

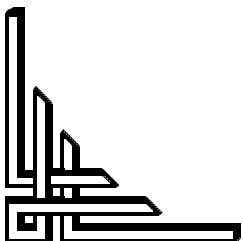
MUSIC ATELIER

AT20s

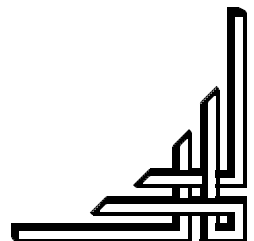
Owner's Manual



Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (p. 2), "USING THE UNIT SAFELY" (p. 3, 4), and "IMPORTANT NOTES" (p. 5, 6). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

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Roland®



	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR		
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.




The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturers instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Never use with a cart, stand, tripod, bracket, or table except as specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

For the U.K.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.

USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠ WARNING and ⚠ CAUTION Notices

⚠ WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠ CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

	The ⚠ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The ⓧ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The ⚡ symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING

⚠ WARNING






- Before using this unit, make sure to read the instructions below, and the Owner's Manual.
- Do not open or perform any internal modifications on the unit.
- Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.
- Never use or store the unit in places that are:
 - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
 - Damp (e.g., baths, washrooms, on wet floors); or are
 - Humid; or are
 - Exposed to rain; or are
 - Dusty; or are
 - Subject to high levels of vibration.
- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.
- The unit should be connected to a power supply only of the type described in the operating instructions, or as marked on the rear side of unit.
- Use only the attached power-supply cord. Also, the supplied power cord must not be used with any other device.

⚠ WARNING





- Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!
- This unit, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level, or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist.
- Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit.
- Immediately turn the power off, remove the power cord from the outlet, and request servicing by your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page when:
 - The power-supply cord, or the plug has been damaged; or
 - If smoke or unusual odor occurs
 - Objects have fallen into, or liquid has been spilled onto the unit; or
 - The unit has been exposed to rain (or otherwise has become wet); or
 - The unit does not appear to operate normally or exhibits a marked change in performance.

USING THE UNIT SAFELY









WARNING

- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit. 
- Protect the unit from strong impact. (Do not drop it!) 
- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through. 
- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page. 
- Do not put anything that contains water (e.g., flower vases) on this unit. Also, avoid the use of insecticides, perfumes, alcohol, nail polish, spray cans, etc., near the unit. Swiftly wipe away any liquid that spills on the unit using a dry, soft cloth. 

CAUTION

- The unit should be located so that its location or position does not interfere with its proper ventilation. 
- Always grasp only the plug on the power-supply cord when plugging into, or unplugging from, an outlet or this unit. 
- At regular intervals, you should unplug the power plug and clean it by using a dry cloth to wipe all dust and other accumulations away from its prongs. Also, disconnect the power plug from the power outlet whenever the unit is to remain unused for an extended period of time. Any accumulation of dust between the power plug and the power outlet can result in poor insulation and lead to fire. 
- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children. 

CAUTION

- Never climb on top of, nor place heavy objects on the unit. 
- Never handle the power cord or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit. 
- Before moving the unit, disconnect the power plug from the outlet, and pull out all cords from external devices. 
- If you need to move the instrument, take note of the precautions listed below. At least two persons are required to safely lift and move the unit. It should be handled carefully, all the while keeping it level. Make sure to have a firm grip, to protect yourself from injury and the instrument from damage. 
- Check to make sure the bolt securing the unit to the stand have not become loose. Fasten them again securely whenever you notice any loosening.
- Disconnect the power cord.
- Disconnect all cords coming from external devices.
- Close the lid.
- Remove the music stand.
- Before cleaning the unit, turn off the power and unplug the power cord from the outlet (p. 16). 
- Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet. 
- Be careful when opening/closing the lid so you do not get your fingers pinched (p. 16). Adult supervision is recommended whenever small children use the unit. 
- When using the bench, please observe the following points: 
- Do not use the bench as a toy, or as a stepping stool.
- Do not allow two or more persons to sit on the bench.
- Do not sit on the bench if the bolts holding the bench legs are loose. (If the bolts are loose, immediately re-tighten them using the supplied wrench.)

Important Notes

In addition to the items listed under “IMPORTANT SAFETY INSTRUCTIONS” and “USING THE UNIT SAFELY” on pages 2, 3 and 4, please read and observe the following:

Power Supply

- Do not connect this unit to same electrical outlet that is being used by an electrical appliance that is controlled by an inverter (such as a refrigerator, washing machine, microwave oven, or air conditioner), or that contains a motor. Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.
- Although the LCD and LEDs are switched off when the POWER switch is switched off, this does not mean that the unit has been completely disconnected from the source of power. If you need to turn off the power completely, first turn off the POWER switch, then unplug the power cord from the power outlet. For this reason, the outlet into which you choose to connect the power cord's plug should be one that is within easy reach.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- Observe the following when using the unit's floppy disk drive. For further details, refer to “Before Using Floppy Disks” (p. 6).
 - Do not place the unit near devices that produce a strong magnetic field (e.g., loudspeakers).
 - Install the unit on a solid, level surface.
 - Do not move the unit or subject it to vibration while the drive is operating.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Also, do not allow lighting devices that normally are used while their light source is very close to the unit (such as a piano light), or powerful spotlights to shine upon the same area of the unit for extended periods of time. Excessive heat can deform or discolor the unit.

- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
- Do not allow rubber, vinyl, or similar materials to remain on the unit for long periods of time. Such objects can discolor or otherwise harmfully affect the finish.
- Do not allow objects to remain on top of the keyboard or pedal board. This can be the cause of malfunction, such as keys ceasing to produce sound.
- Do not paste stickers, decals, or the like to this instrument. Peeling such matter off the instrument may damage the exterior finish.

Maintenance

- To clean the unit, use a dry, soft cloth; or one that is slightly dampened. Try to wipe the entire surface using an equal amount of strength, moving the cloth along with the grain of the wood. Rubbing too hard in the same area can damage the finish.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Repairs and Data

- Please be aware that all data contained in the unit's memory may be lost when the unit is sent for repairs. Important data should always be backed up on a floppy disk, or written down on paper (when possible). During repairs, due care is taken to avoid the loss of data. However, in certain cases (such as when circuitry related to memory itself is out of order), we regret that it may not be possible to restore the data, and Roland assumes no liability concerning such loss of data.

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of losing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit's memory on a floppy disk.
- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit's memory and a floppy disk once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.

IMPORTANT NOTES

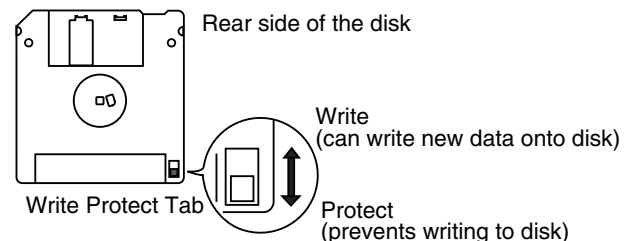
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts or damage to the cable's internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, pack it in shock-absorbent material. Transporting the unit without doing so can cause it to become scratched or damaged, and could lead to malfunction.
- Do not apply undue force to the music stand while it is in use.
- Use a cable from Roland to make the connection. If using some other make of connection cable, please note the following precautions.
 - Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.

Before Using Floppy Disks Handling the Floppy Disk Drive


- Install the unit on a solid, level surface in an area free from vibration.
- Avoid using the unit immediately after it has been moved to a location with a level of humidity that is greatly different than its former location. Rapid changes in the environment can cause condensation to form inside the drive, which will adversely affect the operation of the drive and/or damage floppy disks. When the unit has been moved, allow it to become accustomed to the new environment (allow a few hours) before operating it.
- To insert a disk, push it gently but firmly into the drive—it will click into place. To remove a disk, press the EJECT button firmly. Do not use excessive force to remove a disk which is lodged in the drive.
- Never eject a disk while reading or writing is in progress, since that can damage the magnetic surface of the disk, rendering it unusable. (The disk drive's indicator will light up at full brightness when the drive is busy reading or writing data. Ordinarily, the indicator will be less brightly lit, or be extinguished.)
- Remove any disk from the drive before powering up or down.
- To prevent damage to the disk drive's heads, always try to hold the floppy disk in a level position (not tilted in any direction) while inserting it into the drive. Push it in firmly, but gently. Never use excessive force.
- To avoid the risk of malfunction and/or damage, insert only floppy disks into the disk drive. Never insert any other type of disk. Avoid getting paper clips, coins, or any other foreign objects inside the drive.

Handling Floppy Disks

- Floppy disks contain a plastic disk with a thin coating of magnetic storage medium. Microscopic precision is required to enable storage of large amounts of data on such a small surface area. To preserve their integrity, please observe the following when handling Floppy disks:
 - Never touch the magnetic medium inside the disk.
 - Do not use or store Floppy disks in dirty or dusty areas.
 - Do not subject Floppy disks to temperature extremes (e.g., direct sunlight in an enclosed vehicle). Recommended temperature range: 10 to 50° C (50 to 122° F).
 - Do not expose Floppy disks to strong magnetic fields, such as those generated by loudspeakers.
- Floppy disks have a "write protect" tab which can protect the disk from accidental erasure. It is recommended that the tab be kept in the PROTECT position, and moved to the WRITE position only when you wish to write new data onto the disk.



- The identification label should be firmly affixed to the disk. Should the label come loose while the disk is in the drive, it may be difficult to remove the disk.
- Store all disks in a safe place to avoid damaging them, and to protect them from dust, dirt, and other hazards. By using a dirty or dust-ridden disk, you risk damaging the disk, as well as causing the disk drive to malfunction.
- Disks containing performance data for this unit should always be locked (have their write protect tab slid to the "Protect" position) before you insert them into the drive on some other unit (except the PR-300, or a product in the HP-G, MT, KR, or Atelier families), or into a computer's drive. Otherwise (if the write protect tab remains in the "Write" position), when you perform any disk operations using the other device's disk drive (such as checking the contents of the disk, or loading data), you risk rendering the disk unreadable by this unit's disk drive.

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* IBM and IBM PC registered trademark of International Business Machines Corporation.

* All product names mentioned in this document are trademarks or registered trademarks of their respective owners.

Main Features

We want to take a moment to thank you for your purchase of the Roland AT-20S "Atelier Series" Organ.

The AT-20S is an electronic organ which provides a generous collection of rich organ sounds. In addition, it is designed to be easy to learn and use. In order to enjoy reliable performance of your new keyboard for many years to come, please take the time to read through this manual in its entirety.

■ Basic concepts of the ATELIER series

○ A full complement of organ sounds

A wide range of basic organ sounds, ranging from jazz organ and pipe organ to theatre organ, are onboard so you are sure to enjoy having access to all the sounds you expect from an organ.

○ Panel layout based on a tradition of emphasis on realtime operation

Based on the idea that you should be able to sit down and begin playing immediately, the operation buttons of the panel are arranged by function as dictated by classic organ traditions, ensuring easy and intuitive operation. All models of the ATELIER series feature the same operability, allowing you to start playing immediately even if you switch models.

○ High-quality sounds that you can use without editing

In addition to a full range of organ sounds, high-quality sounds such as strings and brass are also included onboard. You can simply select sounds and enjoy playing the organ—no need to perform complicated editing operations.

○ Expansive lower keyboard with damper pedal for piano-like expressiveness

Piano is indispensable to the performance of contemporary music. On the ATELIER series, the lower keyboard features an expanded range that gives you the expressive power of a piano. The keyboard also features half-damper pedal capability and initial touch sensitivity, both indispensable for piano performance.

All models provide high-quality grand piano sounds.

○ Design utilizes your existing music data

The ATELIER series is designed so that even on new models, you will feel right at home and can begin playing immediately. Data compatibility has also been carefully taken into account, and song data or registration data from earlier models can be used without change.

○ Music styles from around the world

Many of the best-loved musical styles from around the world (rhythm and automatic accompaniment patterns) are built in, allowing you to enjoy an international range of performances.

○ Utilizes SMF music files

Since a floppy disk drive is built in, you can use the wide array of commercially available SMF music files to enjoy ensemble performances or automatic playback.

Main Features

■ Main Features

○ Featuring the newly developed V-Arranger with sophisticated rhythm sounds and realistic automatic accompaniment

You will enjoy rhythm and automatic accompaniment so realistic that it sounds like your own backup band is right there!

○ Newly developed Active Expression sounds

For some of the sounds, moving the expression pedal will vary not only the volume but also the tone, or add other sounds. From pianissimo to fortissimo, the tonal character of the sound itself will change as you perform a crescendo, or strings may appear behind the piano, creating dynamic changes in tonality.

○ Human voices

In addition to its diverse organ voices, the ATELIER-S series instruments also offer unique vocals, such as "Jazz Scat."

○ Harmony Intelligence

The Harmony Intelligence function automatically adds harmony to the upper keyboard sound according to the chord you play in the lower keyboard. This gives you greater tonal depth and a more powerful performance.

