# AOR

# SR2200
## OPERATING MANUAL

### HIGH-END
### BLACK-BOX RECEIVER

**25 MHz- 3 GHz**
**High frequency stability +/- 1ppm**
**High sensitivity & selectivity**

**PC control by USB or serial port**
**Discriminator OUT**

**10.7 MHz I.F. OUT**

DISPLAY

AOR
SR2200

ANT
PWR
DC
USB
REMOTE
ACC
IF OUT
PHONES
EXT.SP

## Safety notices

Every effort has been made to make this manual correct and up to date. Due to continuous development of the product and by error or omission, anomalies may be found and this is acknowledged.

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### Level of risk

As the SR2200 is powered from 12V DC, there is little chance of serious injury as long as common sense is applied.

DC input is a nominal 12V DC wired center positive. Reverse polarity connection will damage the SR2200 and potentially could lead to the risk of fire or explosion under severe circumstances.

NEVER connect the SR2200 directly to an AC outlet.

### Handling the SR2200

Use a soft, dry cloth to gently wipe the SR2200 clean, never use abrasive cleaners or organic solvents which may damage certain parts. Treat the unit with care, avoid spillage or leakage of liquids into the cabinet. Special care should be taken to avoid liquid entering via the connection sockets.

### Special remarks

Do not use or leave the SR2200 in direct sunlight. It is best to avoid locations where excessive heat, humidity, dust and vibration are expected. Always keep the SR2200 free from dust and moisture.

### Other warnings

There are no internal operator adjustments. In the unlikely event of servicing being required, please contact your dealer for technical assistance.

Although carefully designed, the SR2200 (like all receivers) suffers from a degree of internal noises known as spurii. They are a product of the receiver circuitry and do not represent a fault.

The reception might be affected by interferences produced by nearby electrical appliances such as television, PC, walkie-talkies, etc... The reception might be strongly affected by powerful transmissions if the receiver or the antenna is located nearby a transmitter (such as TV broadcasting transmitter).

Transmissions with encrypted content cannot be decoded by this receiver.

Specification is typical but not guaranteed, subject to change without notice due to continuous development of the product.

## TECHNICAL SPECIFICATIONS

| Configuration | Triple conversion superheterodyne | | | |
|---|---|---|---|---|
| Frequency coverage | 25MHz - 3GHz | | | |
| Reception modes | AM / NFM / WFM / SFM | | | |
| Sensitivity | Band | Sensitivity | IP3 (dBm) | S/N (dB) |
| IP3 | 25M-225MHz | NFM: 0.35uV (12dB SINAD) | 1 | 40 |
| S/N | | AM: 0.6uV (10dB S/N) | | |
| | | WFM: 2.0uV (12dB SINAD) | | |
| | 225M-1.7GHz | NFM: 0.35uV (12dB SINAD) | 1 | 35 |
| | | AM: 0.8 uV (10dB S/N) | | |
| | | WFM: 2.0uV (12dB SINAD) | | |
| | 1.7GHz -2.7GHz | NFM: 0.6uV (12dB SINAD) | 1 | 32 |
| | 2.7GHz-3GHz | NFM: 1.5uV (12dB SINAD) | 1 | 30 |
| IF frequencies | 1st IF: 255.3MHz, 744.3MHz | | | |
| | 2nd IF: 10.7MHz | | | |
| | 3rd IF: 455kHz | | | |
| Tuning steps | 100 Hz to 100 kHz (10 Hz incremental) | | | |
| Selectivity | NFM: +/-10kHz, 60dB | | | |
| | AM/SFM: +/-6kHz, 60dB | | | |
| | WFM: +/-180KHz, 60dB | | | |
| Spurious Sensitivity | 60dB> | | | |
| Adjacent Selectivity | 55dB > | | | |
| Dynamic Range | 90dB> | | | |
| Unwanted Spurious emissions | < -57dBm | | | |
| IP3 | +1.0 dBm | | | |
| Frequency stability | +/-1ppm (0-50℃) | | | |
| Audio output | 1.2W (8Ω) max.@ 10% distortion (no internal speaker!) | | | |
| Power requirements | 12 - 16V DC, 0.5 A with 1W audio output | | | |
| Aerial connection | 50Ω  BNC | | | |
| IF output | 10.7MHz | | | |
| Control interface | RS-232C / USB , 38400bps | | | |
| Operation temperature | 0 to 50℃ | | | |
| Dimensions | 200(W) x 31(H) x 230(D) mm, without projections | | | |
| Weight | 1.23kg | | | |
| Nominal filter bandwidths | 6kHz, 15kHz, 300kHz. | | | |
| Memory channels | 1000 (10 banks) | | | |
| Search banks | 40 | | | |
| Scan/Search Rate | 25 steps per second. | | | |
| Pass frequencies | 2000 | | | |
| Priority channels | 1 | | | |

