

SUPER STAR

2610



Exclusively manufactured
for Super Star in JAPAN

2800

OWNER'S MANUAL

3360 Channels All-Mode AM/FM/USB/LSB
Mobile Transceiver

General Description

The **SUPER STAR 2800** is a combination transmitter-receiver designed primarily for mobile use. It employs the very latest technology to provide 280 channels + 560 channels (+/-10kHz) of operation by means of digital frequency synthesis with PLL (phase-locked-loop) circuitry. The use of PLL assures a precise on-frequency operation on every channel in both transmit and receive mode. The **SUPER STAR 2800** also includes many other features which will provide greater operating convenience and assure optimum communications under a wide range of conditions.

Operable on 280 channels divided into seven groups of 40 channels.

RF Gain volume control switch.

Full noise reduction features — ANL and noise blanker.

4 modes of operation — LSB, USB, AM, or FM — selectable with a rotary switch.

Provision of PA.

Concentrically mounted Fine and Coarse controls to fine tune to any transmissions or operate in inter-channel frequencies.

Tone switch to select receive tonal quality in 2-way.

RF power output switchable in 2-way for required communication range.

CH9 switch enable you to select channel 9 regardless of the channel selector switch setting.

TX lamp that indicates you are on-the-air.

External speaker jack for an extra sound source.

Electrically floating chassis for negative or positive ground operation without switching.

A high-sensitivity dynamic microphone equipped.

CAUTION

FOR REPLACEMENT OF THE FUSE
IN DC POWER CABLE, PLEASE BE SURE
TO USE 3A FUSE.

Specifications

General

Frequency composition. PLL synthesizer

Frequency range. A — 25.615 to 26.055 MHz
B — 26.065 to 26.505 MHz
C — 26.515 to 26.955 MHz
D — 26.965 to 27.405 MHz
E — 27.415 to 27.855 MHz
F — 27.865 to 28.305 MHz
G — 28.315 to 28.755 MHz

Channels. Total 3360: 280 × 4 MODE
280 (+10kHz) × 4 MODE
280 (−10kHz) × 4 MODE

Frequency space. 0 to 20 kHz

Emission. AM/FM/USB/LSB

Power source. 13.8V DC

Receiver

Sensitivity. AM — 1 micro-V @ 10dB S/N
FM — 1 micro-V @ 20dB S/N
SSB — 0.5 micro-V @ 20dB S/N

Selectivity. 60 dB

Audio Output. 2W @ 8 Ohm

Fine Tune range. ± 800 Hz

Coarse Tune range. ± 10 kHz

Squelch range. 0.5 to 300 micro-V

Intermediate frequency. AM/FM/SSB — 7.8 MHz

Transmitter

RF power input :	SSB	AM	FM
Hi/Lo :	35/10	25/10	25/10

RF power output :	SSB	AM	FM
Hi/Lo :	12/0.5	4/0.5	4/0.5

SSB generation. Double-balanced modulator with crystal lattice filter

Coarse Tune range. ±10kHz

Operating Controls and Features

(1) Off/Volume Control

Varies the sound output from the speaker. Also incorporates an on-off switch at the extremely counterclockwise position.

(2) Band Selector

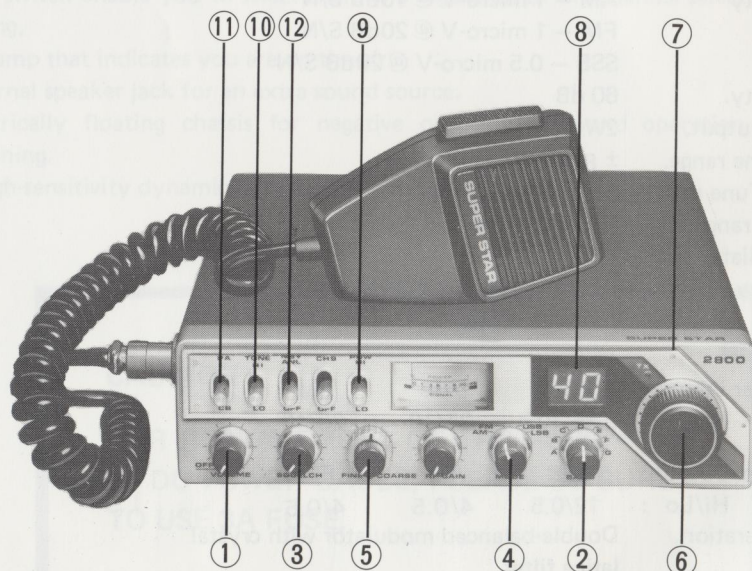
Selects a group of 40 channels in seven positions — A, B, C, D, E, F or G (280 in all).

