.

NEGATIVE GROUND SYSTEM :

If you are operating on a negative ground system, connect the red DC power cord from the radio to the positive "+" battery terminal or other convenient point and connect the black power lead to the chassis or vehicle frame, or the negative "-" terminal of the battery.

POSITIVE GROUND SYSTEM:

If you are operating on a positive ground system, connect the black DC power cord from the radio to the negative "-" battery terminal or other convenient point and connect the red power lead to the chassis or vehicle frame, or the positive "+" terminal of the battery.

ANTENNA CONNECTION:

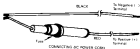
The lead-in cable from the CB antenna must be terminated with a PL-259 type male connector. Attach to the matching antenna input connector at the rear of the transceiver.

MICROPHONE BRACKET:

Attach the microphone bracket provided to any convenient location.

MICROPHONE CONNECTION:

Insert the 4 pin plug at the end of the coiled cord into the microphone socket.



DO NOT TRANSMIT WITHOUT AN ANTENNA CONNECTED TO THE TRANSCEIVER

IGNITION INTERFERENCE:

Normally the suppression on modern automotive engines is adequate to prevent annoying interference to your CB transceiver. If it does not, consult your dealer who will recommend additional suppression measurements.

RECEIVING

1. Select desired channel using the Channel Selector Switch
2. Rotate "squench" control to the extreme counter-clockwise position.
3. Rotate the "VOLUME/ON-OFF" switch clockwise, to apply power. Operation will be instantaneous.
4. Set the "VOLUME/ON-OFF" switch clockwise to a comfortable listening level (approximately 1/3 setting.) The receiver is now ready to operate.

SQUELCH ADJUSTMENT:

The Squelch control eliminates background noise when RF signals are not present. To properly adjust the squelch rotate the control slowly until all background noise disappears. It is easier if your select a frequency that is not in use when making this adjustment. Sometimes it may be necessary to "back-off" the squelch control just a degree or two if the incoming signals are too weak to "break" the squelch. To disengage the squelch circuit turn the control counter clockwise until the background noise reappears.

EXTERNAL SPEAKER JACK:

Recommended plug for the EXT. SPEAKER jack is a "MINIPLUG" subminiature phone plug. The impedance of earphones or speakers connected should be 8 - 16 ohms. Insertion of plug automatically silences the transceiver's internal speaker.

SIGNAL STRENGTH LEVEL METER:

When receiving, the S/R F POWER LEVEL METER provides a relative indication of the signal strength in "S" units providing a means of comparison between one received signal and another.

TRANSMITTING

To transmit, depress the push-to-talk button on the microphone. The S/TX power LEVEL METER indicates the relative transmit power level. Use the microphone like a telephone speaking several inches from the face. Do not shout, use a normal speaking voice.

When you are transmitting, the receiver is silenced and reception is, therefore, impossible. In the same way, your signal cannot be heard by another station when he is transmitting -- each must take turns. To receive again, simply release the microphone push-to-talk.

S/TX POWER LEVEL METER:

In transmit position the S/TX POWER LEVEL METER gives a relative indication of antenna RF power.

USE AS PUBLIC ADDRESS SYSTEM

Provision has been made for Public Address(PA) operation utilizing the microphone and audio stages in the transceiver. For PA operation, use an external high-efficiency public address horn type speaker with an impedance range of 8 to 16 ohms. Connect to the PA jack on the rear panel of the transceiver. The required plug is a subminiature phone plug. For Public Address (PA) operation, switch PA/CR/TX SWITCH to PA position.

CHANNEL FREQUENCIES CHART

BAND 1		BAND 1		BAND 2		BAND 3	
CH	FREQ (MHz)	CH	FREQ (MHz)	CH	FREQ (MHz)	CH	FREQ (MHz)
1	26.945	1	26.955	1	26.955	1	26.955
2	26.975	2	26.915	2	26.965	2	26.915
3	26.985	3	26.925	3	26.975	3	26.925
4	27.005	4	26.945	4	26.995	4	26.945
5	27.015	5	26.955	5	26.995	5	26.955
6	27.025	6	26.965	6	26.995	6	26.965
7	27.035	7	26.975	7	26.995	7	26.975
8	27.035	8	26.985	8	26.995	8	26.985
9	27.035	9	26.995	9	26.995	9	26.995
10	27.075	10	26.115	10	26.995	10	26.015
11	27.085	11	26.125	11	26.995	11	26.025
12	27.105	12	26.145	12	26.995	12	26.045
13	27.115	13	26.155	13	26.995	13	26.055
14	27.125	14	26.165	14	26.995	14	26.065
15	27.135	15	26.175	15	26.995	15	26.075
16	27.155	16	26.195	16	26.995	16	26.095
17	27.165	17	26.205	17	26.995	17	26.105
18	27.175	18	26.215	18	26.995	18	26.115
19	27.185	19	26.225	19	26.995	19	26.125
20	27.205	20	26.245	20	26.995	20	26.145
21	27.215	21	26.255	21	26.995	21	26.155
22	27.225	22	26.265	22	26.995	22	26.165
23	27.255	23	26.295	23	26.995	23	26.195
24	27.235	24	26.275	24	26.995	24	26.175
25	27.245	25	26.285	25	26.995	25	26.185
26	27.265	26	26.305	26	26.995	26	26.205
27	27.275	27	26.315	27	26.995	27	26.215
28	27.285	28	26.325	28	26.995	28	26.225
29	27.295	29	26.335	29	26.995	29	26.235
30	27.305	30	26.345	30	26.995	30	26.245
31	27.315	31	26.355	31	26.995	31	26.255
32	27.325	32	26.365	32	26.995	32	26.265
33	27.335	33	26.375	33	26.995	33	26.275
34	27.345	34	26.385	34	26.995	34	26.285
35	27.355	35	26.395	35	26.995	35	26.295
36	27.365	36	26.405	36	26.995	36	26.305
37	27.375	37	26.415	37	26.995	37	26.315
38	27.385	38	26.425	38	26.995	38	26.325
39	27.395	39	26.435	39	26.995	39	26.335
40	27.405	40	26.445	40	26.995	40	26.345