## SUPPLIED ACCESSORIES

- DC power cable
- Operating manual
- **Basic** control software for testing purposes, on CD. This software does not support USB connections, only RS-232C.  If your PC (particularly laptops) does not feature a RS232C port, you may alternatively use a "USB to SERIAL" adapter. <u>This software is supplied "as is" without any guarantee of any kind.</u>
- Complete command list (inside the manual)
- USB driver on CD.

## CONNECTIONS

Refer to this diagram for connection details:



① 10.7MHz IF OUT with +/- 5MHz of bandwidth.

② Headphone socket (3.5mm mono jack, also wired for stereo plug). When this socket is used, any external speaker connected to socket (3) will be automatically disconnected.

③ External speaker socket (3.5mm mono). The speaker should have a nominal 8 Ω impedance and power handling of 2 Watts or greater.

④ Accessory socket. Provides output for audio and discriminator, or other applications you might create. Pin allocation as follows:



| PIN NUMBER | CONNECTION |
|:---:|:---|
| 1 | 6V DC @ 30mA max. |
| 2 | Discriminator out, 500mVp-p |
| 3 | 10.7MHz IF (no amp, no filter) |
| 4 | No connection |
| 5 | No connection |
| 6 | AF out (H), 120mV @ 600Ω |
| 7 | AF out (L), 60mV @ 600Ω |
| 8 | Ground |

Values for pins 2, 6, 7 are for a 3kHz FM deviation at antenna input level.

⑤ RS-232C socket for PC control. The connection cable is not supplied..

⑥ USB socket for PC control. The connection cable is not supplied.

When you connect the SR2200 (power ON) to the PC for the first time, Windows will detect the USB connection and ask you for a driver. At this time insert the supplied CD and find the folder named "USB DRIVER". Driver installation will be automatic.

Please note that the supplied SR2200 control software does not function with a USB connection. You may use the Windows "Hyper Terminal" software which is supporting USB connections.

⑦ 12V DC input socket. The DC power cable is supplied. Please connect it to a power unit providing 12 to 16V DC, with minimum 0.5 A. Center pin is positive.

⑧ Power switch and power LED. Unit is powered and the green LED is lit, when the switch is in the upper position.

⑨ Antenna socket. BNC type. Preferably use an antenna with coaxial lead matched to 50 Ω, for optimal performance.

⑩ Remote control panel. The <u>optional</u> control panel head (with internal speaker), similar to the control panel of AR-ONE is used to test functionality of the receiver, when a PC is not available.

## CONTROL COMMANDS FOR TERMINAL SOFTWARE

The SR2200 is operated via PC using the RS232C, or USB port. The commands necessary to that effect, are described in this chapter.

Microsoft Windows Hyper Terminal may be used to control the SR2200, or you may use your own software by integrating the following commands.

### Communication parameters

- Baud rate          38400 BPS
- Data length        8 bits      - ^A nn [cr],[LF] … ^A = 13 Hex … nn = Receiver's ID #
- Stop bit           1 bits      If ID # = 00 (DEFAULT VALUE), command can be input directly.
- Parity             NONE
- Flow control       NONE
- Local echo         ON (set in ASCII settings of Microsoft HYPERTERMINAL)

### Delimiter

■PC → SR2200

<CR> （0x0d）

 or

<CR><LF> （0x0d 0x0a）

Note: <LF> will be ignored

■SR2200 → PC

- "OK" response when the command has been correct:
  <SP><CR><LF> （0x20 0x0d 0x0a）
- Response when the command has been incorrect:
  ？<CR><LF>  （0x3f 0x0d 0x0a）
- Response to the read command:
  Following the output of the parameter, the correct response should read:
  <SP><CR><LF> （0x20 0x0d 0x0a）

### Numerical parameter auto-correct

The SR2200 does correct the numerical command parameter to the digit format applying to the given parameter. In the following example, the DB command has to be followed by a 3-digit number.

Ex.: DB003 <CR>

The SR2200 will add one or two "0" in order to achieve three digits.