○ Store disk styles in internal memory

Although the Rhythm [Disk] button already contains various rhythms, these can be replaced by rhythms from a music style disk. Rhythms that are loaded from a music style disk into internal memory will not be lost even when the power is turned off, so you will find it convenient to load frequently used rhythms into internal memory.

○ The Lyrics for SMF Music Files can be displayed

When playing back commercially available SMF music files with lyrics, the lyrics can be viewed on the instrument's display, allowing you to enjoy karaoke.

■ Conventions Used in This Manual

- Button names are enclosed in square brackets ("[]"), as in [Demo] button.
- Whether a button light is illuminated, dark, or blinking is illustrated as shown below.



- The explanations in this manual include illustrations that depict what should typically be shown by the display. Note, however, that your unit may incorporate a newer, enhanced version of the system (e.g., includes newer sounds), so what you actually see in the display may not always match what appears in the manual.
- [+][-], [▲][▼], [◀][▶] means that you should press one or the other button.
Example: Select [-][+] buttons, Reverb [▲][▼] buttons, Tempo [◀][▶] buttons

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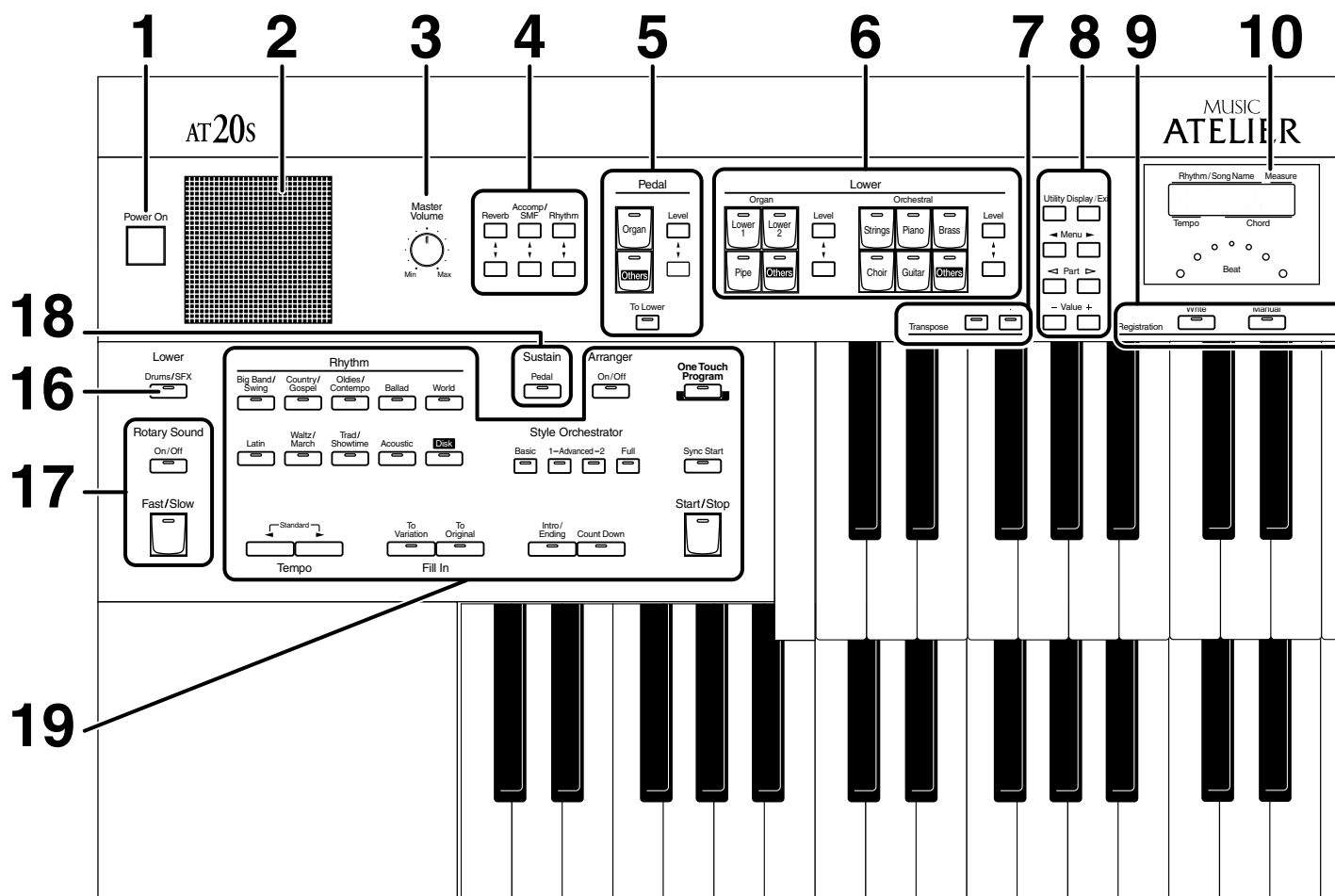
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Appendixes

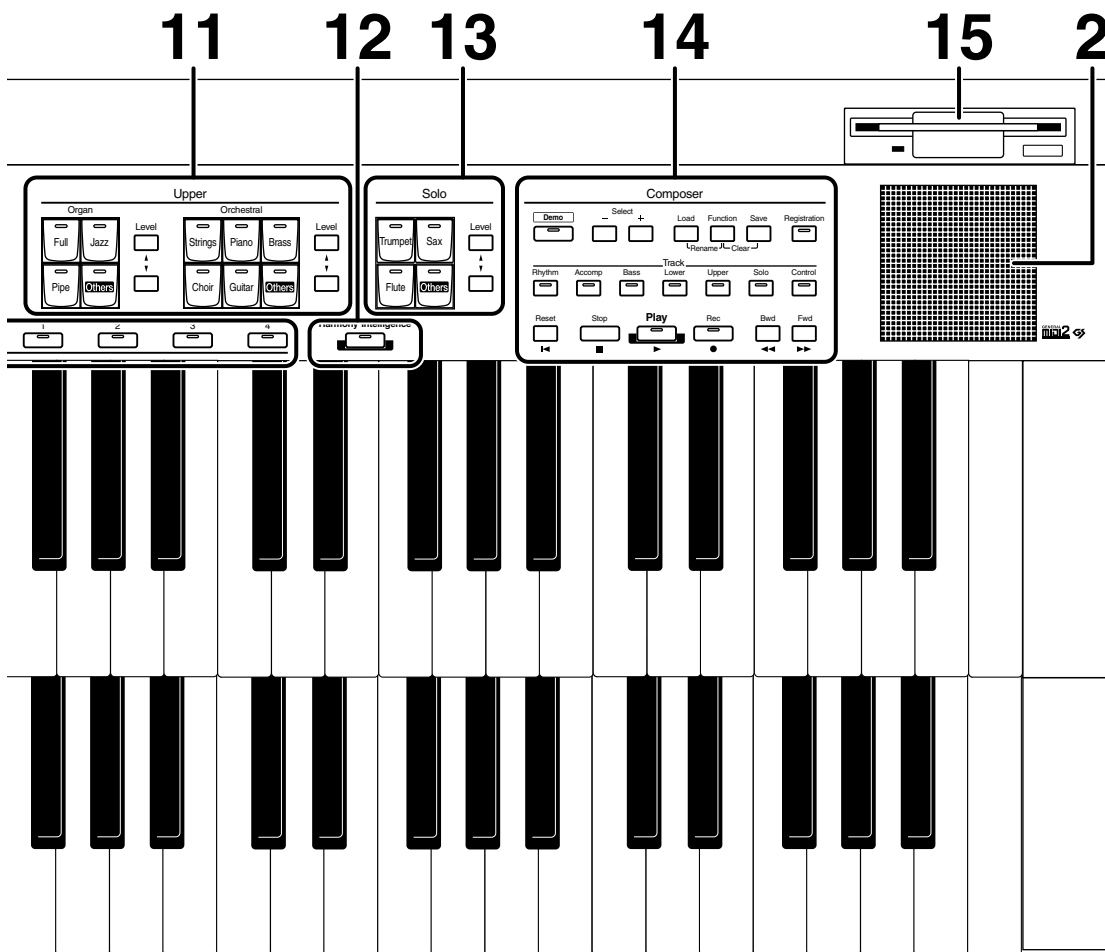
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MEMO

Panel Descriptions



- 1** [Power On] switch (→ p. 16)
- 2** Panel Speaker
- 3** [Master Volume] knob (→ p. 16)
- 4** Part Balance [▲] [▼] button (→ p. 26, p. 43)
- 5** Pedal Bass Voice select buttons (→ p. 23)
Pedal Part
[To Lower] button (→ p. 45)
Level [▲] [▼] button (→ p. 26)
- 6** Lower Voice select buttons (→ p. 22)
Lower Organ part
Lower Orchestral part
Level [▲] [▼] button (→ p. 26)
- 7** Transpose [-] [+] buttons (→ p. 46)
- 8**
[Utility] button (→ p. 90-p. 95)
[Display/Exit] button (→ p. 18)
Menu [◀] [▶] buttons
Part [◀] [▶] buttons
Value [-] [+] buttons
- 9** Registration buttons
[Write] button (→ p. 49)
[Manual] button (→ p. 51)
Registration [1] - [4] buttons (→ p. 49)
- 10** Display (→ p. 18)
Beat Indicator (→ p. 35)
- 11** Upper voice select buttons (→ p. 22)
Upper Organ part
Upper Orchestral part
Level [▲] [▼] button (→ p. 26)
- 12** [Harmony Intelligence] button (→ p. 40)
- 13** Solo voice select buttons (→ p. 24)
Solo part
Level [▲] [▼] button (→ p. 26)



14 Composer

[Demo] button (→ p. 19, p. 59)
 Select [-] [+] buttons
 [Load] button (→ p. 55, p. 56, p. 72)
 [Function] button (→ p. 79-p. 87)
 [Save] button (→ p. 54, p. 70)
 [Registration] button (→ p. 51-p. 57)
 Track buttons (→ p. 58, p. 64)
 [Reset] button
 [Stop] button
 [Play] button (→ p. 63, p. 59)
 [Rec] button (→ p. 59, p. 62, p. 65)
 [Bwd] button
 [Fwd] button

15 Disk Drive (→ p. 37)

16 Lower [Drums/SFX] button (→ p. 28)

17 Rotary Sound (→ p. 42)

[On/Off] button
 [Fast/Slow] button

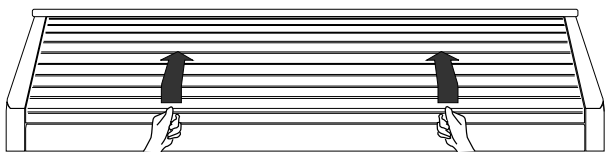
18 Sustain [Pedal] button (→ p. 44)

19 Rhythm select buttons (→ p. 30)

Arranger [On/Off] button (→ p. 35)
 Style Orchestrator buttons (→ p. 33)
 Tempo [◀] [▶] button (→ p. 35)
 Fill In [To Variation] button (→ p. 33)
 Fill In [To Original] button (→ p. 33)
 [Intro/Ending] button (→ p. 31)
 [Count Down] button (→ p. 34)
 [One Touch Program] button (→ p. 36)
 [Sync Start] button (→ p. 31)
 [Start/Stop] button (→ p. 31)

Before You Start Playing

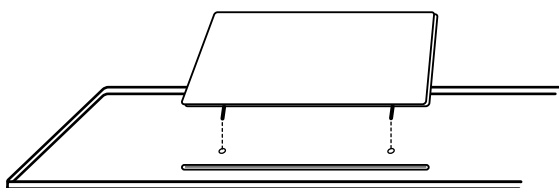
Opening/Closing the Lid



1. To open the lid, hold it with both hands and slide it to the rear.
2. To close the lid, slowly pull it forward until it stops.

- * Be careful not to get your fingers caught when opening or closing the lid. Adult supervision is recommended when small children are going to be using the instrument.
- * To prevent accidents, be sure to close the lid before moving the organ.
- * Make sure you don't have anything (such as sheet music) on the keyboard when you close the lid.

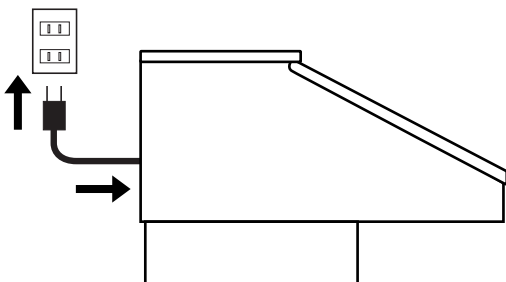
Setting Up the Music Stand



1. Attach the music stand by inserting it into the two holes.

Connecting the Power Cord

1. First, make sure that the [Power On] switch at the panel's left side is OFF (not pushed in).
2. Connect the supplied power cord to the AC Inlet connector, then plug the other end into an AC outlet.