(3) Squelch Control

Used to eliminate any annoying background noise when no signals are present. The degree of sensitivity to incoming signals is adjustable. When the Squelch control is rotated to the fully clockwise position, it provides maximum squelch; in the fully counterclockwise position, it provides minimum squelch.

(4) Mode Selector

Selects the mode of reception and transmission, LSB (lower side band), USB (upper side band), AM (amplitude modulation), or FM (frequency modulation).



(5) Fine/Coarse Control

This is concentrically located control that permits individual adjustment of receiving and/or transmitting frequencies.

Fine (inner knob). Provides fine tuning of the receiver section. On regular AM and FM reception, this will permit adjustment to off-frequency transmissions. In the SSB (either upper side band or lower side band) mode, this is used as a voice clarifier to adjust for clearer voice reception. This control will not affect the transmitter frequency.

Coarse Tune (outer knob). This control operates in the same manner as the Fine knob except it provides adjustment to both receive and transmit frequencies.

(6) Channel selector.

A 40-detent rotary switch to select any of 280 channels in conjunction with the Band Selector switch.

Window above this switch indicates the channel selected using an LED (Light-emitting-diode) digital readout.

(7) TX indicator

Lights up when transmitting.

(8) Channel indicator

A digital LED display to show channel selected.

Turned off when operating PA.

(9) Power Selector

Enables you to select the RF power output of the transceiver in 2 ways:

High. In this position the transceiver produces full rated RF power for maximum communication range.

Low. In this position, the minimum RF power output is obtained, may be used for short range communication.

Note. The RF power output level (W) which each position provides is dependent on the mode of operation. See Specifications section for specific RF power output.

(10) Tone Switch

Changes tonal quality in receiving in 2 ways:

High. High tones in the sound output are emphasized.

Low. Low tones in the sound output are emphasized.

(11) CB-PA switch

when set to PA (lever up) position, the transceiver acts as a public address amplifier. Before operating PA, you must first connect an external PA speaker (8 Ohm, more than 2W) to the PA Speaker jack on the unit rear panel.

(12) NB switch / ANL switch

Activates the noise blanker circuit which is effective in reduction of impulse type noises (ignition noise, etc.).

Activates the automatic noise limiter in the audio. The ANL will be effective in reduction of atmospheric (discharge) interference.

(13) CH9 switch

This switch enables you to select channel 9 regardless of the channel selector switch setting.

(14) RF Gain switch

This knob is RF Gain control which is used to optimize reception in strong signal areas. Gain is reduced by counterclockwise rotation of the control.

(15) Meter

Serves to dual purpose:

