

RX 1052

1 Byte waveform format

For units BEFORE serial # 090-6441001 (Black) or 990-6441001 (Silver):

| Baud Rate | Parity | Valid data bits | Stop bit value | Handshaking | Data type |
|-----------|--------|-----------------|----------------|-------------|-----------|
| 19200 | n | 8 | 1 | none | string |

For units AFTER serial # 090-6441001 (Black) or 990-6441001 (Silver):

| Baud Rate | Parity | Valid data bits | Stop bit value | Handshaking | Data type |
|-----------|--------|-----------------|----------------|-------------|-----------|
| 38400 | n | 8 | 1 | none | string |

1. RX1052 -> PC

ID: xxxyyyyz

Display Data

| Start | Count | ID | Type | Data | | | | | | Chk |
|-------|-------|------|------|-------|-----|-------|-------|-----|--------|-----|
| 0xfe | 0x12 | 0x61 | 0x20 | flag1 | ... | flag5 | char1 | ... | char11 | xx |

char1~11
ASCII Characters

flag1:

| | |
|------|-----------|
| bit7 | |
| bit6 | AUTO |
| bit5 | MEMORY |
| bit4 | PRESET |
| bit3 | spk_a_led |
| bit2 | spk_b_led |
| bit1 | zone_led |
| bit0 | stby_led |

flag2:

| | |
|------|--------|
| bit7 | RT |
| bit6 | EON |
| bit5 | TP |
| bit4 | TA |
| bit3 | AF |
| bit2 | STEREO |
| bit1 | TUNED |
| bit0 | |

flag3:

| | |
|------|------|
| bit7 | LW |
| bit6 | MW |
| bit5 | FM |
| bit4 | ANT |
| bit3 | |
| bit2 | |
| bit1 | RBDS |
| bit0 | RDS |

flag4:

| | |
|------|----|
| bit7 | |
| bit6 | |
| bit5 | |
| bit4 | |
| bit3 | |
| bit2 | |
| bit1 | |
| bit0 | AM |

flag5:

| | |
|------|-------------|
| bit7 | disp mode 1 |
| bit6 | disp mode 0 |
| bit5 | |
| bit4 | |
| bit3 | |
| bit2 | |
| bit1 | |
| bit0 | |

| | Normal | FL off |
|---------------|--------|--------|
| display mode1 | 0 | 1 |
| display mode0 | 0 | 0 |

2. PC -> RX1052

| Start | Count | ID | Type | Key | Chk |
|-------|-------|------|------|-----|-----|
| 0xfe | 0x03 | 0x61 | 0x10 | xx | xx |

| key: | | key: | | key: | | key: | |
|------|----------|------|------------|------|----------------|------|-----------|
| 0x00 | RMC Vol+ | 0x10 | Bass- | 0x20 | Tune / Preset | 0x30 | 7 |
| 0x01 | RMC Vol- | 0x11 | | 0x21 | Preset Scan | 0x31 | 8 |
| 0x02 | CD | 0x12 | | 0x22 | | 0x32 | 9 |
| 0x03 | Tuner | 0x13 | | 0x23 | Zone 2 / Main | 0x33 | 0 |
| 0x04 | Tape | 0x14 | | 0x24 | Band | 0x34 | |
| 0x05 | Video1 | 0x15 | | 0x25 | Freq. Direct | 0x35 | Phono |
| 0x06 | Video2 | 0x16 | | 0x26 | Mono | | |
| 0x07 | Video3 | 0x17 | Rec | 0x27 | Memory / Enter | 0x4a | Power Off |
| 0x08 | Video4 | 0x18 | FL Label | 0x28 | Tuning+ | 0x4b | Power On |
| 0x09 | | 0x19 | Enter/Tone | 0x29 | Tuning- | | |
| 0x0a | Power | 0x1a | Right (+) | 0x2a | 1 | 0x50 | Speaker A |
| 0x0b | Vol+ | 0x1b | Left (-) | 0x2b | 2 | 0x51 | Speaker B |
| 0x0c | Vol- | 0x1c | | 0x2c | 3 | 0x52 | FL On/Off |
| 0x0d | Treble+ | 0x1d | | 0x2d | 4 | | |
| 0x0e | Treble- | 0x1e | Mute | 0x2e | 5 | 0x55 | FM |
| 0x0f | Bass+ | 0x1f | | 0x2f | 6 | 0x56 | AM |

| key: | | key: | |
|------|------------|------|---------------------|
| 0x60 | | 0x70 | Preset Down |
| 0x61 | | 0x71 | Power All Zones Off |
| 0x62 | | 0x72 | Frequency Up |
| 0x63 | | 0x73 | Frequency Down |
| 0x64 | | 0x74 | |
| 0x65 | | 0x75 | |
| 0x66 | | 0x76 | |
| 0x67 | Tone | 0x77 | |
| 0x68 | | 0x78 | |
| 0x69 | Tuning | 0x79 | |
| 0x6a | Preset | 0x7a | |
| 0x6b | Source | 0x7b | |
| 0x6c | | 0x7c | |
| 0x6d | | 0x7d | |
| 0x6e | Party Mode | 0x7e | |
| 0x6f | Preset Up | 0x7f | NULL Key |
| | | 0xff | Display Refresh |

3. PC -> RX1052 (Main Zone Direct)

| Start | Count | ID | Type | Key | Chk |
|-------|-------|------|------|-----|-----|
| 0xfe | 0x03 | 0x61 | 0x14 | xx | xx |

key:

| | |
|------|----------|
| 0x00 | RMC Vol+ |
| 0x01 | RMC Vol- |
| 0x02 | CD |
| 0x03 | Tuner |
| 0x04 | Tape |
| 0x05 | Video1 |
| 0x06 | Video2 |
| 0x07 | Video3 |
| 0x08 | Video4 |
| 0x09 | |
| 0x0a | Power |
| 0x1e | Mute |
| 0x35 | Phono |

key:

| | |
|------|-----------|
| 0x4a | Power Off |
| 0x4b | Power On |
| 0x6c | Mute On |
| 0x6d | Mute Off |