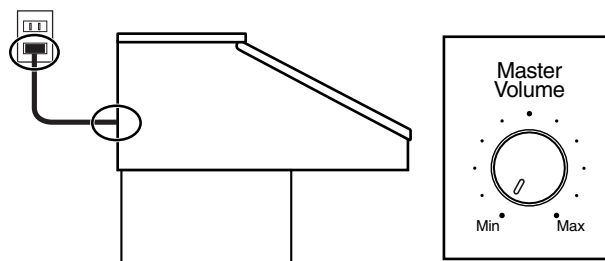
- * Only use the power cord supplied with this instrument.
- * Whenever you do not intend to use the instrument for extended periods of time, pull out the power cord from the AC outlet.

Turning the Power On and Off

- * Once the connections have been completed, turn on or off power to your various devices in the order specified. By turning on or off devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

■ Tuning On the Power

1. Make sure of the following before the power is turned on.
 - Is the power cable correctly connected to the AC inlet?
 - Is the power cable correctly connected to the AC outlet?
 - Is the [Master Volume] knob (located at the left of the Lower keyboard) set to the Min (minimum) position?



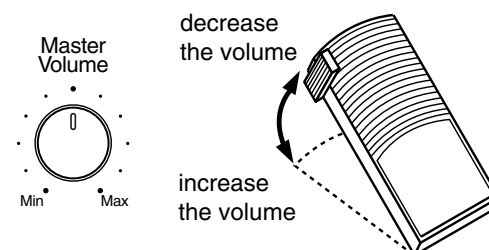
2. Press the [Power On] switch to turn on the power.

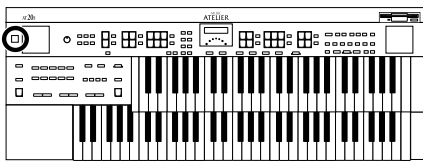


- * This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

3. The [Master Volume] knob is an overall control for adjusting the volume of the entire instrument.

Position the Expression Pedal to the half-way mark. Now adjust the [Master Volume] knob to a suitable level. Now that this level has been set, you can use the Expression Pedal to change the volume with your foot as you play the AT-20S. The volume will be increased when the Expression Pedal is pressed down, and decreased when the pedal is returned.





Before You Start Playing

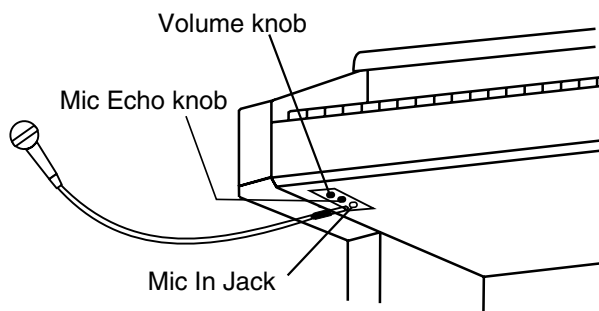
■ Turning Off the Power

1. Before switching the power off, set the [Master Volume] knob to the Min (minimum) position.
2. Press the [Power On] switch to turn off the power.



Connecting a Microphone

You can connect a microphone into the Mic In jack, and enjoy karaoke with the AT-20S.



1. Connect a microphone (sold separately) to the Mic In jack on the lower-right area of the instrument.
2. Rotate the [Mic Echo] knob in front of the Mic In jack to adjust the echo level.
3. Rotate the [Mic Volume] knob in front of the [Mic Echo] knob to adjust the volume level for the microphone.

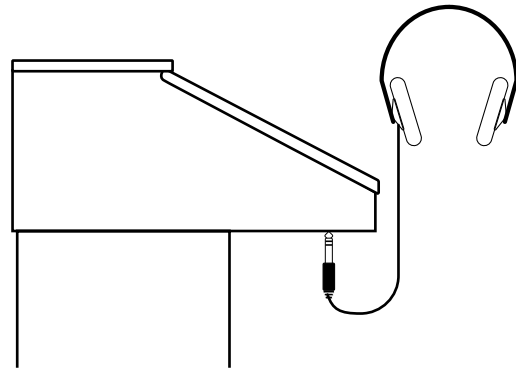
CAUTION

Some Notes on Using a Microphone

- Be careful of high volume levels when using mikes late at night or early in the morning.
- When connecting a microphone to the AT-20S, be sure to lower the volume. If the volume control is too high when the microphone is plugged in, noise may be produced by the speakers.
- Howling could be produced depending on the location of microphones relative to speakers. This can be remedied by:
 - Changing the orientation of the microphone.
 - Relocating microphone at a greater distance from speakers.
 - Lowering volume levels.

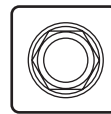
Using Headphones

The AT-20S features a Phones jack. This allows you to play without having to worry about bothering others around you, even at night.



1. Connect the headphones to the Phones jack on the underside of the unit.

The sound from the built-in speakers stops. Now, sound is heard only through the headphones.



2. Adjust the headphones volume with the [Master Volume] slider and Expression pedal.

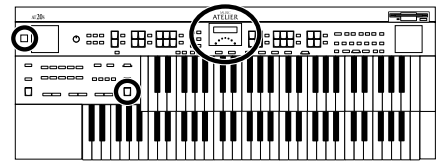
* Accepts connection of Stereo headphones.

CAUTION

Some Notes on Using Headphones

- To prevent damage to the cord, handle the headphones only by the headset or the plug.
- Headphones may be damaged if the volume is too high when they are plugged in. Lower the volume on the AT-20S before plugging in headphones.
- To prevent possible auditory damage, loss of hearing, or damage to the headphones, the headphones should not be used at an excessively high volume. Use the headphones at a moderate volume level.

Before You Start Playing



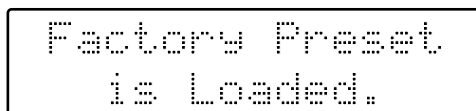
Restoring All the Factory Default Settings

The settings stored in the AT-20S can be returned to their factory settings. This function is called "Factory Reset."

1. **Make sure there is no floppy disk in the disk drive before carrying out the procedure.**
2. **Turning off the power.**
3. **While holding down the [One Touch Program] button, press the [Power On] switch to turn the power on.**



The following display appears.

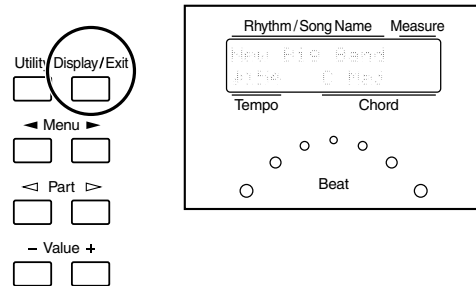


When factory reset is completed, the basic screen reappears.

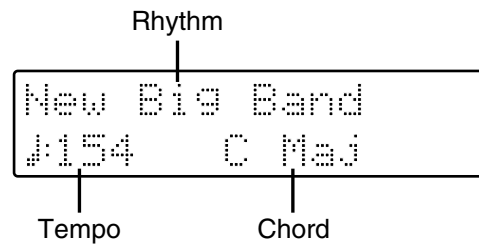
- * *Loading factory default settings will erase any Registrations currently in the memory of the AT-20S. To save the registrations you are currently using, refer to page 54.*
- * *Even if you perform the Factory Reset operation, the Rhythm [Disk] button will not return to the factory settings. If you wish to return the Rhythm [Disk] button to the factory settings, please refer to page 39.*

Displaying Basic Screens

The instrument's display provides a large variety of information. The AT-20S has two types of basic display screen: the Rhythm display, and the Composer display. You can alternate from one to the other by pressing the [Display/Exit] button.

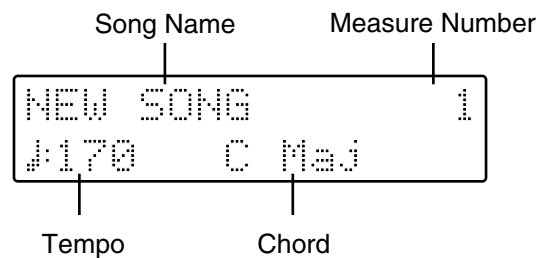


■ Rhythm Screen

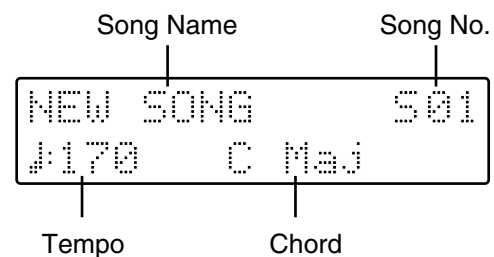


■ Composer Screen

When internal music data is selected:



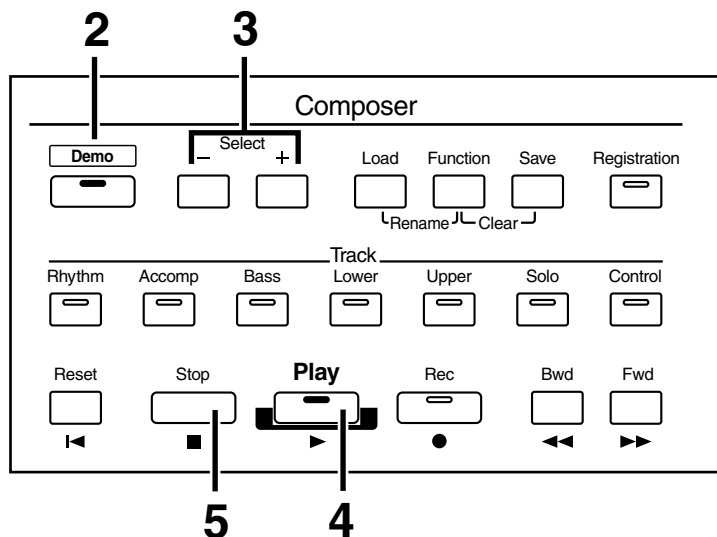
When you have selected a performance song on a floppy disk:



Selecting and Playing Sounds

Listening to the Demo Songs

The AT-20S contains 8 Demo songs. Here's how to play the Demo songs, and fully appreciate the sounds, Rhythms, and Automatic Accompaniment that are available with the AT-20S.



1. Make sure that a floppy disk is not inserted in the disk drive.

If a floppy disk is in the disk drive, press the Eject button (p. 37) and remove the floppy disk.

2. Press the [Demo] button (the indicator will light).

```
FastBigBand :01
DEMO [e/a/PLAY]
```

3. Press the Select [-] and [+] buttons to select a Demo song.

4. Press the [Play] button.

When the selected demo song ends, the next demo song will begin playing.

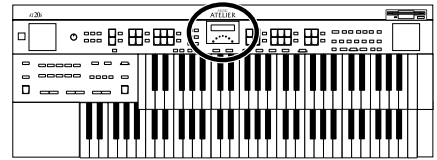
5. To stop playback in the middle of the song, press the [Stop] button.

The [Demo] button's indicator will be turned off.



Check out the "Demo Song List" (p. 117) for information such as the names of the composers and players of the demo songs.

Selecting and Playing Sounds



● If the following screen appears

If the performance song in the unit has not been saved to a floppy disk, the following message will appear, and it will not be possible to play the Demo songs.

```
Clear Song Sure?  
Yes:REC No:RST
```

If you don't mind erasing this song, press the [Rec] button. However, if you wish to save this song, press the [Reset] button to cancel the procedure, and then save the song onto a floppy disk.



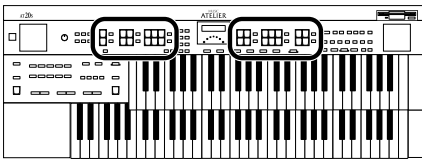
If you wish to save the musical data to a floppy disk, refer to "Saving Performance Songs onto Floppy Disk" (p. 70).



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The data for the Demo song that is being played is not available at the MIDI Out connector.

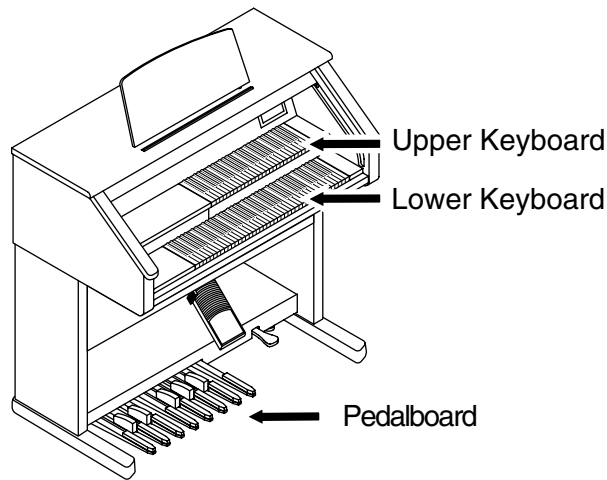


Selecting Voices

The AT-20S is able to produce the sounds of various instruments. These sounds are called "Voices" (or tones). It is very easy to select voices.

■ About the Voices and Parts

The AT-20S has two keyboards and one Pedalboard, as shown below. From top to bottom these are called the "Upper Keyboard," "Lower Keyboard," and "Pedalboard."