DB3<CR> ......... processed as DB003<CR>
DB03<CR> ....... processed as DB003<CR>

However be aware that for some commands like Memory Channel or Search Bank, if you input MQ33 for MQ303 (bank 3, channel 3), the SR2000 would mistakenly correct your entry to MQ033 which means bank 0, channel 33.

## COMMAND LIST

| COMMAND NAME | REQUEST CMD CMD or HEADER | R/W | COMMAND DESCRIPTION |
|---|---|---|---|
| - POWER ON | x | W | When the receiver's power is off, any key will power it on. |
| - POWER OFF | QP | W | POWER-OFF the receiver |
| - REMOTE ON | ^Ann | W | ^Ann … nn = ID # … means control unit A with ID # = 00 to 99 <br> (Note)In case ID # = 00 ( DEFAULT VALUE ),the command can be input directly. |
| - REMOTE OFF | EX | W | Stop control of remote receiver |
| - ID ( REMOTE ) | IDnn | W | nn = 00 - 99 (Setting an ID to the remote receiver ) |
|  |  | R | IDnn |
| - Rx-MODE | Vx … | W | VFO selection. x = A - J ( DEFAULT is VFO-A ) |
|  | MRmnn |  | Memory Read. m = BANK # from 0 - 9 and n = CH # from 00 - 99. |
|  | MSm |  | Memory Scan. m = BANK # from 0 - 9 |
|  | SM |  | Memory Select |
|  | SSmm |  | Normal Search. mm = BANK # from 01 - 40 |
|  | RX | R | RFU STATUS |
|  |  |  | MR MXmnn RFnnnnnnnnnn STnnnnnn AUn MDn BWn ATn AMn TMxxxxxxxx |
|  |  |  | MS MXmnn RFnnnnnnnnnn STnnnnnn AUn MDn BWn ATn AMn TMxxxxxxxx |
|  |  |  | SM MXmnn RFnnnnnnnnnn STnnnnnn AUn MDn BWn ATn AMn TMxxxxxxxx |
|  |  |  | SSmm RFnnnnnnnnnn STnnnnnn AUn MDn BWn ATn AMn TTxxxxxxxx |
|  |  |  | Vx RFnnnnnnnnnn STnnnnnn AUn MDn BWn ATn AMn |
|  |  |  | (Priority Channel) PPmnn RFnnnnnnnnnn STnnnnnn AUn MDn BWn ATn AMn TMxxxxxxxx |
| - FREQUENCY | RFnnnnnnnnnn | W | Active VFO's Frequency in Hz. |
|  | RFnn.nn |  | Active VFO's Frequency in MHz |
|  | RFnnn |  | Active VFO's Frequency in MHz |
|  | Vx … |  | Vx nnnnnnnnnn ( Hz )  VFO selection followed by |

| | | | frequency in Hz. |
|---|---|---|---|
| | RF | R | Active VFO's Frequency. RFnnnnnnnnnn ( Hz ) |
| **- FREQ STEP** | STnnnnnn | W | Frequency STEP in Hz. Not valid for Search. (AUTO MODE will be set to off) |
| | STnn.nn | | Frequency STEP in KHz. |
| | STnn | | Frequency STEP in KHz. |
| | ST | R | Frequency STEP in Hz. STnnnnnn ( Hz ) |
| **- RECEPTION MODE** | MDn | W | n = 0 … NFM    ( BW = 15 K ) |
| | | | n = 1 … WFM    ( BW = 300 K ) |
| | | | n = 2 … AM    ( BW =   6 K ) |
| | | | n = 3 … SFM ( BW =   6 K ) |
| | | | n = 4 … WAM ( BW =   15 K ) |
| | MD | R | MDn |
| **- AGC** | AC n | W | n = 0 …   AGC-OFF |
| | | | n = 1 …   AGC-FAST |
| | | | n = 2 …   AGC-SLOW |
| | | | n = 3 …   AGC-MIDDLE |
| | AC | R | ACn |
| **- RF-ATTENUATOR** | ATn | W | n = 0 … 00 dB |
| | | | n = 1 … 10 dB |
| | | | n = 2 … 20 dB |
| | | | n = 3 … AUTO (Depending on the signal level, RF-AMP will automatically change to on or off) |
| | AT | R | ATn ( n = 3 … AUTO ATT/AMP ) |
| **- RF-AMP** | AMn | W | n = 0 … RF-AMP OFF |
| | | | n = 1 … RF-AMP ON |
| | | | n = 2 … AUTO (Depending on the signal level, ATT will automatically change to on or off) |
| | | R | Amn ( n = 3 … AUTO ATT/AMP ) |
| **- NOISE-SQUELCH THRESHOLD** | RQnnn | W | RQnnn …   nnn = 000 - 255 This command can be applied to VFO, MEMORY and SEARCH DATA |
| | | | When the optional Remote Control Panel is connected, the AF-volume must be turned to minimum for the command to function. |
| | RQ | R | RQ nnn |