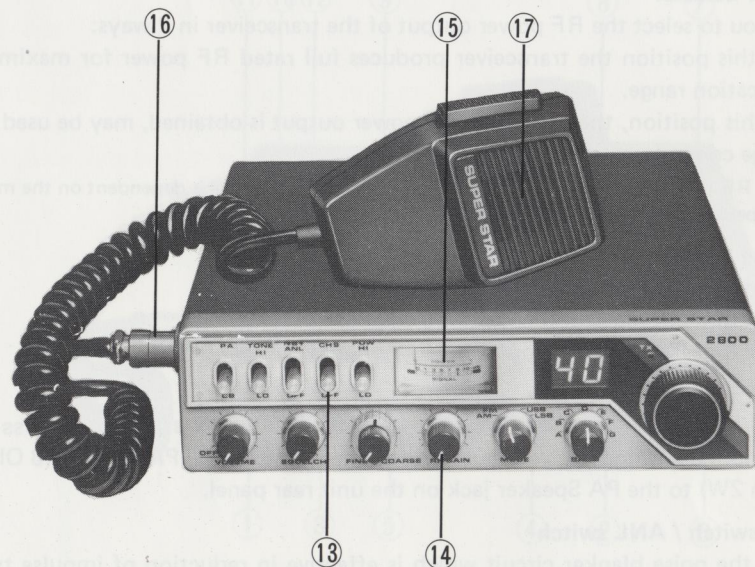
When receiving, this meter gives the relative strength of incoming signals in 'S' units. When transmitting, this gives RF power output in upper scale.

(16) Microphone jack

Accepts plug from the microphone supplied. The jack has a locating key inside and allows the plug inserted in only one way. Do not force the plug but align key way properly onto the jack.

(17) Microphone

Supplied. With transmit pushbar (PTT) mounted at the left side.



Rear Panel Connection

(1) Antenna

Accepts coaxial connector from the antenna lead-in cable.

(2) External Speaker jack

Used to connect an external speaker (8 Ohm 4W) as an extra sound source. Insertion of the plug from a speaker will silence the internal speaker automatically.

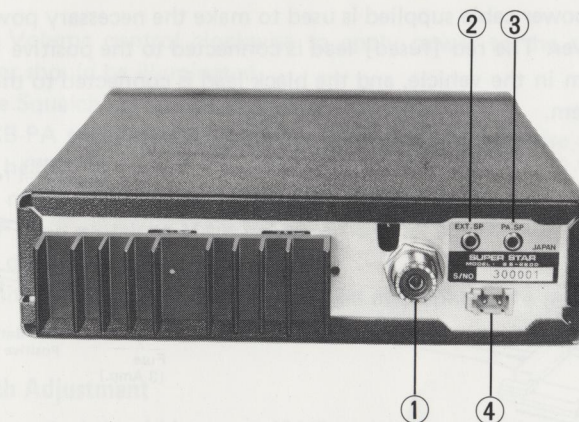
(3) PA Speaker jack

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.

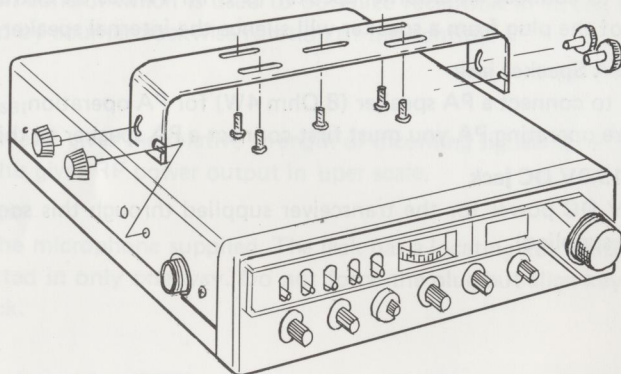
(4) 13.8V DC jack

13.8V DC power for the transceiver supplied through this socket (using DC power cable supplied).



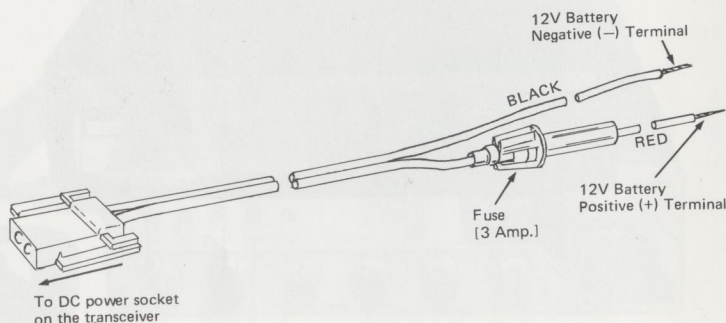
Mobile Installation

Before installing the transceiver in a car, truck, boat, etc., be sure to choose a location which is convenient to the operating controls, and will not interfere with the normal functions of the driver. The transceiver may be mounted to the underside of the instrument panel or dashboard of a car, truck, etc., by means of the special bracket that is supplied with the transceiver.