4. PC -> RX1052 (Record Source Direct)

| Start | Count | ID | Type | Key | Chk |
|-------|-------|------|------|-----|-----|
| 0xfe | 0x03 | 0x61 | 0x15 | xx | xx |

key:

| | |
|------|--------|
| 0x02 | CD |
| 0x03 | Tuner |
| 0x04 | Tape |
| 0x05 | Video1 |
| 0x06 | Video2 |
| 0x07 | Video3 |
| 0x08 | Video4 |
| 0x35 | Phono |
| 0x6b | Source |

5. PC -> RX1052 (Zone 2 Source Direct)

| Start | Count | ID | Type | Key | Chk |
|-------|-------|------|------|-----|-----|
| 0xfe | 0x03 | 0x61 | 0x16 | xx | xx |

| key: | | key: | | key: | | key: | |
|------|------------|------|---------------|------|-----------------|------|------------------|
| 0x00 | RMC Vol+ | 0x20 | Tune / Preset | 0x30 | 7 | 0x6e | Party Mode |
| 0x01 | RMC Vol- | 0x21 | Preset Scan | 0x31 | 8 | 0x6f | Preset Up |
| 0x02 | CD | 0x22 | | 0x32 | 9 | 0x70 | Preset Down |
| 0x03 | Tuner | 0x23 | | 0x33 | 0 | 0x71 | All Zone Pwr Off |
| 0x04 | Tape | 0x24 | Band | 0x34 | | 0x72 | Frequency Up |
| 0x05 | Video1 | 0x25 | | 0x35 | Phono | 0x73 | Frequency Down |
| 0x06 | Video2 | 0x26 | Mono | 0x1e | Mute | 0x74 | |
| 0x07 | Video3 | 0x27 | | 0x4a | Zone2 Power On | 0x75 | |
| 0x08 | Video4 | 0x28 | Tuning+ | 0x4b | Zone2 Power Off | 0x76 | |
| 0x09 | | 0x29 | Tuning- | 0x55 | FM | | |
| 0x0a | Zone Power | 0x2a | 1 | 0x56 | AM | | |
| 0x0b | | 0x2b | 2 | 0x69 | Tuning | | |
| 0x0c | | 0x2c | 3 | 0x6a | Preset | | |
| 0x0d | | 0x2d | 4 | 0x6b | Source | | |
| 0x0e | | 0x2e | 5 | 0x6c | Mute On | | |
| 0x0f | | 0x2f | 6 | 0x6d | Mute Off | | |

6. PC -> RX1052 (Zone 3 Source Direct)

| Start | Count | ID | Type | Key | Chk |
|-------|-------|------|------|-----|-----|
| 0xfe | 0x03 | 0x61 | 0x17 | xx | xx |

| key: | | key: | | key: | | key: | |
|------|------------|------|---------------|------|-----------------|------|------------------|
| 0x00 | RMC Vol+ | 0x20 | Tune / Preset | 0x30 | 7 | 0x6e | Party Mode |
| 0x01 | RMC Vol- | 0x21 | Preset Scan | 0x31 | 8 | 0x6f | Preset Up |
| 0x02 | CD | 0x22 | | 0x32 | 9 | 0x70 | Preset Down |
| 0x03 | Tuner | 0x23 | | 0x33 | 0 | 0x71 | All Zone Pwr Off |
| 0x04 | Tape | 0x24 | Band | 0x34 | | 0x72 | Frequency Up |
| 0x05 | Video1 | 0x25 | | 0x35 | Phono | 0x73 | Frequency Down |
| 0x06 | Video2 | 0x26 | Mono | 0x1e | Mute | 0x74 | |
| 0x07 | Video3 | 0x27 | | 0x4a | Zone3 Power On | 0x75 | |
| 0x08 | Video4 | 0x28 | Tuning+ | 0x4b | Zone3 Power Off | 0x76 | |
| 0x09 | | 0x29 | Tuning- | 0x55 | FM | | |
| 0x0a | Zone Power | 0x2a | 1 | 0x56 | AM | | |
| 0x0b | | 0x2b | 2 | 0x69 | Tuning | | |
| 0x0c | | 0x2c | 3 | 0x6a | Preset | | |
| 0x0d | | 0x2d | 4 | 0x6b | Source | | |
| 0x0e | | 0x2e | 5 | 0x6c | Mute On | | |
| 0x0f | | 0x2f | 6 | 0x6d | Mute Off | | |

7. PC -> RX1052 (Zone 4 Source Direct)

| Start | Count | ID | Type | Key | Chk |
|-------|-------|------|------|-----|-----|
| 0xfe | 0x03 | 0x61 | 0x18 | xx | xx |

| key: | | key: | | key: | | key: | |
|------|------------|------|---------------|------|-----------------|------|------------------|
| 0x00 | RMC Vol+ | 0x20 | Tune / Preset | 0x30 | 7 | 0x6e | Party Mode |
| 0x01 | RMC Vol- | 0x21 | Preset Scan | 0x31 | 8 | 0x6f | Preset Up |
| 0x02 | CD | 0x22 | | 0x32 | 9 | 0x70 | Preset Down |
| 0x03 | Tuner | 0x23 | | 0x33 | 0 | 0x71 | All Zone Pwr Off |
| 0x04 | Tape | 0x24 | Band | 0x34 | | 0x72 | Frequency Up |
| 0x05 | Video1 | 0x25 | | 0x35 | Phono | 0x73 | Frequency Down |
| 0x06 | Video2 | 0x26 | Mono | 0x1e | Mute | 0x74 | |
| 0x07 | Video3 | 0x27 | | 0x4a | Zone4 Power On | 0x75 | |
| 0x08 | Video4 | 0x28 | Tuning+ | 0x4b | Zone4 Power Off | 0x76 | |
| 0x09 | | 0x29 | Tuning- | 0x55 | FM | | |
| 0x0a | Zone Power | 0x2a | 1 | 0x56 | AM | | |
| 0x0b | | 0x2b | 2 | 0x69 | Tuning | | |
| 0x0c | | 0x2c | 3 | 0x6a | Preset | | |
| 0x0d | | 0x2d | 4 | 0x6b | Source | | |
| 0x0e | | 0x2e | 5 | 0x6c | Mute On | | |
| 0x0f | | 0x2f | 6 | 0x6d | Mute Off | | |