| | | | |
|---|---|---|---|
| **- LEVEL-SQUELCH**<br><br>   **THRESHOLD** | DBnnn | W | DBnnn …   nnn = 000 - 255 (Default is 000 for off)<br>This command can be applied to VFO, MEMORY<br>and SEARCH DATA |
| | | | When the optional Remote Control Panel is<br>connected, the AF-volume must be turned to<br>minimum for the command to function. |
| | DB | R | DB nnn |
| **- AF-GAIN** | AGnnn | W | AGnnn …   nnn = 000 - 255 (Default is 255) |
| | | | When the optional Remote Control Panel is<br>connected, the AF-volume must be turned to<br>minimum for the command to function. |
| | AG | R | AG nnn |
| **- MANUAL-GAIN** | MGnnn | W | MGnnn …   nnn = 000 - 255 (Default is 255)<br>AGC must be set to OFF. |
| | MG | R | MG nnn |
| **- SELECT SQUELCH** | SQn | W | n = 0 … NOISE-SQ (DEFAULT)<br><br>n = 1 … LEVEL-SQ |
| | SQ | R | SQn |
| **- SIGNAL-LEVEL** | LM | R | ATn AMn NSQm LMnnn …   When NOISE-SQ is<br>selected ( nnn = 000 - 999 )<br>ATn AMn LSQm LMnnn …   When LEVEL-SQ is<br>selected ( nnn = 000 - 999 )<br>m = 0 …   SQUELCH closed<br>m = 1 …   SQUELCH open |
| **- AUTO SIGNAL**<br><br>   **LEVEL** | LCn | W | n = 0 …   OFF<br>n = 1 …   ON ( When the squelch opens, signal<br>level and frequency are returned ) |
| | LC | R | LCn |
| | | R | SQm LCnnn RFnnnnnnnnnnn<br>m = 0 …   When NOISE-SQ is selected. |
| **- SCAN/SEARCH**<br><br>   **RE-START CMD** | SGn | W | When scan/search is in operation: when it stops,<br>the squelch opens and closes again. Then<br>scan/search resumes . This SG command repeats<br>the process.<br>n = 0 … NO-OPERATION<br>n = 1 … Re-starts [SG] |
| | SG | R | SGn |

| - DELAY-TIME | DD… | W | DD n.n …   n.n = 0.0 - 9.9 sec ( DEFAULT = 2.0 sec ) <br><br> Delay before shifting to next channel. <br><br> nn = FF … HOLD |
|---|---|---|---|
| | DD | R | DDn.n or DDFF |
| - FREE SCAN | SP… | W | SPnn … n.n = 0.0 - 9.9 sec (decimal can be omitted) <br><br> n.n = 0.0 … FREE-SCAN OFF ( DEFAULT ) <br><br> = 0.1 - 9.9 sec |
| | SP | R | SPn.n |
| - SELECT S-METER | SF… | W | n = 0 … DIGTAL METER … dBuV ( DEFAULT ) <br><br> n = 1 … DIGTAL METER … dBm |
| | | R | SFn |
| - DUPLEX ON/OFF | OFnnx | W | OFnnx … nn = 00 - 47 ( 00 = OFF ) <br><br> … x   = + or - |
| | OF | R | OF xnn |
| - DUPLEX FREQ <br><br> SETTING | OLmm nnn…n | W | OLmm nnnnnnnn00 … mm = 01 - 19 <br><br> … nnnn… n = FREQ-DATA ( up to 1000 MHz, 100 Hz step ） |
| | OLmm | R | OLmm nnnnnnnnnn |
| | OL | | OLmm nnnnnnnnnn |
| - INTERVAL TIME <br><br> OF AUTO ATT/AMP | ABnn | | ABnn … nn = 02 - F0 <br><br> nn = 02 … APPROX 100 ms <br><br> nn = 03 …              150 <br><br> nn = 08 …              350 <br><br> nn = 0B …              500 ( DEFAULT ) <br><br> nn = 10 …              700 <br><br> nn = 30 …              2000 <br><br> nn = F0 … |
| | AB | | ABnn |
| - S-METER LEVEL <br><br> ( dBuV ) | LU | R | LU … S-METER LEVEL ( dBuV ) <br><br> LU nnn … -nn ～ nnn |
| - S-METER LEVEL <br><br> ( dBm ) | LB | R | LB … S-METER LEVEL ( dBm ) <br><br> LB nnn … -nnn ～ nnn |
| - S-METER GAIN <br><br> (constant) | KKnn | W | KKnn … nn = 00 - 99 ( 1.00 - 1.99 ) |
| | KK | R | KK nn |