Power Connection

The transceiver is designed to operate from a battery source of 13.8 Volt DC, in vehicles [or boats] employing either negative or positive ground electrical systems. The fused DC power cable supplied is used to make the necessary power connection to the transceiver. The red [fused] lead is connected to the positive [+] side of the electrical system in the vehicle, and the black lead is connected to the negative [-] side of the system.



Antenna Connection

RG-58/u cable is generally used to connect the CB antenna to the transceiver. The cable should be terminated with a connector for connection to the antenna input on the transceiver.

Channel Selection

The transceiver is capable of operation on 280 channels which are divided into 7 groups of 40 channels — A, B, C, D, E, F and G. These groups are selected with the Band Selector switch as the following:

Band switch

Position	Frequency Range
A	25.615 to 26.055 MHz
B	26.065 to 26.505 MHz
C	26.515 to 26.955 MHz
D	26.965 to 27.405 MHz
E	27.415 to 27.855 MHz
F	27.865 to 28.305 MHz
G	28.315 to 28.755 MHz

After the band to which the channel you desire to operate belongs is selected, rotate the Channel selector to find the channel. Rotating the channel selector clockwise or counterclockwise by 1 detent will tune the transceiver 10 kHz upscale or downscale. i.e. If you desire to operate on 27.405 MHz, first set the Band selector switch to 'C', then turn the channel selector to the position at which the channel readout shows '40'.

Operation

- (1) Turn the Volume control clockwise to apply power to the transceiver. The S-RF meter should be illuminated.
- (2) Rotate the Squelch control counterclockwise fully.
- (3) Set the CB-PA switch to CB position. Now background noise or transmission should be heard.
- (4) Select the mode of reception — AM, SSB, or FM.
- (5) Set the RF Gain switch to MAX position.
- (6) Select the channel desired.
- (7) To transmit, depress the transmit switch on microphone; to receive, release the switch.

RF Gain Switch Adjustment

Normally, this control should be set to MAX position to provide maximum receiver sensitivity for long range reception. However, when communicating with a nearby station, you may find that the strong signal from this station may cause overloading of your receiver. In such a case, Gain is reduced by counterclockwise rotation of the control.

Fine Control Operation

This control provides fine tuning of the receiver by ± 0.8 kHz. On regular AM or FM reception, this will permit slight adjustment of your tuning in cases where the received signal is slightly off-frequency. For SSB reception, this control is used as a voice clarifier by turning it for clearest, most intelligible voice.

Coarse Tune Control Operation

This control acts like a VFO (variable frequency oscillator) allowing inter-channel reception and transmission. This shifts the assigned center frequency of the channel 10kHz up (when rotated clockwise fully) or down (when rotated counterclockwise fully). In the center position, the receiving and transmitting frequency is normal (as listed in the Frequency/Channel Chart).