8. PC -> RX1052 (Volume Direct)

| Start | Count | ID | Type | Key | Chk |
|-------|-------|------|------|-----|-----|
| 0xfe | 0x03 | 0x61 | 0x30 | xx | xx |

| key: | | key: | |
|------|------------|------|------------|
| 0x00 | volume min | 0x10 | volume 16 |
| 0x01 | volume 1 | | |
| 0x02 | volume 2 | 0x20 | volume 32 |
| 0x03 | volume 3 | | |
| 0x04 | volume 4 | 0x30 | volume 48 |
| 0x05 | volume 5 | | |
| 0x06 | volume 6 | 0x40 | volume 64 |
| 0x07 | volume 7 | | |
| 0x08 | volume 8 | 0x50 | volume 80 |
| 0x09 | volume 9 | | |
| 0x0a | volume 10 | 0x59 | volume 89 |
| 0x0b | volume 11 | | |
| 0x0c | volume 12 | 0x5a | volume max |
| 0x0d | volume 13 | | |
| 0x0e | volume 14 | | |
| 0x0f | volume 15 | | |

9. PC -> RX1052 (Volume Direct Zone 2)

| Start | Count | ID | Type | Key | Chk |
|-------|-------|------|------|-----|-----|
| 0xfe | 0x03 | 0x61 | 0x32 | xx | xx |

| key: | | key: | |
|------|------------|------|------------|
| 0x00 | volume min | 0x10 | volume 16 |
| 0x01 | volume 1 | | |
| 0x02 | volume 2 | 0x20 | volume 32 |
| 0x03 | volume 3 | | |
| 0x04 | volume 4 | 0x30 | volume 48 |
| 0x05 | volume 5 | | |
| 0x06 | volume 6 | 0x40 | volume 64 |
| 0x07 | volume 7 | | |
| 0x08 | volume 8 | 0x50 | volume 80 |
| 0x09 | volume 9 | | |
| 0x0a | volume 10 | 0x59 | volume 89 |
| 0x0b | volume 11 | | |
| 0x0c | volume 12 | 0x5a | volume max |
| 0x0d | volume 13 | | |
| 0x0e | volume 14 | | |
| 0x0f | volume 15 | | |

10. PC -> RX1052 (Volume Direct Zone 3)

| Start | Count | ID | Type | Key | Chk |
|-------|-------|------|------|-----|-----|
| 0xfe | 0x03 | 0x61 | 0x33 | xx | xx |

| key: | | key: | |
|------|------------|------|------------|
| 0x00 | volume min | 0x10 | volume 16 |
| 0x01 | volume 1 | | |
| 0x02 | volume 2 | 0x20 | volume 32 |
| 0x03 | volume 3 | | |
| 0x04 | volume 4 | 0x30 | volume 48 |
| 0x05 | volume 5 | | |
| 0x06 | volume 6 | 0x40 | volume 64 |
| 0x07 | volume 7 | | |
| 0x08 | volume 8 | 0x50 | volume 80 |
| 0x09 | volume 9 | | |
| 0x0a | volume 10 | 0x59 | volume 89 |
| 0x0b | volume 11 | | |
| 0x0c | volume 12 | 0x5a | volume max |
| 0x0d | volume 13 | | |
| 0x0e | volume 14 | | |
| 0x0f | volume 15 | | |

11. PC -> RX1052 (Volume Direct Zone 4)

| Start | Count | ID | Type | Key | Chk |
|-------|-------|------|------|-----|-----|
| 0xfe | 0x03 | 0x61 | 0x34 | xx | xx |

| key: | | key: | |
|------|------------|------|------------|
| 0x00 | volume min | 0x10 | volume 16 |
| 0x01 | volume 1 | | |
| 0x02 | volume 2 | 0x20 | volume 32 |
| 0x03 | volume 3 | | |
| 0x04 | volume 4 | 0x30 | volume 48 |
| 0x05 | volume 5 | | |
| 0x06 | volume 6 | 0x40 | volume 64 |
| 0x07 | volume 7 | | |
| 0x08 | volume 8 | 0x50 | volume 80 |
| 0x09 | volume 9 | | |
| 0x0a | volume 10 | 0x59 | volume 89 |
| 0x0b | volume 11 | | |
| 0x0c | volume 12 | 0x5a | volume max |
| 0x0d | volume 13 | | |
| 0x0e | volume 14 | | |
| 0x0f | volume 15 | | |

RX 1052 RS232 Controller Command List

Table: RX 1052 Waveform format expected:

- For units BEFORE serial # 090-6441001 (Black) or 990-6441001 (Silver):

| Baud Rate | Parity | Valid Data Bits | Stop Bit Value | Handshaking | Data Type |
|-----------|--------|-----------------|----------------|-------------|-----------|
| 19200 | N | 8 | 1 | None | String |

- For units AFTER serial # 090-6441001 (Black) or 990-6441001 (Silver):

| Baud Rate | Parity | Valid Data Bits | Stop Bit Value | Handshaking | Data Type |
|-----------|--------|-----------------|----------------|-------------|-----------|
| 38400 | N | 8 | 1 | None | String |

Table: RX 1052 expected format of a request by RS232 controller:

| Start | Count | Device ID | Type | Key | Checksum |
|-------|-------|-----------|------|------|----------|
| 0xFE | 0x03 | 0x61 | 0x10 | 0xXX | 0xXX |

Table 1: Type 10 Primary Command List

NOTE: The values in the table below show the exact byte sequence of all requests. The device will expect the bytes only - no spaces, no delimiter, etc. The controlling device may implement its own method to download each command sequence. The numerical values in the first column are Hexadecimal.