| - SEARCH DATA | SEnn … | W | SEnn … nn = 01 - 40 …    BANK #<br>SLnnnnnnnnnn ( START-FREQ )  …   Refer to RF command<br>SUnnnnnnnnnn ( STOP-FREQ )  …    Refer to RF command<br>AUn ……   Refer to AU command<br>STnnnnnn, MDn, BWn, ENn, ATn, AMn, AC n … Separate commands with one blank space.<br>TTxxxxxxxx ( TITLE )  …   Use if necessary. Spaces are OK. |
|---|---|---|---|
| - SEARCH DATA LIST<br><br>**(settings)** | SRnn | R | SR    …   CURRENT BANK'S SEARCH-DATA (Format as below) |
| | | | SRnn   …   nn = 01 - 40 … Search data of specific search bank (Format as below)<br>SRn …… n = 1 - 4 … Search data in one of the 10 memory channel banks.<br>(1=bank 1 to 10, 2=11 to 20, 3=21 to 30, 4=31 to 40)<br>SR%% …   Search data of all banks |
| | | R | SRn SLnnnnnnnnnn SUnnnnnnnnnn AUn MDn BWn ATn AMn TTxxxxxxxx<br>SRn --- ( BLANK ) |
| - PASS-FREQ | PW… | W | PW ……   Make the current frequency, a PASS Frequency.<br>PWnnnnnnnnnn … Manually input a pass frequency. |
| - PASS-FREQ LIST | PR… | R | PRnn …   nn = 01 - 40 ( BANK # )<br>There are 50 frequencies in each of the 40 banks, total 2000 frequencies.<br>PR00 nnnnnnnnnn<br>PR01 nnnnnnnnnn<br>  :            :<br>PRmm --- |
| - DELETE PASS-FREQ | PD… | W | PDmmnn …   mm = 01 - 40 ( BANK # ) / nn = 00 - 49 ( PASS-CH # )  … A given pass frequency of a specific bank are deleted,<br>PDmm%% …   mm = 01 - 40 ( BANK # ) … All pass frequencies from a given bank are deleted. |
| - DELETE SRCH DATA | QSnn | W | QSnn … nn = 01 - 40 … The search data and pass frequencies inside a given bank will be deleted. |

| | | | |
|---|---|---|---|
| **WITH PASS-FREQ** | | | QS%% … The search data and pass frequencies of ALL banks will be deleted. |
| **- COPY TO VFO** | SV… | W | SVn … n = 0 - 9 ( VFO-A - VFO-J ) … Copy the current search data to VFO. <br> n = 0 … VFO-A <br> : : <br> n = 9 … VFO-J ( DEFAULT 時、VFO-J へ ) |
| **- MEM DATA SETTINGS** | MX … | W | MXmnn … Write CURRENT RX-DATA to BANK # = m, CH # = nn <br> MXmnn … m = 0 - 9 … BANK # / nn = 00 - 99 … CH # <br> RFnnnnnnnnnn ( FREQUENCY ) … Refer to RF command. <br> AUn …………… Refer to AU command. <br> STnnnnnn, MDn, BWn, ENn, ATn, AMn, AC n … Separate each command with a space. <br> GAn … ( GA … M-SEL ON/OFF ) … Separate each command with a space. <br> TMxxxxxxxx ( TITLE ) … Use if necessary. Spaces are OK. |
| **- MEM DATA LIST** | MA… | R | MAm … m = 0 - 9 ( BANK # ) (Format as below) <br> MAmnn … m = 0 - 9 (BANK # ) / nn = 00 - 99 ( CH # ) … Only for the specified memory channel. <br> MXmnn MPn Gan RFnnnnnnnnnn AUn MDn BWn ATn AMn TMxxxxxxxx <br> MXmnn --- |
| **- MEMORY SELECT ON/OFF** | GA… | W | n = 0 … OFF <br> n = 1 … ON |
| | GA | R | GAn |
| **- SEL MEM LISTING** | GR… | R | GRnn … nn = 00 - 99 ( Display of specified memory channel ） <br> GR%% … ALL-CH ( MAX 100-CH ) <br> GRn … n = 0 - 9 ( 10 channels are set and displayed ) <br> GR … List up content of all 10 channels <br> GRnn mxx … nn = CH # / m = MEM-BANK # / xx = MEM-CH # |
| **- DELETE MEM** | MQn | W | MQn … n = 0 - 9 ( BANK # ) <br> MQ%% … ALL-BANK |
| **- MOVE TO VFO** | MV… | W | MVn … n = 0 - 9 ( VFO-A - VFO-J ) … Apply the |