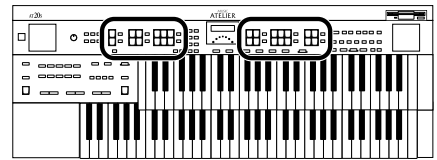


The Upper Keyboard and Lower Keyboard each have two parts: "Organ," "Orchestral." You can select one voice for each part, meaning that it is possible to layer up to two voices on each keyboard and play them simultaneously.

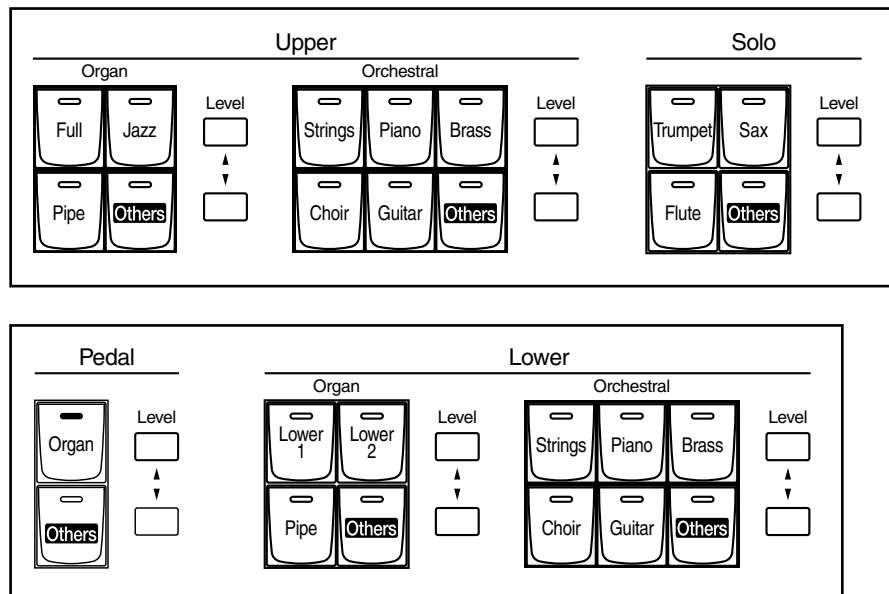
The voice of the "Solo" part can be layered on the Upper keyboard.

The Pedalboard has the part: "Pedal."

Keyboard	Type of voices	Parts
Upper Keyboard	Upper	Upper Organ
		Upper Orchestral
	Solo	Solo
Lower Keyboard	Lower	Lower Organ
		Lower Orchestral
Pedalboard	Pedal Bass	Pedal



■ Functions of the Upper/Lower/Pedal Bass Sound Select Buttons



Each time you press a voice button, its indicator will switch between being lit and being turned off. Voices that have their button indicator lit can be played.

NOTE

If none of the voice buttons are lit, playing the keyboard will not produce a sound.

■ Selecting the Upper and Lower Voices

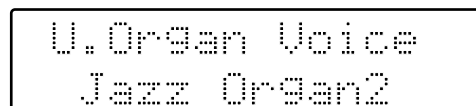
Press the "Organ," or "Orchestral" buttons for each Keyboard (Upper/Lower) to select the desired voice.

When the power is turned on, the Upper keyboard will play "Full Organ 3" and the Lower keyboard will play "Lower Organ1."

Example: Selecting "Jazz Organ2" for the Upper Organ part, and "Grand Piano" for the Upper Orchestral.

1. Press the Upper Organ [Jazz] button (indicator lights).

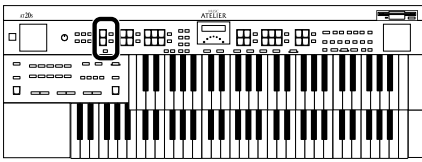
The name of the selected voice appears in the display for several seconds.



Now when you play the Upper keyboard, the "Jazz Organ2" will sound.

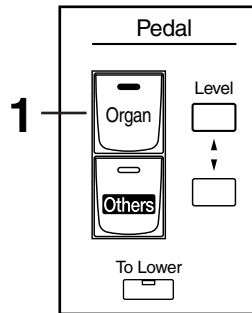
2. Press the Upper Orchestral [Piano] button (the indicator lights).

Now when you play the Upper keyboard, the two voices "Jazz Organ2" and "Grand Piano" will sound simultaneously (mixed together).



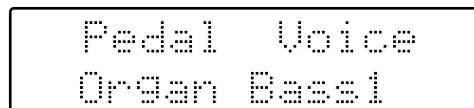
■ Selecting Pedal Bass Voice

Immediately after the power is turned on, the Pedal Bass voice will sound single notes using the “Organ Bass 1” voice. Here’s how to select Pedal voice played by the Pedalboard.



1. Press the Pedal [Organ] button (indicator lights).

The name of the selected voice appears in the display for several seconds.



Now when you play the Pedalboard, “Organ Bass 1” will be heard.

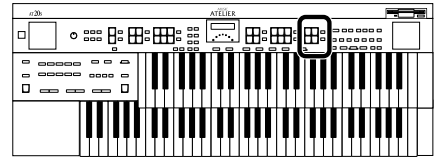


Settings can be adjusted to allow multiple notes to be played on the Pedalboard (p. 91)



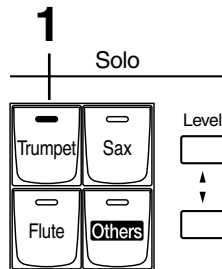
If you press the Pedal [To Lower] button (indicator lights p. 45), the Pedal Bass voice can now be played by the Lower keyboard, not by the Pedalboard.

Selecting and Playing Sounds



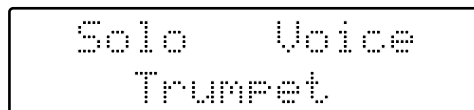
■ Selecting Solo Voice

The Solo section of the Upper keyboard is monophonic, that is, the Solo voice will only sound for the highest note played on the Upper keyboard. This allows you to play full chords and have the selected Solo voice playing the highest (solo) note.



1. Press the Solo [Trumpet] button (indicator lights).

The name of the selected voice appears in the display for a few seconds.

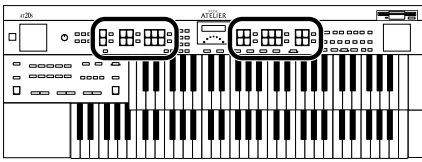


Play the Upper keyboard. The selected voice will sound by the highest note played.



It is possible to change how a Solo voice will sound.

Normally, the Solo voice will be sounded by the highest note you play on the Upper keyboard, but you can make settings so that the last-played note will sound the Solo voice. You can also make settings so that the Solo voice will be sounded by all notes of the keyboard to which the Solo voice is assigned. For details refer to "Changing How the Solo Voice Responds (Solo Mode)" (p. 92).

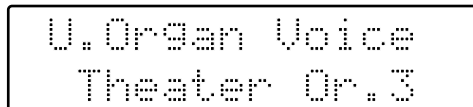


■ Selecting a Voice Using the [Others] Button

Notice that there is an [Others] button for each of the “Organ,” “Orchestral” sections of the Upper and Lower voices, for the “Solo” section, and for the “Pedal” sections of the Pedal bass voice. By using the [Others] button, you can select all the other voices, the ones that can’t be selected directly by pressing voice buttons.

1. Press the [Others] button for the Part for which you wish to specify a voice.

The voice name appears in the display.



The indicator of the selected [Others] button will light.

2. While the voice name is shown in the display screen, use the Value [-] [+] buttons to select the desired voice.

The indicator of the selected [Others] button will blink.



You can jump by voice group by pressing Part [◀] [▶] to select the voice group. The sound number of each voice is preceded by an alphabetical character A–V which indicates the sound group; e.g., “G11 Strings1.”

3. Once again, press the [Others] button for the part whose sound you wish to set to confirm the voice.

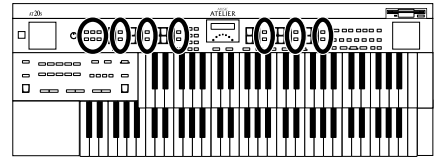
The indicator of the [Others] button will change from blinking to lit.



To stop mid-way through this or any procedure, press the [Display/Exit] button.

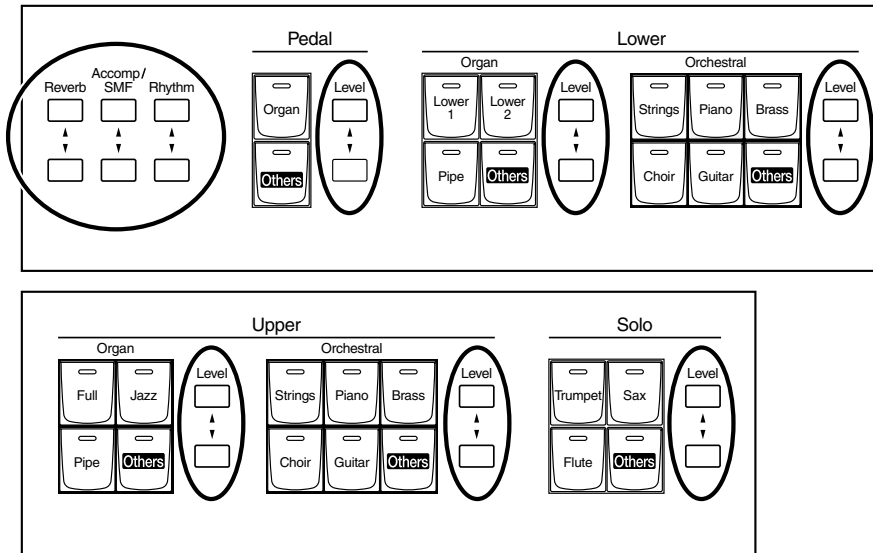


About the voices that can be assigned to an [Others] button, please refer to “Voice List” (p. 105).



Adjust the Volume Balance

The AT-20S allows you to adjust the volume balance individually for each Part.



The following buttons are used to adjust the volume of a multiple number of Parts.

Accomp/SMF button:

- Automatic Accompaniment (except bass part)
- Playback of performance data from something other than the Atelier (EX.: SMF music files)
- Rhythm performance
- Drums/SFX

Pedal button:

- Pedal Voice
- Bass part of Automatic Accompaniment

1. The volume levels of each part are adjusted using the corresponding [▲] and [▼] buttons.

When you press the up button (▲), the volume increases; when you press the down button (▼), the volume decreases.

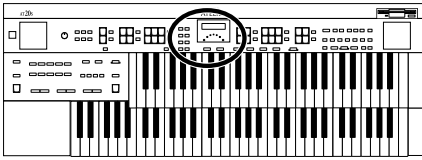
The volume can be set to any value from 0 to 12.

When you press the Level [▲] [▼] buttons, the volume for each part will be shown in the display.



NOTE

When the volume value shown in the display is 0, that part will produce no sound.



Transpose the Pitch in Octave Units (Octave Shift)

The pitch of the sound played by the keyboard can be adjusted in one-octave steps.

You can apply an Octave shift to the following 6 Parts:

All of the Upper and Lower Parts (Organ/Orchestral)

The Pedal Parts

The Solo Part

- 1. Press the [Utility] button.**
- 2. Press the Menu [◀] and [▶] button to select “Octave Shift.”**
- 3. Use the [◀] and [▶] Part buttons to select a performance Part to which you wish to apply an Octave Shift.**

Part: Pedal, L. Organ, L. Orch, U. Organ, U. Orch, Solo

```
◀ Octave Shift ▶  
◀ U.Organ : 0 ▶
```

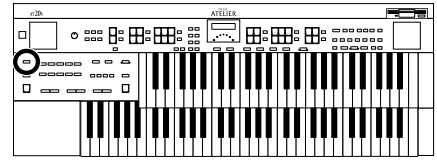
- 4. Use the Value [-] and [+] buttons to set the amount of shift.**
- 5. Press the [Utility] button.**

The value can be set to a range of +/- 3 octaves.

The basic screen reappears.

NOTE

Please note that when you apply the Octave Shift function to certain voices, their pitch could be stretched beyond their recommended note ranges, and they may not sound as expected. Care should be taken when using Octave Shift.



Playing Drum Sound or Sound Effects on the Keyboard

■ Playing Drums from the Entire Lower Keyboard (Drums/SFX)

You can use the Lower keyboard to play various drum sounds (drum set). In this case, the Lower voices will no longer sound.



1. Press the [Drums/SFX] button (indicator lights).

Play the Lower keyboard and listen to the various drum sounds on each key. The [Drums/SFX] button will alternate between on (lit) and off each time it is pressed.

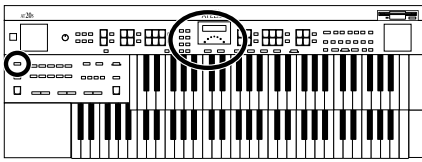
Immediately after the power is turned off, the STANDARD drum set will sound.



Refer to "Drum Set List" (p. 106) for details on which drum sound or Sound Effect will be played by each note.



For some drum sets, there will be keys that do not sound.