| RX 1052 HEX | Command | Command Description |
|-------------------|---------------|----------------------|
| FE 03 61 10 00 74 | RMC Vol+ | Remote Volume Up |
| FE 03 61 10 01 75 | RMC Vol- | Remote Volume Down |
| FE 03 61 10 02 76 | CD | Source CD |
| FE 03 61 10 03 77 | Tuner | Source Tuner |
| FE 03 61 10 04 78 | Tape | Source Tape |
| FE 03 61 10 05 79 | Video 1 | Source Video 1 |
| FE 03 61 10 06 7A | Video 2 | Source Video 2 |
| FE 03 61 10 07 7B | Video 3 | Source Video 3 |
| FE 03 61 10 08 7C | Video 4 | Source Video 4 |
| FE 03 61 10 0A 7E | Power | Power Toggle |
| FE 03 61 10 0B 7F | Vol+ | Volume Up |
| FE 03 61 10 0C 80 | Vol- | Volume Down |
| FE 03 61 10 0D 81 | Treble+ | Treble Up |
| FE 03 61 10 0E 82 | Treble- | Treble Down |
| FE 03 61 10 0F 83 | Bass+ | Bass Up |
| FE 03 61 10 10 84 | Bass- | Bass Down |
| FE 03 61 10 17 8B | Rec | Record |
| FE 03 61 10 18 8C | Menu | Display Label |
| FE 03 61 10 19 8D | Enter | Enter |
| FE 03 61 10 1A 8E | Right (+) | Right |
| FE 03 61 10 1B 8F | Left (-) | Left |
| FE 03 61 10 1E 92 | Mute | Mute |
| FE 03 61 10 20 94 | Tune / Preset | Tune / Preset Toggle |
| FE 03 61 10 21 95 | Preset Scan | Preset Scan |
| FE 03 61 10 23 97 | Zone 2 / Main | Zone |

| RX 1052 HEX | Command | Command Description |
|--------------------|---------------------|----------------------------|
| FE 03 61 10 24 98 | Band | Tuner Band |
| FE 03 61 10 25 99 | Freq. Direct | Tuner Frequency Direct |
| FE 03 61 10 26 9A | FM Mono | Tuner FM Mono |
| FE 03 61 10 27 9B | Memory / Enter | Tuner Memory Enter |
| FE 03 61 10 28 9C | Tuning+ | Tuner Up |
| FE 03 61 10 29 9D | Tuning- | Tuner Down |
| FE 03 61 10 2A 9E | 1 | 1 |
| FE 03 61 10 2B 9F | 2 | 2 |
| FE 03 61 10 2C A0 | 3 | 3 |
| FE 03 61 10 2D A1 | 4 | 4 |
| FE 03 61 10 2E A2 | 5 | 5 |
| FE 03 61 10 2F A3 | 6 | 6 |
| FE 03 61 10 30 A4 | 7 | 7 |
| FE 03 61 10 31 A5 | 8 | 8 |
| FE 03 61 10 32 A6 | 9 | 9 |
| FE 03 61 10 33 A7 | 0 | 0 |
| FE 03 61 10 35 A9 | Phono | Source Phono |
| FE 03 61 10 4A BE | Power Off | Power Off |
| FE 03 61 10 4B BF | Power On | Power On |
| FE 03 61 10 50 C4 | Speaker A | Speaker A |
| FE 03 61 10 51 C5 | Speaker B | Speaker B |
| FE 03 61 10 52 C6 | FL On / Off | FL Display Toggle |
| FE 03 61 10 55 C9 | FM | FM |
| FE 03 61 10 56 CA | AM | AM |
| FE 03 61 10 67 DB | Shift (Treble Bass) | Tone Controls |
| FE 03 61 10 69 DD | Tuning Select | Discrete Tune Select |
| FE 03 61 10 6A DE | Preset Select | Discrete Preset Select |
| FE 03 61 10 6E E2 | Party Mode | Party Mode |
| FE 03 61 10 6F E3 | Preset Up | Tuner Preset Up |
| FE 03 61 10 70 E4 | Preset Down | Tuner Preset Down |
| FE 03 61 10 71 E5 | All Zones Off | Power Off All Zones |
| FE 03 61 10 72 E6 | Frequency Up | Tuner Frequency Up |
| FE 03 61 10 73 E7 | Frequency Down | Tuner Frequency Down |
| FE 03 61 10 FF 73 | Display Refresh | Display Refresh |

Table 2: Type 14 Main Zone Command List

NOTE: These commands are duplicate functions of the primary commands in the table above bearing the same name, but are discrete for the main zone only. For multi-zone installation applications, it is recommended that the below commands be used rather than the type 10 commands to avoid zone conflicts.

| RX 1052 HEX | Command | Command Description |
|--------------------|----------------|----------------------------|
| FE 03 61 14 0B 83 | Main Vol+ | Main Zone Volume Up |
| FE 03 61 14 0C 84 | Main Vol- | Main Zone Volume Down |
| FE 03 61 14 02 7A | Main CD | Main Zone Source CD |
| FE 03 61 14 03 7B | Main Tuner | Main Zone Source Tuner |
| FE 03 61 14 04 7C | Main Tape | Main Zone Source Tape |

| RX 1052 HEX | Command | Command Description |
|--------------------|----------------|----------------------------|
| FE 03 61 14 05 7D | Main Video 1 | Main Zone Source Video 1 |
| FE 03 61 14 06 7E | Main Video 2 | Main Zone Source Video 2 |
| FE 03 61 14 07 7F | Main Video 3 | Main Zone Source Video 3 |
| FE 03 61 14 08 80 | Main Video 4 | Main Zone Source Video 4 |
| FE 03 61 14 0A 82 | Main Power | Main Zone Power Toggle |
| FE 03 61 14 1E 96 | Main Mute | Main Zone Mute |
| FE 03 61 14 35 AD | Main Phono | Main Zone Source Phono |
| FE 03 61 14 4A C2 | Main Power Off | Main Zone Power Off |
| FE 03 61 14 4B C3 | Main Power On | Main Zone Power On |
| FE 03 61 14 6C E4 | Main Mute On | Main Zone Mute On |
| FE 03 61 14 6D E5 | Main Mute Off | Main Zone Mute Off |