| | | | current memory data to VFO. |
|---|---|---|---|
| | | | n = 0 … VFO-A |
| | | | :          : |
| | | | n = 8 … VFO-I ( DEFAULT   ) |
| | | | n = 9 … VFO-J |
| **- MEM-CH READ** | MRmnn | W | MR … READ CURRENT MEMORY DATA |
| | | | MRmnn …   m = 0 - 9 …   BANK # / nn = 00 - 99 … CH # |
| **- MEMO WRITE** | MW | W | MW … To save the data of the frequency currently being received. Automatic memory channel allocation. |
| **- MEMORY BLANK**  **CHANNEL LIST** | MB… | R | MBm … m = 0 - 9 ( BANK # ) Searches for available channels in a bank. Channels are displayed by groups of 10, delimited by [---]. example: 002 005 028 034 044 … 078 --- |
| **- SELECT PRIO-CH** | PPmnn | W | PPmnn … m = 0 - 9 …   BANK # / nn = 00 - 99 … CH # |
| | PP | R | PPmnn RFnnnnnnnnnn ( NORMAL ) or RF--- ( BLANK ) |
| **- INTERVAL TIME**  **OF PRIORITY** | TInn | W | TInn … nn = 01 - 20 sec ( DEFAULT = 05 sec ) |
| | TI | R | TInn |
| **- PRIO ON/OFF** | PQn | W | PQn … n = 0 or 1 n = 0 … OFF PRIORITY OPERATION n = 1 … ON PRIORITY OPERATION |
| | PQ | R | PQn … n = 0 or 1 |
| **- LEVEL WAIT** | LTnn | W | LTnn … nn = 01 - 95 - Time during which the level is put on hold until it stabilizes. n = 1 … APPROX 1 ms |
| | LTnn | R | LTnn |
| **- DISPLAY FLASH**  **MEMORY** | DMnnnn | R | DMmmmm …   mmmm = 0000 - FFFF ( ROM ADDRESS ) …Last of 4 digits must be "F". DMmmmF:nn nn …… nn … 16 bytes per line, 8 lines. (Space command allows view of following ROM address ) |
| **- EDIT FLASH-** | CM [SPACE ] | W | CMmmmm …   mmmm = 0000 - FFFF ( ROM-ADDRESS ) |

| | | | |
|---|---|---|---|
| **MEMORY DATA** | | | mmmF:nn nn …… nn (To display the original 16 byte data) |
| | | | mmmF:       xx xx        (enter data instead of xx, separate with blank space ) |
| | | | CMA00F 5A C3 … …        5A C3 ==>Changed to 00 00, Flash memory is initialized with [RESET] or [PWR-ON]. |
| - MODIFY FLASH  MEMORY | MM… | W | MMmmmF nn nn nn nn … nn (At the address mmmF, 16-BYTE DATA is input) |
| - PLL UNLOCK  WAIT-TIME | LW… | W | LWnn …   nn = 02 - 20 ms ( DEFAULT = 02 ) (Time setting for PLL lock after frequency change. Wrong timing might create PLL errors.) |
| | LW | R | LWnn |
| - SQ WAIT-TIME | SW… | W | SWnn …   nn = 00 - 50 ms ( DEFAULT = 10 ) Signal squelch check time after the PLL is locked. |
| | SW | R | SWnn |
| - BIRDIE CANCELL  REQUEST | PLn | W | Shifting the PLL data from the current reception frequency. n = 0 … OFF  n = 1 … +200K  n = 2 … -200K |
| | PL | R | PLn |
| - MAIN VERSION # | VR | R | VR … MAIN VERSION # VR yyyy-mm-dd |
| - VFO DEFAULT | CL [cr] | W | CL …Reset the VFO to default. |
| - RESET | RS [cr] | W | Flash ROM is re-initialized, after switching the receiver off and on again. ( SRCH-DATA and MEM-DATA will be lost! ) |
| - SERIAL # | SNnnnnnnnnnn | W | SNnnnnnnnnnn … nnnnnnnnnn … SERIAL # ( 10 digits ) |
| | SN [cr] | R | SNnnnnnnnnnn |