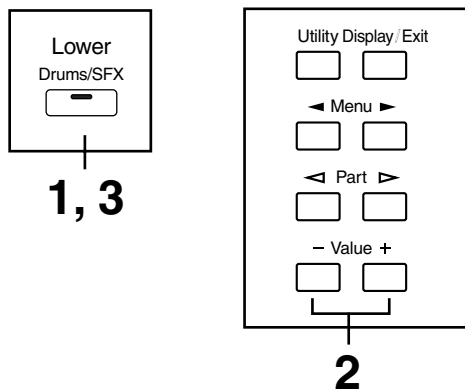


■ Changing the Drum/SFX Set

Immediately after the power is turned on, the STANDARD drum set will sound. Let's try selecting a different Drum Set or the Sound Effect set. As the drum set, you can choose from 8 types of drum set and one type of sound effect. When you change the drum set, the sound produced by each note will change.

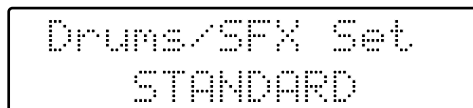


Refer to "Drum Set List" (p. 106) for details on which drum sound or Sound Effect will be played by each note.



- 1.** Press the [Drums/SFX] button (indicator lights).
- 2.** When the Drum Set name is displayed on the screen, press the Value [-] [+] buttons to select a Drum Set or Sound Effect Set.

The [Drums/SFX] button indicator will begin to blink.



You can select from 8 different Drum Sets and one set of Sound Effects as follows:

STANDARD, ROOM, POWER, ELECTRONIC, TR-808, JAZZ, BRUSH, ORCHESTRA, SOUND EFFECTS

- 3.** Press the [Drums/SFX] button once again.

The [Drums/SFX] button indicator will be lit constantly, and the selected Drum/SFX set will be applied.



To stop mid-way through this or any procedure, press the [Display/Exit] button.



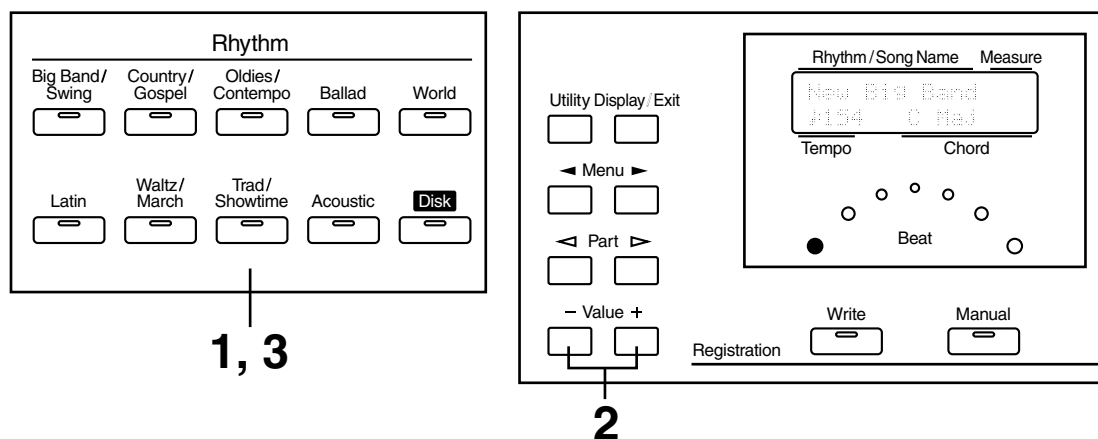
The Drum Set Type can also be selected from the Utility menu. Please refer to "Drums/SFX Set" (p. 93).

Using the Rhythm Performance

The AT-20S lets you enjoy playing along with a rhythmic accompaniment.

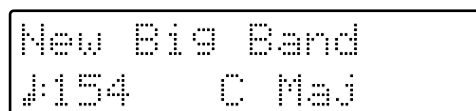
Selecting a Rhythm

The AT-20S provides 90 types of Rhythms and Automatic Accompaniments (Music Styles). These are organized into 10 groups.



1. Press a Rhythm button to select a Rhythm group.

The indicator will light, and the first Rhythm in the group will be selected. That Rhythm will be shown in the display.



2. Press the Value [-] and [+] buttons to select a different Rhythm within the same group.

The indicator of the Rhythm button will blink.

3. Press the Rhythm button once again (indicator lights constantly).

The Rhythm button's indicator will change from blinking to light. The Rhythm has now been applied.

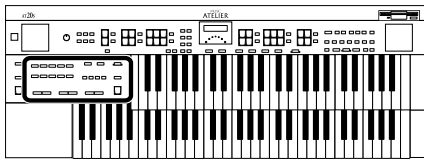
○ Using the Rhythms of the [Disk] Button

The [Disk] button contains 2 preset Rhythms. These Rhythms can be rewritten by loading disk styles into the AT-20S.

The Rhythms that are already written in the [Disk] button memory can be selected in the same way as when selecting Rhythms of another Rhythm group.

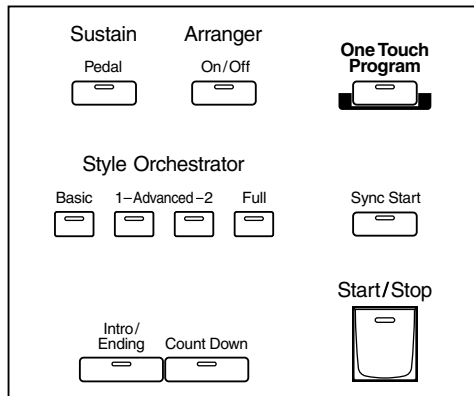


If you wish to store a disk style in the [Disk] button, refer to "Loading Disk Rhythms Into Internal Memory" (p. 38).



Playing Rhythms (Starting and Stopping the Rhythm)

To start the rhythm, press the [Intro/Ending] button or the [Start/Stop] button. You can also make the Rhythm start after playing an Intro, or make the Rhythm stop after playing an Ending.



■ Starting at the Press of a Button

○ Starting with an Intro

1. Press the [Intro/Ending] button.

The Intro is played and the Rhythm starts. While the Intro is playing, the [Intro/Ending] button indicator will light, until the Intro ends then the button indicator will go dark.

○ Making the Intro Short and Simple

1. Press the [To Variation] or [To Original] button.

[Start/Stop] button indicator will blink.

[To Variation] or [To Original] button's indicator will blink.

Pressing the [To Variation] or [To Original] button makes the Rhythm pattern change as well.

2. Press the [Start/Stop] button.

A short Intro is played and the Rhythm starts.

○ Starting without an Intro

1. Press the [Start/Stop] button.

The Rhythm starts without an Intro being played.

■ Starting the Rhythm Automatically When You Play the Lower Keyboard or Pedalboard (Sync Start)

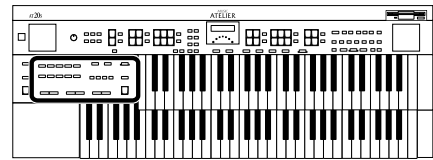
NOTE

If the Arranger function is ON (the Arranger [On/Off] button indicator is lit), it is not be able to start the Rhythm by playing the Pedalboard.

○ Starting with an Added Intro

1. Press the [Sync Start] button to make the indicator light up.

Using the Rhythm Performance



2. Press the [Intro/Ending] button.

The [Intro/Ending] button's indicator will blink.

3. Play either the Lower keyboard or the Pedalboard.

The Intro is played, then the Rhythm starts.

While the Intro is playing, the [Intro/Ending] button indicator will light, until the Intro ends the button indicator will be turned off.

○ Making the Intro Short and Simple

1. Press the [Sync Start] to make the indicator light up.

2. Press the [To Variation] or [To Original] button.

[Start/Stop] button indicator will blink.

[To Variation] or [To Original] button's indicator will blink.

Pressing the [To Variation] or [To Original] button makes the Rhythm pattern change as well.

3. Play either the Lower Keyboard or the Pedalboard.

A short Intro is played and the Rhythm starts.

○ Starting without an Intro

1. Press the [Sync Start] button (the indicator lights).

2. Play either the Lower keyboard or the pedalboard.

The Rhythm starts without an Intro being played.

■ Stopping the Rhythm

○ Stopping with an Ending

1. Press the [Intro/Ending] button.

An Ending is played, then the Rhythm stops.

While the Ending is playing, the [Intro/Ending] button indicator lights, until the Ending finishes the button indicator will be turned off.

○ Making the Ending Short and Simple

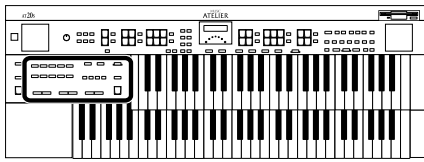
1. Press the [To Variation] or [To Original] button, and then press the [Start/Stop] button.

A short Ending is played, then the Rhythm stops.

○ Stopping without an Ending

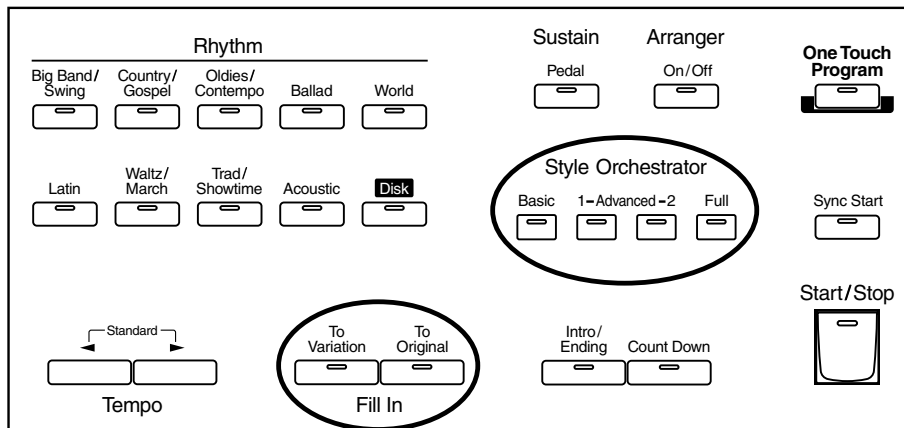
1. Press the [Start/Stop] button.

The Rhythm stops without an Ending being played.



Adding Variety to the Rhythm and Automatic Accompaniment

You can add variation to the Rhythm by changing the arrangement or by switching the Rhythm pattern.



Button	Function
Fill In [To Variation] button	After the fill-in has played, play the Variation Rhythm pattern
Fill In [To Original] button	After the fill-in has played, play the Original Rhythm pattern

What is a Fill In?

A fill-in is a short phrase that is inserted at a break in the melody or at a point where the character of the song changes (between Chorus's or Verses).



The functions of the [Start/Stop] button, the [To Variation] button, the [To Original] button and Style Orchestrator buttons can be assigned to the foot switch located on the left side of the Expression Pedal (p. 90).

Changing the Arrangement of the Accompaniment (Style Orchestrator)

You can change the arrangement of the accompaniment. This function is called "Style Orchestrator." For each rhythm, there are four types of arrangement for the accompaniment.

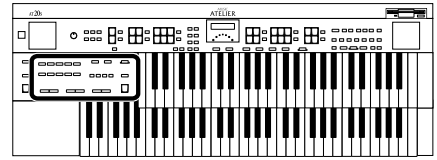
- 1. Press the Style Orchestrator buttons to change the arrangement of the accompaniment.**

The indicator of the button you pressed lights.

The [Basic] button produces the simplest arrangement, and the [Full] button produces the most florid.

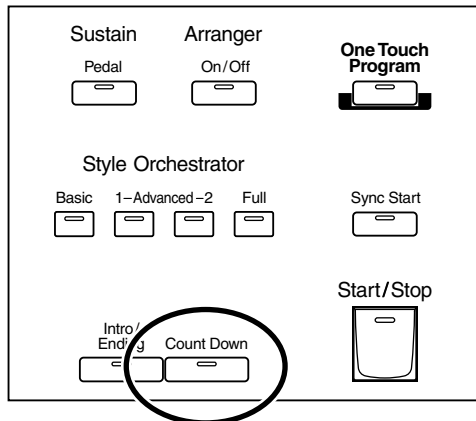


Some Rhythms don't change the arrangement of the accompaniment.



Playing the Count Sound at the End of the Intro

If an intro is played before your performance, you can have a countdown played to the end of the intro, allowing you to understand easily when you are to start playing.



1. Press the [Count Down] button, getting the indicator to light.

2. Press the [Intro/Ending] button.

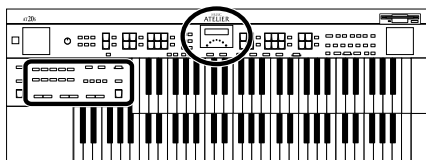
The intro plays, and a countdown plays to the end of the intro.

When the [Sync Start] button is lit, specifying the chord with the left hand starts the intro, and again, a countdown is given.

3. To stop the countdown, press the [Count Down] button, turning off the indicator light.



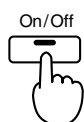
You can change the countdown sound (p. 91).



Playing Rhythm and Automatic Accompaniment

The Arranger function of the AT-20S can add an Automatic Accompaniment to each Rhythm. Based on the selected Rhythm, the Arranger function automatically adds an accompaniment that is suitable for the chord being pressed on the Lower keyboard.