Table 3: Type 15 Record Source Command List

| RX 1052 HEX | Command | Command Description |
|--------------------|----------------|----------------------------|
| FE 03 61 15 02 7B | Record CD | Record Source CD |
| FE 03 61 15 03 7C | Record Tuner | Record Source Tuner |
| FE 03 61 15 04 7D | Record Tape | Record Source Tape |
| FE 03 61 15 05 7E | Record Video 1 | Record Source Video 1 |
| FE 03 61 15 06 7F | Record Video 2 | Record Source Video 2 |
| FE 03 61 15 07 80 | Record Video 3 | Record Source Video 3 |
| FE 03 61 15 08 81 | Record Video 4 | Record Source Video 4 |
| FE 03 61 15 35 AE | Record Phono | Record Source Phono |
| FE 03 61 15 6B E4 | Record Source | Record Source |

Table 4: Type 16 Zone 2 Command List

| RX 1052 HEX | Command | Command Description |
|--------------------|----------------------|-----------------------------|
| FE 03 61 16 00 7A | Vol+ | Zone 2 Volume Up |
| FE 03 61 16 01 7B | Vol- | Zone 2 Volume Down |
| FE 03 61 16 02 7C | Zone 2 CD | Zone 2 Source CD |
| FE 03 61 16 03 7D | Zone 2 Tuner | Zone 2 Source Tuner |
| FE 03 61 16 04 7E | Zone 2 Tape | Zone 2 Source Tape |
| FE 03 61 16 05 7F | Zone 2 Video 1 | Zone 2 Source Video 1 |
| FE 03 61 16 06 80 | Zone 2 Video 2 | Zone 2 Source Video 2 |
| FE 03 61 16 07 81 | Zone 2 Video 3 | Zone 2 Source Video 3 |
| FE 03 61 16 08 82 | Zone 2 Video 4 | Zone 2 Source Video 4 |
| FE 03 61 16 0A 84 | Zone 2 Power | Zone 2 Power Toggle |
| FE 03 61 16 1E 98 | Zone 2 Mute | Zone 2 Mute |
| FE 03 61 16 20 9A | Zone 2 Tune / Preset | Zone 2 Tune / Preset Toggle |
| FE 03 61 16 21 9B | Zone 2 Preset Scan | Zone 2 Preset Scan |
| FE 03 61 16 24 9E | Zone 2 Band | Zone 2 Band |
| FE 03 61 16 26 A0 | Zone 2 FM Mono | Zone 2 FM Mono |
| FE 03 61 16 28 A2 | Zone 2 Tune Up | Zone 2 Tune Up |
| FE 03 61 16 29 A3 | Zone 2 Tune Down | Zone 2 Tune Down |

| RX 1052 HEX | Command | Command Description |
|--------------------|-----------------------|--------------------------------|
| FE 03 61 16 2A A4 | Zone 2 Preset 1 | Zone 2 Tuner Preset 1 |
| FE 03 61 16 2B A5 | Zone 2 Preset 2 | Zone 2 Tuner Preset 2 |
| FE 03 61 16 2C A6 | Zone 2 Preset 3 | Zone 2 Tuner Preset 3 |
| FE 03 61 16 2D A7 | Zone 2 Preset 4 | Zone 2 Tuner Preset 4 |
| FE 03 61 16 2E A8 | Zone 2 Preset 5 | Zone 2 Tuner Preset 5 |
| FE 03 61 16 2F A9 | Zone 2 Preset 6 | Zone 2 Tuner Preset 6 |
| FE 03 61 16 30 AA | Zone 2 Preset 7 | Zone 2 Tuner Preset 7 |
| FE 03 61 16 31 AB | Zone 2 Preset 8 | Zone 2 Tuner Preset 8 |
| FE 03 61 16 32 AC | Zone 2 Preset 9 | Zone 2 Tuner Preset 9 |
| FE 03 61 16 33 AD | Zone 2 Preset 0 | Zone 2 Tuner Preset 0 |
| FE 03 61 16 35 AF | Zone 2 Phono | Zone 2 Source Phono |
| FE 03 61 16 4A C4 | Zone 2 Power Off | Zone 2 Power Off |
| FE 03 61 16 4B C5 | Zone 2 Power On | Zone 2 Power On |
| FE 03 61 16 55 CF | Zone 2 FM | Zone 2 Tuner FM |
| FE 03 61 16 56 D0 | Zone 2 AM | Zone 2 Tuner AM |
| FE 03 61 16 69 E3 | Zone 2 Tune | Zone 2 Tuner Manual Tune Mode |
| FE 03 61 16 6A E4 | Zone 2 Preset | Zone 2 Tuner Preset Mode |
| FE 03 61 16 6B E5 | Zone 2 Source | Zone 2 Follow Main Zone Source |
| FE 03 61 16 6C E6 | Zone 2 Mute On | Zone 2 Mute On |
| FE 03 61 16 6D E7 | Zone 2 Mute Off | Zone 2 Mute Off |
| FE 03 61 16 6E E8 | Party Mode | Party Mode |
| FE 03 61 16 6F E9 | Zone 2 Preset Up | Zone 2 Tuner Preset Up |
| FE 03 61 16 70 EA | Zone 2 Preset Down | Zone 2 Tuner Preset Down |
| FE 03 61 16 71 EB | All Zones Off | Power Off All Zones |
| FE 03 61 16 72 EC | Zone 2 Frequency Up | Zone 2 Tuner Frequency Up |
| FE 03 61 16 73 ED | Zone 2 Frequency Down | Zone 2 Tuner Frequency Down |