## USING THE SUPPLIED "SR2200 CONTROL SOFTWARE"

The software is supplied "as is" for testing purposes, with no warranty nor formal support.
The "SR2200 CONTROL SOFTWARE" only recognizes the receiver's RS232C connector.
If your PC (particularly laptops) does not feature a RS232C port, you may alternatively use a "USB to SERIAL" adapter.

### System requirements:

- IBM PC compatible receiver with an available RS232C port.
- Microsoft® Windows® 98 up to Vista (32 bit). 64bit systems not supported.
- Pentium® 300MHz processor or faster
- RAM and hard disk space requirements are negligible.

① **Connect the SR2200 to your PC using a serial cable.** Make sure that you have powered on the SR2200.
   In case you would like to use a "USB to serial" adapter, install this adapter first as specified by the manufacturer's instructions.

② **Install and launch the control software.** The main control window looks like this:



The default COM PORT 1 setting should allow you to control your receiver right away. Depending on you PC's configuration, the COM PORT to which you connected the SR2200 can be different from COM1. In this case it is necessary to select the appropriate number as pictured on the right.

When using a "USB to serial" adapter, the COM number Windows automatically assigns can be quite high, such as 5 to 8. You will need to select the correct COM port, as pictured. It is possible that you then may have to close the program and to start it again, for the connection to be recognized.

Please make sure that the RS232C port speed is set at 38400 bps and not 19200 bps, otherwise the connection with the PC will fail. Access this option by selecting **COM > Speed** and then select "38400 bps".

**HOW TO INPUT A FREQUENCY**

① First select the VFO (VFO A to J) in which the frequency will be stored. If the VFO already contains a frequency, then the receiver will be tuned to it.



② Click the "Freq.Input" button:

The following window will appear:



③ Input the desired frequency in the left frame and click OK. If other frequencies have been stored previously in other VFO's, you may select one in the right window, transfer it to the left window by clicking on the <= arrow, and validate with OK.

## OTHER FUNCTIONS



① **Reception Modes:** You have to manually choose between:
   AM (Amplitude Modulation). IF filter bandwidth of 6 kHz.
   NFM (Narrow Band Frequency Modulation): IF filter bandwidth of 15kHz.
   WFM (Wide Band Frequency Modulation): IF filter bandwidth of 15kHz.
   SFM (Super Narrow Frequency Modulation): IF filter bandwidth of 6kHz.

② **Frequency Step size:** You have to manually choose between 0.1, 0.5, 1, 2, 5, 6.25, 9, 10, 12.5, 20, 25, 30, 50, and 100kHz.

③ **RF Preamplifier:** Select either "auto", "ON" or no selection for disabling the preamplifier.

④ **RF Attenuator:** Select either "auto", "0dB", "10"dB, or "20dB" of attenuation.

⑤ **Signal Strength Meter**: It is for relative signal strength comparison and calibration may not be totally reliable.

⑥ **Squelch Control:** There are 2 types supported, NOISE squelch and (signal) LEVEL squelch. Move the slide to the right (for values from 0 to 255) until the unwanted noise disappears.

⑦ **Manual Frequency Tuning:** Using the left arrow (for tuning down) or the right arrow (for tuning up) you can decrease or increase the frequency by the value defined in the (2) Frequency Step section. For finer tuning, use lower STEP values.

⑧ **Volume Control**: Represents the AF audio output through the external speaker & headphones sockets. The SR2200 has no internal speaker!

Volume scale is from 000 to 255. Beware of excessive volume level when using headphones.

⑨ Functions not supported.

## TERMINAL-THE COMMAND WINDOW

Access the Terminal window through the VIEW menu.



This window allows you to monitor the data flow from SR2200 to the PC, and to check upon the SR2200 data response when a Command Instruction has been entered.



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Memo