Arranger



1. Press the Arranger [On/Off] button (indicator lights.)

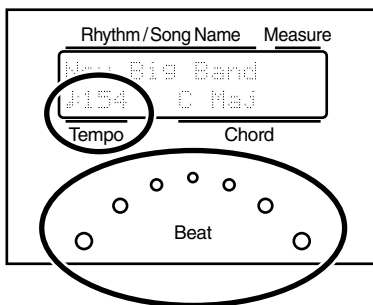
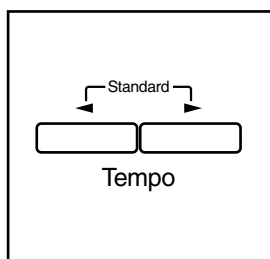
- Indicator is lit (On) Rhythm and Automatic Accompaniment
- Indicator is not lit (Off) Rhythm (Drums only)



If the Arranger [On/Off] button is ON and no Pedal bass voice is selected, the Automatic Accompaniment will play the bass sound.

Changing the Tempo

You can change the tempo of the Rhythm or Automatic Accompaniment.



1. Press the Tempo [◀] and [▶] buttons to change the tempo (speed) of the Rhythm or Automatic Accompaniment.

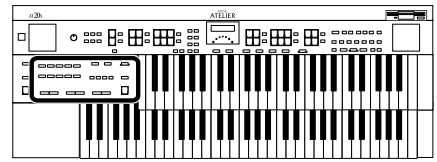
- Tempo [◀] button The tempo becomes slower
- Tempo [▶] button The tempo becomes faster



By pressing the Tempo [◀] and [▶] buttons simultaneously, the tempo is returned to the standard (preset) tempo for the selected Rhythm.

The value of the tempo currently set (20–250 beats per minute) can be checked in the display.

You can also check the tempo by viewing the Beat indicator.



A Simple Way to Make Automatic Accompaniment Settings (One Touch Program)

When using the Arranger function for automatic accompaniment, you can also use the “One Touch Program” function to automatically select panel settings that are appropriate for the selected rhythm.



By pressing the [One Touch Program] button, you can make the following settings.

- Panel settings (e.g., sounds and volume) suitable for the rhythm
- Arranger [On/Off] button lit (Automatic Accompaniment playing)
- [Sync Start] button lit, [Intro/Ending] button blinking (Waiting for Sync Start)

What is Sync Start?

Sync Start is a function that starts the rhythm at the moment that you play the lower keyboard.

- Chord Intelligence function is ON (p. 93)

What is Chord Intelligence?

“Chord Intelligence” is a feature that intelligently decides on accompaniment chords the moment you play some keys specifying a chord during automatic accompaniment.



For more information about chord fingering, refer to the “Chord List” (p. 109)

- 1. Select a Rhythm (p. 30).**
 - 2. Press the [One Touch Program] button.**
- Panel settings appropriate for the rhythm and automatic accompaniment will automatically be called up for Registration [1]–[4] buttons.
- 3. Press the Registration [1] – [4] button to select panel settings.**
 - 4. On the Lower keyboard, play a chord.**

At the moment you play the keyboard, the Intro will begin, and then the Rhythm and Automatic Accompaniment will play.

- 5. Press the [Intro/Ending] or [Stop] button to stop the Rhythm.**

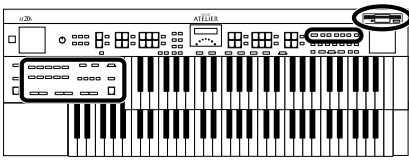
Rhythm and Automatic Accompaniment stops.

- 6. Press the [One Touch Program] button, extinguishing its indicator.**

You will return to the panel settings that were in effect prior to pressing the [One Touch Program] button.

NOTE

When you press the [One Touch Program] button, the “Arranger Update” setting will automatically change to “INSTANT.”



Using a Rhythm from a Disk

The AT-20S contains 90 types of built-in Rhythms (Music Styles). Additional Rhythms (Music Styles) are available on the Music Style disk included are available. Here's how to select a Rhythm (Music Style) from a Music Style disk.

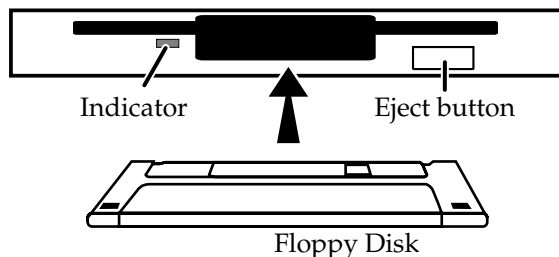
■ Inserting and Ejecting a Floppy Disk

NOTE

If you're using the disk drive for the first time, be sure to read the important notes on page 6.

- 1. Hold the floppy disk with the label facing upwards, and push it into the disk drive until it clicks into place.**

The disk drive is on the right side of the unit, above the keyboard.



NOTE

Never eject a disk while reading or writing is in progress, since that can damage the magnetic surface of the disk, rendering it unusable. (The disk drive's indicator will light up at full brightness when the drive is busy reading or writing data. Ordinarily, the indicator will be less brightly lit, or be extinguished.)

- 2. Press the Eject button.**

The floppy disk is ejected a little out of the slot. Gently grasp the end of the floppy disk and pull it out.

■ Reviewing the Styles on a Music Style Disk

- 1. Press the Rhythm [Disk] button (confirm that its indicator is lit)**
- 2. Insert the Music Style disk into the disk drive.**
- 3. Use the Select [-] [+] buttons to select a Rhythm on the Music Style disk.**

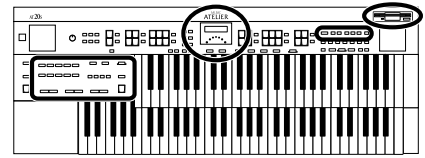
NOTE

The [Start/Stop] button indicator will be blinking while the Rhythm is being loaded. You can play the selected Rhythm after loading is completed.

- 4. Press the [Start/Stop] button or the [Intro/Ending] button.**

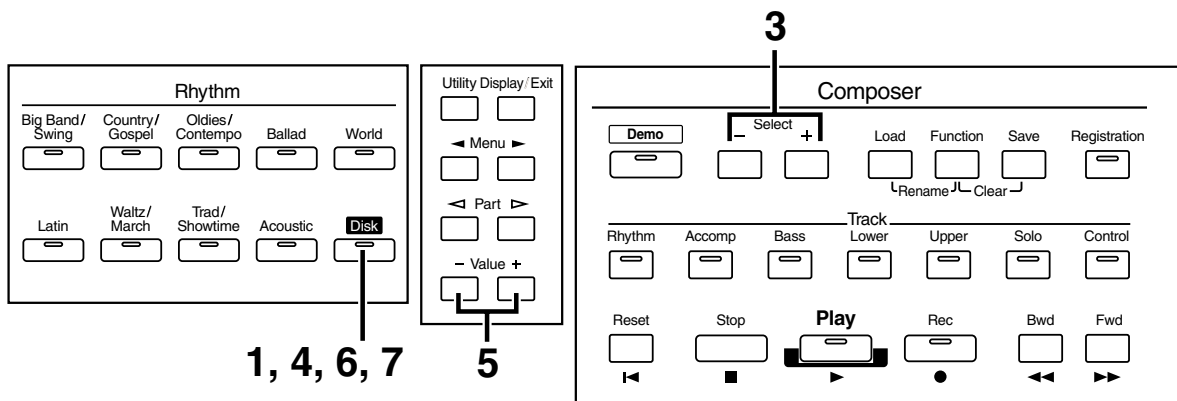
The selected Rhythm is played.

Using the Rhythm Performance



■ Loading Disk Rhythms Into Internal Memory

The [Disk] button already contains 2 Rhythms, but these can be rewritten by Rhythms from a Music Style disk. Rhythms loaded from the disk into internal memory will not be lost even if the power is turned off. It is convenient to load frequently-used disk Rhythms into internal memory.



- 1.** Press the Rhythm [Disk] button (indicator lights).
- 2.** Insert the Music Style disk into the disk drive.
- 3.** Use the Select [-] and [+] buttons to select a disk Rhythm (indicator begins to blink).

```
BigBndBallid2 R01
♩ 74 C Maj
```



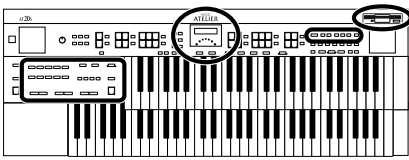
Press the [Start/Stop] button, you can hear the Rhythm.

- 4.** After selecting a disk Rhythm, press the Rhythm [Disk] button once more.

The following screen appears.

```
To:Cute Pop
Write? +/- /Disk
```

- 5.** Use the Value [-] and [+] buttons to select where you wish the selected Rhythm to be stored.



- 6. Press the Rhythm [Disk] button to confirm the storage-destination Rhythm.**

```
Overwrite Style?  
Yes:Disk No:Exit
```

To cancel the procedure, press the [Display/Exit] button.

- 7. Press the Rhythm [Disk] button again to start loading the Rhythm into the internal memory.**

While the Rhythm is being loaded into internal memory, the following screen will be displayed.

```
Overwriting  
Style...
```

Once the Rhythm has been accommodated in memory, the basic screen reappears.

NOTE

Never remove the disk or turn off the power while the Rhythm data is being loaded from disk into the AT-20S. If you do so, the Rhythm data will not be loaded into the AT-20S, and malfunctions could result. After returning the Rhythm stored in the Rhythm [Disk] button to the factory settings (see following section), re-load the Rhythm from disk.

■ Restoring the Rhythm Stored in the Rhythm [Disk] Button to the Factory Settings

The Rhythm that was loaded from the Music Style disk into the Rhythm [Disk] button will not disappear even if you turn off the power or execute the Factory Reset operation. If you wish to restore the Rhythm of the Rhythm [Disk] button to the factory setting, use the following procedure.

- 1. Press the [Power On] button to turn off the power (p. 17).**
- 2. Hold down the Rhythm [Disk] button, and press the [Power On] switch.**

The Rhythm that had been stored in the Rhythm [Disk] button will return to the factory settings.



To return settings other than those of the Rhythm [Disk] button to the factory settings, use the Factory Reset operation (p. 18).

Adding Various Effects to a Voice

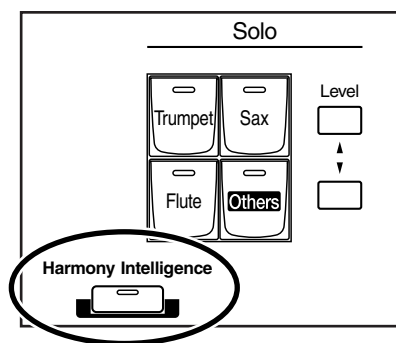
The AT-20S allows you to add a variety of effects to each voice, and to use various playing techniques to make your performance more expressive.

Adding Harmony to a Melody (Harmony Intelligence)

Harmony Intelligence is a function that adds harmony to a single note being played on the Upper keyboard, the harmony being dependent on the chord played on the Lower keyboard. In addition it automatically selects the appropriate voices according to the harmony type.

1. Press the [Harmony Intelligence] button (indicator lights).

Each time you press a [Harmony Intelligence] button, the indicator will alternate between ON (lit) and OFF.



Changing the Type of Harmony Intelligence

There are 4 different Harmony Intelligence.

When you press the [Harmony Intelligence] button, the most appropriate voice(s) will be automatically set.

The manner in which notes will sound also depends on the Harmony type.

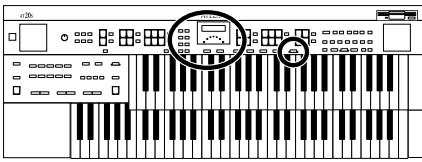
1. Press the [Harmony Intelligence] button (indicator lights).

2. While the voice name is shown in the display screen, use the Value [-] [+] buttons to select the Harmony Intelligence.

The indicator of the [Harmony Intelligence] button will blink.

3. Once again, press the [Harmony Intelligence] button.

The indicator of the [Harmony Intelligence] button will light, and the Harmony Intelligence is confirmed.



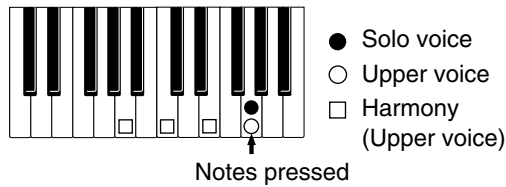
Adding Various Effects to a Voice

How notes pressed are sounded by the different Harmony Intelligence types:

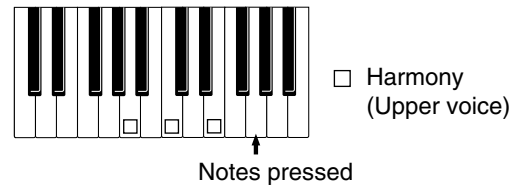
	Type	How notes pressed are sounded
TRADITIONAL	Type A	Solo & Upper
HARP	Type B	not sounded
OCTAVE 1	Type A	Solo & Upper
OCTAVE 2	Type A	Solo & Upper

○ How notes are sounded by the different Harmony Intelligence types

Type A (Solo & Upper)



Type B



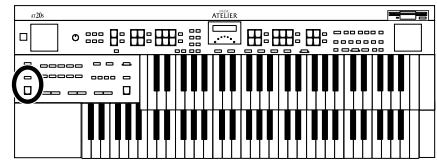
The number of notes of the harmony will depend on the Harmony Intelligence type.