Table 5: Type 17 Zone 3 Command List

| RX 1052 HEX | Command | Command Description |
|--------------------|----------------------|-----------------------------|
| FE 03 61 17 00 7B | Vol+ | Zone 3 Volume Up |
| FE 03 61 17 01 7C | Vol- | Zone 3 Volume Down |
| FE 03 61 17 02 7D | Zone 3 CD | Zone 3 Source CD |
| FE 03 61 17 03 7E | Zone 3 Tuner | Zone 3 Source Tuner |
| FE 03 61 17 04 7F | Zone 3 Tape | Zone 3 Source Tape |
| FE 03 61 17 05 80 | Zone 3 Video 1 | Zone 3 Source Video 1 |
| FE 03 61 17 06 81 | Zone 3 Video 2 | Zone 3 Source Video 2 |
| FE 03 61 17 07 82 | Zone 3 Video 3 | Zone 3 Source Video 3 |
| FE 03 61 17 08 83 | Zone 3 Video 4 | Zone 3 Source Video 4 |
| FE 03 61 17 0A 85 | Zone 3 Power | Zone 3 Power Toggle |
| FE 03 61 17 1E 99 | Zone 3 Mute | Zone 3 Mute |
| FE 03 61 17 20 9B | Zone 3 Tune / Preset | Zone 3 Tune / Preset Toggle |
| FE 03 61 17 21 9C | Zone 3 Preset Scan | Zone 3 Preset Scan |
| FE 03 61 17 24 9F | Zone 3 Band | Zone 3 Band |
| FE 03 61 17 26 A1 | Zone 3 FM Mono | Zone 3 FM Mono |
| FE 03 61 17 28 A3 | Zone 3 Tune Up | Zone 3 Tune Up |
| FE 03 61 17 29 A4 | Zone 3 Tune Down | Zone 3 Tune Down |

| RX 1052 HEX | Command | Command Description |
|--------------------|-----------------------|--------------------------------|
| FE 03 61 17 2A A5 | Zone 3 Preset 1 | Zone 3 Tuner Preset 1 |
| FE 03 61 17 2B A6 | Zone 3 Preset 2 | Zone 3 Tuner Preset 2 |
| FE 03 61 17 2C A7 | Zone 3 Preset 3 | Zone 3 Tuner Preset 3 |
| FE 03 61 17 2D A8 | Zone 3 Preset 4 | Zone 3 Tuner Preset 4 |
| FE 03 61 17 2E A9 | Zone 3 Preset 5 | Zone 3 Tuner Preset 5 |
| FE 03 61 17 2F AA | Zone 3 Preset 6 | Zone 3 Tuner Preset 6 |
| FE 03 61 17 30 AB | Zone 3 Preset 7 | Zone 3 Tuner Preset 7 |
| FE 03 61 17 31 AC | Zone 3 Preset 8 | Zone 3 Tuner Preset 8 |
| FE 03 61 17 32 AD | Zone 3 Preset 9 | Zone 3 Tuner Preset 9 |
| FE 03 61 17 33 AE | Zone 3 Preset 0 | Zone 3 Tuner Preset 0 |
| FE 03 61 17 35 B0 | Zone 3 Phono | Zone 3 Source Phono |
| FE 03 61 17 4A C5 | Zone 3 Power Off | Zone 3 Power Off |
| FE 03 61 17 4B C6 | Zone 3 Power On | Zone 3 Power On |
| FE 03 61 17 55 D0 | Zone 3 FM | Zone 3 Tuner FM |
| FE 03 61 17 56 D1 | Zone 3 AM | Zone 3 Tuner AM |
| FE 03 61 17 69 E4 | Zone 3 Tune | Zone 3 Tuner Manual Tune Mode |
| FE 03 61 17 6A E5 | Zone 3 Preset | Zone 3 Tuner Preset Mode |
| FE 03 61 17 6B E6 | Zone 3 Source | Zone 3 Follow Main Zone Source |
| FE 03 61 17 6C E7 | Zone 3 Mute On | Zone 3 Mute On |
| FE 03 61 17 6D E8 | Zone 3 Mute Off | Zone 3 Mute Off |
| FE 03 61 17 6E E9 | Party Mode | Party Mode |
| FE 03 61 17 6F EA | Zone 3 Preset Up | Zone 3 Tuner Preset Up |
| FE 03 61 17 70 EB | Zone 3 Preset Down | Zone 3 Tuner Preset Down |
| FE 03 61 17 71 EC | All Zones Off | Power Off All Zones |
| FE 03 61 17 72 ED | Zone 3 Frequency Up | Zone 3 Tuner Frequency Up |
| FE 03 61 17 73 EE | Zone 3 Frequency Down | Zone 3 Tuner Frequency Down |

Table 6: Type 18 Zone 4 Command List

| RX 1052 HEX | Command | Command Description |
|--------------------|----------------------|-----------------------------|
| FE 03 61 18 00 7C | Vol+ | Zone 4 Volume Up |
| FE 03 61 18 01 7D | Vol- | Zone 4 Volume Down |
| FE 03 61 18 02 7E | Zone 4 CD | Zone 4 Source CD |
| FE 03 61 18 03 7F | Zone 4 Tuner | Zone 4 Source Tuner |
| FE 03 61 18 04 80 | Zone 4 Tape | Zone 4 Source Tape |
| FE 03 61 18 05 81 | Zone 4 Video 1 | Zone 4 Source Video 1 |
| FE 03 61 18 06 82 | Zone 4 Video 2 | Zone 4 Source Video 2 |
| FE 03 61 18 07 83 | Zone 4 Video 3 | Zone 4 Source Video 3 |
| FE 03 61 18 08 84 | Zone 4 Video 4 | Zone 4 Source Video 4 |
| FE 03 61 18 0A 86 | Zone 4 Power | Zone 4 Power Toggle |
| FE 03 61 18 1E 9A | Zone 4 Mute | Zone 4 Mute |
| FE 03 61 18 20 9C | Zone 4 Tune / Preset | Zone 4 Tune / Preset Toggle |
| FE 03 61 18 21 9D | Zone 4 Preset Scan | Zone 4 Preset Scan |
| FE 03 61 18 24 A0 | Zone 4 Band | Zone 4 Band |
| FE 03 61 18 26 A2 | Zone 4 FM Mono | Zone 4 FM Mono |
| FE 03 61 18 28 A4 | Zone 4 Tune Up | Zone 4 Tune Up |
| FE 03 61 18 29 A5 | Zone 4 Tune Down | Zone 4 Tune Down |