Frequency/Channel Chart

A-Band		B-Band		C-Band		D-Band		E-Band		F-Band		G-Band	
Chan- nel	MHz Frequency	Chan- nel	MHz Frequency	Chan- nel	MHz Frequency	Chan- nel	MHz Frequency	Chan- nel	MHz Frequency	Chan- nel	MHz Frequency	Chan- nel	MHz Frequency
1	25,615	1	26,065	1	26,515	1	26,965	1	27,415	1	27,865	1	28,315
2	25,625	2	26,075	2	26,525	2	26,975	2	27,425	2	27,875	2	28,325
3	25,635	3	26,085	3	26,535	3	26,985	3	27,435	3	27,885	3	28,335
4	25,645	4	26,105	4	26,555	4	27,005	4	27,455	4	27,905	4	28,355
5	25,655	5	26,115	5	26,565	5	27,015	5	27,465	5	27,915	5	28,365
6	25,675	6	26,125	6	26,575	6	27,025	6	27,475	6	27,925	6	28,375
7	25,685	7	26,135	7	26,585	7	27,035	7	27,485	7	27,935	7	28,385
8	25,705	8	26,155	8	26,605	8	27,055	8	27,505	8	27,955	8	28,405
9	25,715	9	26,165	9	26,615	9	27,065	9	27,515	9	27,965	9	28,415
10	25,725	10	26,175	10	26,625	10	27,075	10	27,525	10	27,975	10	28,425
11	25,735	11	26,185	11	26,635	11	27,085	11	27,535	11	27,985	11	28,435
12	25,755	12	26,205	12	26,655	12	27,105	12	27,555	12	28,005	12	28,455
13	25,765	13	26,215	13	26,665	13	27,115	13	27,565	13	28,015	13	28,465
14	25,775	14	26,225	14	26,675	14	27,125	14	27,575	14	28,025	14	28,475
15	25,785	15	26,235	15	26,685	15	27,135	15	27,585	15	28,035	15	28,485
16	25,805	16	26,255	16	26,705	16	27,155	16	27,605	16	28,055	16	28,505
17	25,815	17	26,265	17	26,715	17	27,165	17	27,615	17	28,065	17	28,515
18	25,825	18	26,275	18	26,725	18	27,175	18	27,625	18	28,075	18	28,525
19	25,835	19	26,285	19	26,735	19	27,185	19	27,635	19	28,085	19	28,535
20	25,855	20	26,305	20	26,755	20	27,205	20	27,655	20	28,105	20	28,555
21	25,865	21	26,315	21	26,765	21	27,215	21	27,665	21	28,115	21	28,565
22	25,875	22	26,325	22	26,775	22	27,225	22	27,675	22	28,125	22	28,575
23	25,905	23	26,355	23	26,805	23	27,255	23	27,705	23	28,155	23	28,605
24	25,885	24	26,335	24	26,785	24	27,235	24	27,685	24	28,135	24	28,585
25	25,895	25	26,345	25	26,795	25	27,245	25	27,695	25	28,145	25	28,595
26	25,905	26	26,365	26	26,815	26	27,265	26	27,715	26	28,165	26	28,615
27	25,925	27	26,375	27	26,825	27	27,275	27	27,725	27	28,176	27	28,625
28	25,935	28	26,385	28	26,835	28	27,285	28	27,735	28	28,185	28	28,635
29	25,945	29	26,395	29	26,845	29	27,295	29	27,745	29	28,195	29	28,645
30	25,955	30	26,405	30	26,855	30	27,305	30	27,755	30	28,205	30	28,655
31	25,965	31	26,415	31	26,865	31	27,315	31	27,765	31	28,215	31	28,665
32	25,935	32	26,475	32	26,875	32	27,325	32	27,775	32	28,225	32	28,675
33	25,985	33	26,435	33	26,885	33	27,335	33	27,785	33	28,235	33	28,685
34	25,995	34	26,445	34	26,895	34	27,345	34	27,795	34	28,245	34	28,695
35	26,005	35	26,455	35	26,905	35	27,355	35	27,805	35	28,255	35	28,705
36	26,015	36	26,465	36	26,915	36	27,365	36	27,815	36	28,265	36	28,715
37	26,025	37	26,475	37	26,925	37	27,375	37	27,825	37	28,275	37	28,725
38	26,035	38	26,485	38	26,935	38	27,385	38	27,835	38	28,285	38	28,735
39	26,045	39	26,495	39	26,945	39	27,395	39	27,845	39	28,295	39	28,745
40	26,055	40	26,505	40	26,955	40	27,405	40	27,855	40	28,305	40	28,755