You can select the Harmony Intelligence at the Utility menu (p. 93).



Harp-type harmony intelligence will not sound the keys you play. Use your left hand to play a chord in the lower keyboard and use your right hand to play a glissando on the upper keyboard, and a beautiful harp glissando will be produced.



Adding Modulation to the Sound (Rotary Effect)

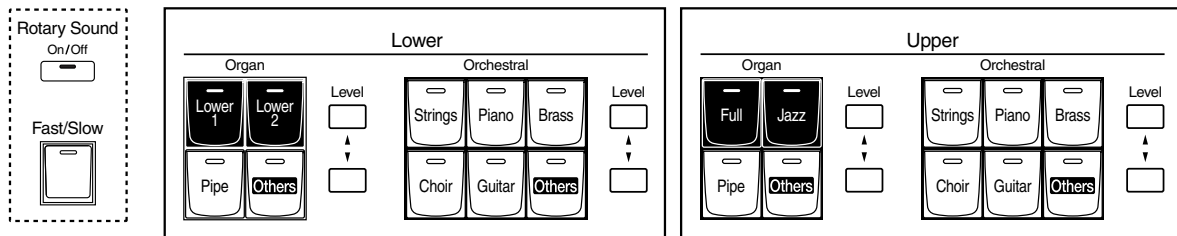
Rotary is an effect which simulates the sound of rotating speakers. There is a choice of two settings: Fast and Slow.

The Rotary effect can be applied to the following sounds.

- Voices assigned to buttons in the upper line of "Upper Organ" and "Lower Organ."
- Voices assigned to the [Others] buttons for each part.



Some sounds do not allow the Rotary effect to be applied. For details refer to "Voice List" (p. 105).



- 1. Select the voice to which you wish to apply the Rotary effect.**
- 2. Press the Rotary Sound [On/Off] button (confirm that its indicator is lit).**

The Rotary effect will be applied to the voice.

- 3. Press the Rotary Sound [Fast/Slow] button to switch between Rotary Fast (LED lit) and Rotary Slow (LED turned off).**

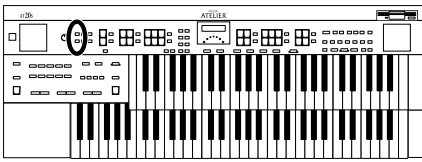
LED lit (Fast) The effect obtained is equivalent to speakers being rapidly rotated.

LED turned off (Slow) Effect simulating the slow rotation of speakers.

When you switch the rotary effect from "Fast" to "Slow," the modulation will slow down gradually, and when you switch from "Slow" to "Fast" the modulation will speed up gradually.

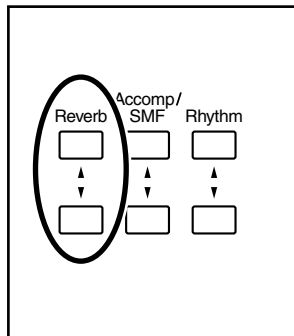


You can assign the Rotary Sound [Fast/Slow] button function to the foot switch located on the left side of the Expression Pedal (p. 90).



Reverb Effect

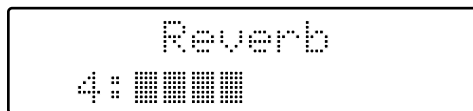
Reverb is an effect that adds a sense of spaciousness to the sound, creating the illusion of playing in a large or small concert hall, a large or small room, a small club, etc.



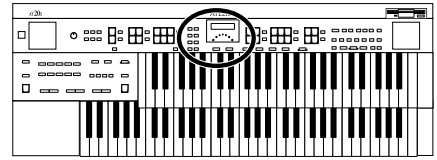
1. Press the Reverb [▲] or [▼] buttons to adjust the overall Reverb amount.

When you press the up button [▲], additional Reverb is applied. Pressing the down button [▼] decreases the Reverb level.

When you press the Reverb [▲] [▼] buttons, the Reverb level will be shown in the display.



You can also select the type of Reverb you wish, the level for each individual Part, and Wall type. For details refer to "Changing the Reverb Type" (p. 88), "Changing the Depth of the Reverb" (p. 88), and "Changing the Wall Type" (p. 89).



Sustain Effect

Sustain allows you to add a Sustain effect or decay to each voice after the keys are released. The Sustain effect can be added simultaneously to the Upper (except the Solo Part), Lower, and Pedal Bass voices.

■ When Adding Sustain to the Upper or Lower Part

- 1. Press the [Utility] button.**
- 2. Press the Menu [◀] and [▶] buttons to select the “Sustain.”**
- 3. Press the Part [◀] and [▶] buttons to select the desire part.**
Select the Upper or Lower part.
- 4. Press the Value [-] and [+] buttons to switch ON or OFF.**
- 5. Press the [Utility] button to return to the basic screen.**
The basic screen reappear.

■ When Adding Sustain to the Pedal Bass Part

- 1. Press the Sustain [Pedal] (indicator lights).**
The sustain effect is applied to the Pedal (Pedal Bass) part.
- 2. Press the Sustain [Pedal] button to turn off the indicator.**



The length of Sustain can be modified independently for each keyboard (p. 89).



The Sustain effect will not be applied to the Solo part voice.

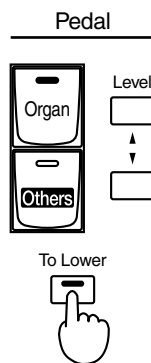
Using the Play Functions

Using the Lower Keyboard to Play the Bass Voice (Pedal [To Lower] Button)

By using the Pedal [To Lower] button, you can sound the Pedal Bass voice by playing the root note (see p. 112) of a chord on the Lower keyboard in the area that is playing the Lower voice.

NOTE

If the [Drums/SFX] button is ON, the Pedal Bass voice will not sound.



- 1. Select a Pedal Bass voice (p. 23).**
- 2. Press the [To Lower] button (indicator lit).**

When you play a chord on the Lower keyboard, the Pedal Bass voice will also be heard and will play the root note.

Now when you play C/E/G on the Lower keyboard, the C (bottom note) will also play the Pedal Bass voice. In this way, the Pedal Bass voice will be played by the root note of the chord you play on the Lower keyboard.

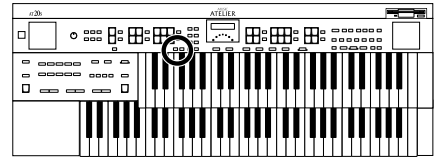
If the Leading Bass function is assigned to the Foot Switch (p. 90), the lowest note you play in the Lower keyboard sounds the Pedal Bass voice while you depress the foot switch.

NOTE

If the Pedal [To Lower] is ON, the Pedal Bass voice will not be heard from the Pedalboard.

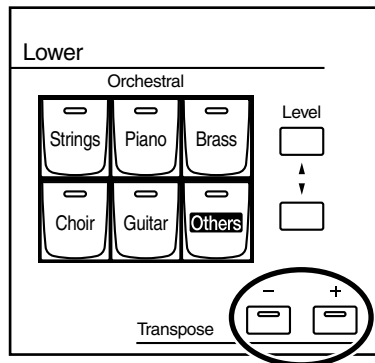
NOTE

If no portion of the Lower keyboard is sounding the Lower voice (the [Drums/SFX] button is ON), the Pedal Bass voice will not sound.



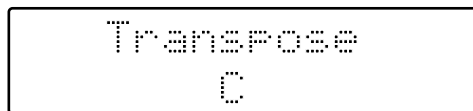
Transposing to a Different Key (Transpose Buttons)

This function allows you to transpose the keyboard to another key in semitone steps. For example: you may play in the familiar C major scale while your music will sound in any key of your choice.



1. Press the Transpose [-] and [+] buttons.

Each press of the Transpose [-] or [+] button transposes the key a semitone. The transpose value is displayed in the screen. Acceptable values range from A \flat to G (in semitone steps).



By pressing the Transpose [-] [+] buttons simultaneously, you can restore the default setting C.

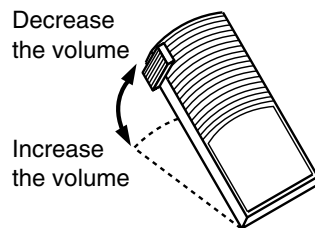
If the pitch is transposed (something other than C), the indicator of one of the Transpose buttons, either [-] or [+], will be lit. If the pitch is not transposed (i.e., the key is C), the indicator of both the Transpose[-] and [+] buttons will be extinguished.



You can change the timing at which the transposition settings saved in a Registration will be recalled. For details refer to "Registration Transpose Update (Transpose Setting Recall Timing)" (p. 95)

Adjusting the Overall Volume Using an Expression Pedal

You can adjust the entire volume using an Expression Pedal. When you depress the Expression Pedal, the volume increases. The volume decreases as you tilt the pedal back.



You can also specify whether the Expression Pedal will or will not control the volume during the recording of music data (p. 81).

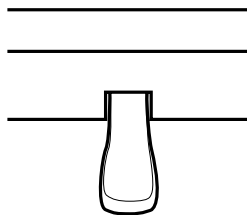


Likewise you can specify whether the Expression Pedal will or will not control the volume during the playback of recorded music data (p. 81).

Adding Decay to the Sound (Damper Pedal)

When you depress the Damper (Sustain) pedal, a decay effect will be added to the voices. While you continue depressing the damper pedal, notes will be sustained even if you release the keys.

By default the decay effect will be applied to the voices played on the Lower keyboard.



You can modify the setting so that decay is only applied to notes played on the Upper keyboard (p. 92).



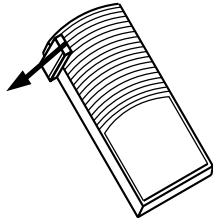
Decay cannot be added to the Solo voices.



Decay can not be applied to Pedal Bass voices played on the Lower keyboard (when the Pedal [To Lower] button indicator is lit).

Using the Foot Switch

The instrument is provided with a Foot Switch, one on left side of the Expression Pedal.



The Glide function is assigned the left foot switch when the power is turned on.

1. Press the foot switch toward the left.

While the foot switch is pressed, the pitch will temporarily be lowered, and will gradually return to normal when you release the foot switch.



You can also change the function assigned to the Foot Switch. Please refer to "Changing the Function of the Foot Switch" (p. 90).



You can select the keyboard to which the effect will apply when you operate the Foot Switch. Please refer to "Glide Destination" (p. 92).

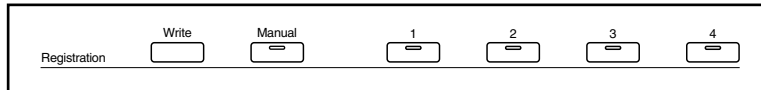


If the Utility menu item Registration Shift is ON, the Foot Switch will be dedicated to switching through the Registration buttons (p. 91).

Using the Registration Buttons

The AT-20S allows you to store sound settings and panel settings such as 4 in the Registration buttons. There are a total of 4 Registration buttons, and one set of panel settings can be stored in each, allowing you to register a total of 4 different panel settings. Each set of panel settings that has been stored in a Registration button is called a "Registration."

This provides a convenient way to change large numbers of panel settings during a performance, or to recall a complex panel setting.



Settings that have been stored to Registration [1]–[4] buttons are remembered even if the power is turned off. If you wish to restore the settings stored in the Registration buttons to their factory settings, use the "Factory Reset" operation (p. 18).

Storing Registrations

- 1. Make all the panel settings that you wish to store.**
- 2. While holding down the [Write] button, press one of the Registration [1] – [4] buttons.**

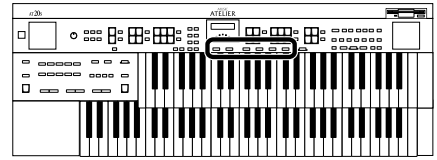
The panel settings will be stored in the selected Registration button.



With the settings of Registration [1] – [4] buttons considered as one set, a single floppy disk can store up to 99 sets of data (p. 54).



For details on the settings that are stored in a Registration, refer to "Settings That Are Stored in the Registration Buttons" (p. 111).



Recalling a Registration

Settings that have been registered to Registration buttons [1]-[4] can be recalled in two ways: “INSTANT” and “DELAYED.” At the factory this is set to “DELAYED.”

■ How to Recall a Registration

○ Recalling Voices and Other Panel Settings

1. Press a Registration [1]-[4] button.

○ Recalling Settings for Rhythm and Automatic Accompaniment in Addition to the Panel Settings

1. Press and hold a Registration [1]-[4] button for several seconds.

The indicator of the rhythm select button will blink, and the panel settings and settings related to rhythm performance and automatic accompaniment will be recalled.