| RX 1052 HEX | Command | Command Description |
|--------------------|-----------------------|--------------------------------|
| FE 03 61 18 2A A6 | Zone 4 Preset 1 | Zone 4 Tuner Preset 1 |
| FE 03 61 18 2B A7 | Zone 4 Preset 2 | Zone 4 Tuner Preset 2 |
| FE 03 61 18 2C A8 | Zone 4 Preset 3 | Zone 4 Tuner Preset 3 |
| FE 03 61 18 2D A9 | Zone 4 Preset 4 | Zone 4 Tuner Preset 4 |
| FE 03 61 18 2E AA | Zone 4 Preset 5 | Zone 4 Tuner Preset 5 |
| FE 03 61 18 2F AB | Zone 4 Preset 6 | Zone 4 Tuner Preset 6 |
| FE 03 61 18 30 AC | Zone 4 Preset 7 | Zone 4 Tuner Preset 7 |
| FE 03 61 18 31 AD | Zone 4 Preset 8 | Zone 4 Tuner Preset 8 |
| FE 03 61 18 32 AE | Zone 4 Preset 9 | Zone 4 Tuner Preset 9 |
| FE 03 61 18 33 AF | Zone 4 Preset 0 | Zone 4 Tuner Preset 0 |
| FE 03 61 18 35 B1 | Zone 4 Phono | Zone 4 Source Phono |
| FE 03 61 18 4A C6 | Zone 4 Power Off | Zone 4 Power Off |
| FE 03 61 18 4B C7 | Zone 4 Power On | Zone 4 Power On |
| FE 03 61 18 55 D1 | Zone 4 FM | Zone 4 Tuner FM |
| FE 03 61 18 56 D2 | Zone 4 AM | Zone 4 Tuner AM |
| FE 03 61 18 69 E5 | Zone 4 Tune | Zone 4 Tuner Manual Tune Mode |
| FE 03 61 18 6A E6 | Zone 4 Preset | Zone 4 Tuner Preset Mode |
| FE 03 61 18 6B E7 | Zone 4 Source | Zone 4 Follow Main Zone Source |
| FE 03 61 18 6C E8 | Zone 4 Mute On | Zone 4 Mute On |
| FE 03 61 18 6D E9 | Zone 4 Mute Off | Zone 4 Mute Off |
| FE 03 61 18 6E EA | Party Mode | Party Mode |
| FE 03 61 18 6F EB | Zone 4 Preset Up | Zone 4 Tuner Preset Up |
| FE 03 61 18 70 EC | Zone 4 Preset Down | Zone 4 Tuner Preset Down |
| FE 03 61 18 71 ED | All Zones Off | Power Off All Zones |
| FE 03 61 18 72 EE | Zone 4 Frequency Up | Zone 4 Tuner Frequency Up |
| FE 03 61 18 73 EF | Zone 4 Frequency Down | Zone 4 Tuner Frequency Down |

Table 7: Type 30 Main Zone Volume Direct Command List

| RX 1052 HEX | Command | Command Description |
|--------------------|----------------|----------------------------|
| FE 03 61 30 00 94 | Volume Min | Volume Min |
| FE 03 61 30 01 95 | Volume 1 | Volume 1 |
| FE 03 61 30 02 96 | Volume 2 | Volume 2 |
| FE 03 61 30 03 97 | Volume 3 | Volume 3 |
| FE 03 61 30 04 98 | Volume 4 | Volume 4 |
| FE 03 61 30 05 99 | Volume 5 | Volume 5 |
| FE 03 61 30 06 9A | Volume 6 | Volume 6 |
| FE 03 61 30 07 9B | Volume 7 | Volume 7 |
| FE 03 61 30 08 9C | Volume 8 | Volume 8 |
| FE 03 61 30 09 9D | Volume 9 | Volume 9 |
| FE 03 61 30 0A 9E | Volume 10 | Volume 10 |
| FE 03 61 30 0B 9F | Volume 11 | Volume 11 |
| FE 03 61 30 0C A0 | Volume 12 | Volume 12 |
| FE 03 61 30 0D A1 | Volume 13 | Volume 13 |
| FE 03 61 30 0E A2 | Volume 14 | Volume 14 |
| FE 03 61 30 0F A3 | Volume 15 | Volume 15 |
| FE 03 61 30 10 A4 | Volume 16 | Volume 16 |

| RX 1052 HEX | Command | Command Description |
|--------------------|----------------|----------------------------|
| FE 03 61 30 20 B4 | Volume 32 | Volume 32 |
| FE 03 61 30 30 C4 | Volume 48 | Volume 48 |
| FE 03 61 30 40 D4 | Volume 64 | Volume 64 |
| FE 03 61 30 50 E4 | Volume 80 | Volume 80 |
| FE 03 61 30 59 ED | Volume 89 | Volume 89 |
| FE 03 61 30 5A EE | Volume Max | Volume Max |

Table 8: Type 32 Zone 2 Volume Direct Command List

| RX 1052 HEX | Command | Command Description |
|--------------------|-------------------|----------------------------|
| FE 03 61 32 00 96 | Zone 2 Volume Min | Zone 2 Volume Min |
| FE 03 61 32 01 97 | Zone 2 Volume 1 | Zone 2 Volume 1 |
| FE 03 61 32 02 98 | Zone 2 Volume 2 | Zone 2 Volume 2 |
| FE 03 61 32 03 99 | Zone 2 Volume 3 | Zone 2 Volume 3 |
| FE 03 61 32 04 9A | Zone 2 Volume 4 | Zone 2 Volume 4 |
| FE 03 61 32 05 9B | Zone 2 Volume 5 | Zone 2 Volume 5 |
| FE 03 61 32 06 9C | Zone 2 Volume 6 | Zone 2 Volume 6 |
| FE 03 61 32 07 9D | Zone 2 Volume 7 | Zone 2 Volume 7 |
| FE 03 61 32 08 9E | Zone 2 Volume 8 | Zone 2 Volume 8 |
| FE 03 61 32 09 9F | Zone 2 Volume 9 | Zone 2 Volume 9 |
| FE 03 61 32 0A A0 | Zone 2 Volume 10 | Zone 2 Volume 10 |
| FE 03 61 32 0B A1 | Zone 2 Volume 11 | Zone 2 Volume 11 |
| FE 03 61 32 0C A2 | Zone 2 Volume 12 | Zone 2 Volume 12 |
| FE 03 61 32 0D A3 | Zone 2 Volume 13 | Zone 2 Volume 13 |
| FE 03 61 32 0E A4 | Zone 2 Volume 14 | Zone 2 Volume 14 |
| FE 03 61 32 0F A5 | Zone 2 Volume 15 | Zone 2 Volume 15 |
| FE 03 61 32 10 A6 | Zone 2 Volume 16 | Zone 2 Volume 16 |
| FE 03 61 32 20 B6 | Zone 2 Volume 32 | Zone 2 Volume 32 |
| FE 03 61 32 30 C6 | Zone 2 Volume 48 | Zone 2 Volume 48 |
| FE 03 61 32 40 D6 | Zone 2 Volume 64 | Zone 2 Volume 64 |
| FE 03 61 32 50 E6 | Zone 2 Volume 80 | Zone 2 Volume 80 |
| FE 03 61 32 59 EF | Zone 2 Volume 89 | Zone 2 Volume 89 |
| FE 03 61 32 5A F0 | Zone 2 Volume Max | Zone 2 Volume Max |

Table 9: Type 33 Zone 3 Volume Direct Command List

| RX 1052 HEX | Command | Command Description |
|--------------------|-------------------|----------------------------|
| FE 03 61 33 00 97 | Zone 3 Volume Min | Zone 3 Volume Min |
| FE 03 61 33 01 98 | Zone 3 Volume 1 | Zone 3 Volume 1 |
| FE 03 61 33 02 99 | Zone 3 Volume 2 | Zone 3 Volume 2 |
| FE 03 61 33 03 9A | Zone 3 Volume 3 | Zone 3 Volume 3 |
| FE 03 61 33 04 9B | Zone 3 Volume 4 | Zone 3 Volume 4 |
| FE 03 61 33 05 9C | Zone 3 Volume 5 | Zone 3 Volume 5 |
| FE 03 61 33 06 9D | Zone 3 Volume 6 | Zone 3 Volume 6 |
| FE 03 61 33 07 9E | Zone 3 Volume 7 | Zone 3 Volume 7 |
| FE 03 61 33 08 9F | Zone 3 Volume 8 | Zone 3 Volume 8 |

| RX 1052 HEX | Command | Command Description |
|--------------------|-------------------|----------------------------|
| FE 03 61 33 09 A0 | Zone 3 Volume 9 | Zone 3 Volume 9 |
| FE 03 61 33 0A A1 | Zone 3 Volume 10 | Zone 3 Volume 10 |
| FE 03 61 33 0B A2 | Zone 3 Volume 11 | Zone 3 Volume 11 |
| FE 03 61 33 0C A3 | Zone 3 Volume 12 | Zone 3 Volume 12 |
| FE 03 61 33 0D A4 | Zone 3 Volume 13 | Zone 3 Volume 13 |
| FE 03 61 33 0E A5 | Zone 3 Volume 14 | Zone 3 Volume 14 |
| FE 03 61 33 0F A6 | Zone 3 Volume 15 | Zone 3 Volume 15 |
| FE 03 61 33 10 A7 | Zone 3 Volume 16 | Zone 3 Volume 16 |
| FE 03 61 33 20 B7 | Zone 3 Volume 32 | Zone 3 Volume 32 |
| FE 03 61 33 30 C7 | Zone 3 Volume 48 | Zone 3 Volume 48 |
| FE 03 61 33 40 D7 | Zone 3 Volume 64 | Zone 3 Volume 64 |
| FE 03 61 33 50 E7 | Zone 3 Volume 80 | Zone 3 Volume 80 |
| FE 03 61 33 59 F0 | Zone 3 Volume 89 | Zone 3 Volume 89 |
| FE 03 61 33 5A F1 | Zone 3 Volume Max | Zone 3 Volume Max |

Table 10: Type 34 Zone 4 Volume Direct Command List

| RX 1052 HEX | Command | Command Description |
|--------------------|-------------------|----------------------------|
| FE 03 61 34 00 98 | Zone 4 Volume Min | Zone 4 Volume Min |
| FE 03 61 34 01 99 | Zone 4 Volume 1 | Zone 4 Volume 1 |
| FE 03 61 34 02 9A | Zone 4 Volume 2 | Zone 4 Volume 2 |
| FE 03 61 34 03 9B | Zone 4 Volume 3 | Zone 4 Volume 3 |
| FE 03 61 34 04 9C | Zone 4 Volume 4 | Zone 4 Volume 4 |
| FE 03 61 34 05 9D | Zone 4 Volume 5 | Zone 4 Volume 5 |
| FE 03 61 34 06 9E | Zone 4 Volume 6 | Zone 4 Volume 6 |
| FE 03 61 34 07 9F | Zone 4 Volume 7 | Zone 4 Volume 7 |
| FE 03 61 34 08 A0 | Zone 4 Volume 8 | Zone 4 Volume 8 |
| FE 03 61 34 09 A1 | Zone 4 Volume 9 | Zone 4 Volume 9 |
| FE 03 61 34 0A A2 | Zone 4 Volume 10 | Zone 4 Volume 10 |
| FE 03 61 34 0B A3 | Zone 4 Volume 11 | Zone 4 Volume 11 |
| FE 03 61 34 0C A4 | Zone 4 Volume 12 | Zone 4 Volume 12 |
| FE 03 61 34 0D A5 | Zone 4 Volume 13 | Zone 4 Volume 13 |
| FE 03 61 34 0E A6 | Zone 4 Volume 14 | Zone 4 Volume 14 |
| FE 03 61 34 0F A7 | Zone 4 Volume 15 | Zone 4 Volume 15 |
| FE 03 61 34 10 A8 | Zone 4 Volume 16 | Zone 4 Volume 16 |
| FE 03 61 34 20 B8 | Zone 4 Volume 32 | Zone 4 Volume 32 |
| FE 03 61 34 30 C8 | Zone 4 Volume 48 | Zone 4 Volume 48 |
| FE 03 61 34 40 D8 | Zone 4 Volume 64 | Zone 4 Volume 64 |
| FE 03 61 34 50 E8 | Zone 4 Volume 80 | Zone 4 Volume 80 |
| FE 03 61 34 59 F1 | Zone 4 Volume 89 | Zone 4 Volume 89 |
| FE 03 61 34 5A F2 | Zone 4 Volume Max | Zone 4 Volume Max |