■ Changing the Timing of Recalling Registrations

Settings for Rhythm play and Automatic Accompaniment are recalled when you continue holding a Registration [1]-[4] button for several seconds, but you can change this so that the settings are recalled the instant you press the button.

1. Press the [Utility] button located to the left of the display.
2. Press the Menu [◀] and [▶] buttons to select the “Arranger Update.”

ArrangerUpdate
DELAYED

3. Press the Value [-] and [+] buttons to switch between “DELAYED” and “INSTANT.”

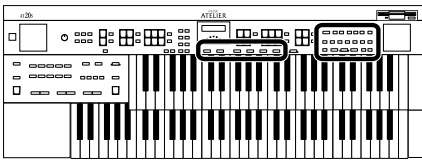
DELAYED When you press and hold a Registration [1]-[4] button for several seconds, the settings for Rhythm and Automatic Accompaniment will be recalled in addition to the panel settings. If you press and immediately release a Registration [1]-[4] button, only the settings that are not related to Rhythm or Automatic Accompaniment will be recalled.

INSTANT Settings for Rhythm and Automatic Accompaniment will be recalled the instant that you press a Registration [1]-[4] button.

To return to the basic screen, press the [Utility] or [Display/Exit] button.

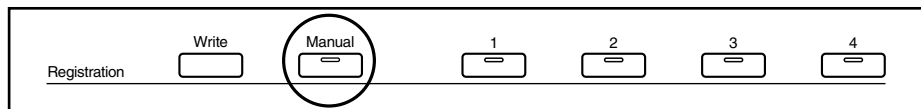


You can change the timing of recalling the transpose setting when you press a Registration [1]-[4] button. For more information, please refer to p. 95.



Automatically Registering When You Switch Panel Settings

When the [Manual] button is ON (lit), all panel settings you make will be stored automatically in the [Manual] button as they are made, thus updating the Registration that had been previously saved. If you change to a preset Registration [1]– [4], it is possible to return to the previous panel settings by pressing the [Manual] button.

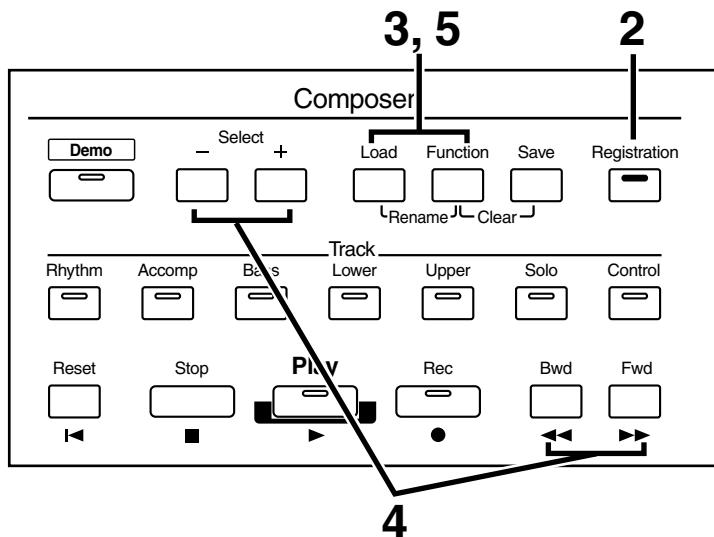


NOTE

The settings stored in the [Manual] button returns to the default settings while the power is turned off.

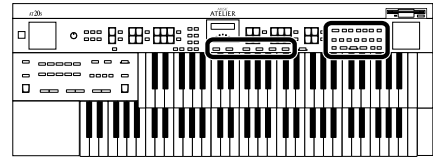
Assigning a Name to a Registration Set

When saving Registration sets, names like “REGIST-01 – 99” will be assigned by default, but you can assign a name that will help you later to identify the contents of the Registration set.



1. Make sure that the disk drive contains a disk that was formatted (p. 67) by the AT-20S.
2. Press the [Registration] button (indicator lights).
3. Press the [Load] button and the [Function] button simultaneously.

Using the Registration Buttons



- 4. Press the Select [-] and [+] buttons to move the cursor, and press the [Bwd]/[Fwd] buttons to select a character.**

```
REGIST-01      .....
Mem: █
```

The following characters can be selected.

space ! " # % & ' () * + , - . / : ; = ? ^ _ A B C D E F G H I J K L M N O P Q R S T U V W X
Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z 0 1 2 3 4 5 6 7 8 9

You can also press the [Reset] button to delete a character, and the [Rec] button to insert a space.

- 5. When you have finished assigning the name, simultaneously press the [Load] button and the [Function] button once again.**

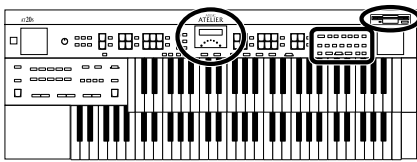
The Registration set in the AT-20S's internal memory has now been named.

```
REGIST-01      .....
Mem: Nw Regist
```

To return to the basic screen, press the [Registration] button or the [Display/Exit] button.

NOTE

It is not possible to save during the process of assigning a name.



■ Copying Only the Name of a Registration

Here's how you can copy just the name of a Registration without copying its performance data.

- 1.** Insert the floppy disk that contains the Registration that you wish to copy into the disk drive.
- 2.** Press the [Registration] button to make the indicator light.
- 3.** Press the Select [-] and [+] buttons to select the Registration whose name you wish to copy.
- 4.** Simultaneously press the [Load] button and [Function] button.

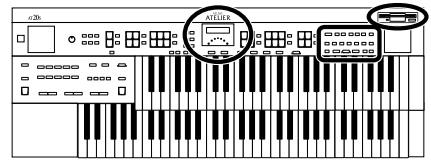
```
My Regist      USE  
Mem:
```

- 5.** Press the [Load] button.

Only the name of the Registration will be recalled.

```
My Regist      USE  
Mem:My Regist
```

- 6.** Simultaneously press the [Load] button and [Function] button.



Saving Registration Sets to a Floppy Disk

With the settings of Registration [1]–[4] buttons considered as one set, a single floppy disk can store up to 99 sets of data. We recommend that complex panel settings or Registrations you wish to keep be saved on disk. If AT-20S Registrations that you create are saved on a floppy disk, they can then be recalled later or recalled for use on another AT-20S.

- 1. Make sure that the disk drive contains a disk that was formatted by the AT-20S.**
- 2. Press the [Registration] button (indicator lights).**
- 3. Press the Select [-] and [+] buttons to select the number that you wish to save to.**

Numbers which have not been used in the Saving operation will be displayed as “- - -”.

```
REGIST-01      - - - - -
Men:My Regist
```

To cancel the operation, press the [Registration] button.

- 4. Press the [Save] button.**
- 5. Press the [Bwd] or [Fwd] button to select the format in which the data will be saved.**
- 6. Press the [Save] button to execute the save operation.**

When the Registration set is saved to the floppy disk, the indication of “- - -” will change to “USE.”

```
My Regist      USE
Men:My Regist
```

When saving is completed, the basic screen reappears.

If you have assigned a name, the Registration set will be saved to floppy disk with that name.

● If the following screen appears

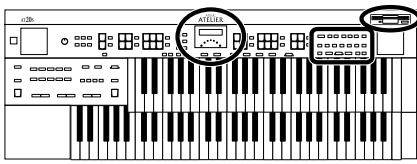
If you press the [Save] button for a Registration number with the word “USE” indicated, the following message appears.

```
OverwriteRegist?
Yes:REC No:RST
```

○ If you wish to update the contents of the Registration data

- 1. Press the [Rec] button.**

The Registration will be rewritten.



Using the Registration Buttons

○ If you wish to save the data without erasing the Registration set already on disk

- 1. Press the [Reset] button to cancel the procedure.**
Rewriting of the Registration will be canceled.
- 2. Press the Select [-] [+] buttons to select a number for which “- - -” is displayed on the upper right of the screen.**
- 3. Press the [Save] button to save the Registration set.**
When the data has been saved, the basic display reappears.
When the Registration set is saved to the floppy disk, the indication of “- - -” will change to “USE.”

Loading Previously Saved Registration Sets Into the AT-20S

Here's how to recall a previously saved Registration set from the floppy disk into the memory of the AT-20S.

Registrations can be selected in the following two ways.

- **Loading a Set of Registrations**

You can load a “set” (a collection of settings for Registration buttons [1]–[4]) from floppy disk.

- **Loading an Individual Registration**

You can load settings for an individual Registration button [1]–[4].

NOTE

Be aware that when you load Registrations from a disk, the Registrations that were previously in internal memory will be lost. It is a good idea to save important Registrations to floppy disk (see p. 54).

■ Loading a Set of Registrations

Registrations Sets saved to a floppy disk can be loaded back into the instrument.

- 1. Insert the floppy disk into the disk drive.**
- 2. Press the [Registration] button (indicator lights).**
- 3. Press the Select [-] and [+] buttons to select the Registration set that you wish to load.**

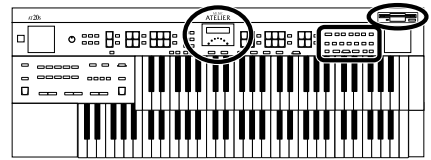
```
Mv Regist      USE
Men#
```

To cancel the procedure, press the [Registration] button.

- 4. Press the [Load] button to execute loading.**

When loading is complete, the basic screen reappears.

Using the Registration Buttons



■ Loading an Individual Registration

You can load any desired individual Registration to any desired Registration button.

- 1.** Insert the floppy disk containing the Registration into the disk drive.
- 2.** Press the [Registration] button (indicator lights).
- 3.** Press the Select [-] and [+] buttons to select the Registration set that you wish to load.
- 4.** Press the [Function] button.
- 5.** Press the [Bwd] or [Fwd] buttons to specify the Registration button number to be loaded.

```
Load One Resist  
from# 1 </>/REC
```

To cancel the operation, press the [Function] button.

- 6.** Press the [Rec] button.
- 7.** Press the [Bwd] or [Fwd] buttons to specify the storage-destination Registration.

```
Load One Resist  
to# 1 </>/REC
```

- 8.** Press the [Rec] button.

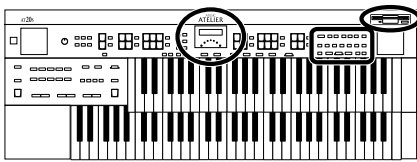
The following display appears.

```
Load Sure?  
Yes#REC No#RST
```

To cancel the procedure, press the [Reset] button.

- 9.** Press the [Rec] button once again.

When the Registration has been loaded, the basic screen reappears.



Deleting a Set of Registrations from a Floppy Disk

Here's how to delete a Registration set that was saved to a floppy disk.

- 1.** Insert the floppy disk containing the Registration into the disk drive.
- 2.** Press the [Registration] button (indicator lights).
- 3.** Press the Select [-] and [+] buttons to select the Registration set that you wish to delete.

```
My Regist      USE  
Mem#
```

- 4.** Simultaneously press the [Function] button and the [Save] button.

The following display appears.

```
Delete Regist?  
Yes:REC No:RST
```

To cancel the operation, press the [Reset] button.

- 5.** If you are sure that you wish to delete the data, press the [Rec] button.

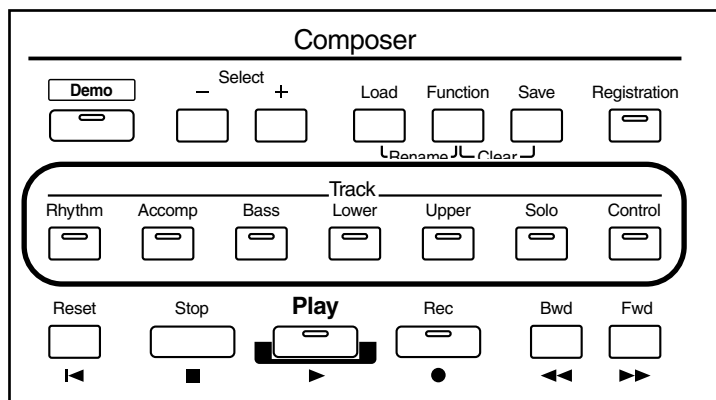
When the Registration has been deleted, the basic screen reappears.

When a Registration set has been deleted, the indication of "USE" will change back to "--". If you had assigned a name to the Registration set you deleted, the name will revert back to "REGIST-XX."

```
REGIST-01      -----  
Mem#
```

Record and Playback Your Performance

The AT-20S's Composer allows you to record (in digital form) what you played on the instrument.



What is a Track?

The Composer operates like a tape recorder with the capability of recording seven separate tracks. You can record different kinds of performance data into each track:

Rhythm	Rhythm performances, Drums/SFX
Accomp	Automatic Accompaniment (except Bass)
Bass	Pedal Bass voice, Bass part of the Automatic Accompaniment
Lower	Lower voice
Upper	Upper voice
Solo	Solo voice
Control	Panel operations, Expression Pedal operations



More information about the track assignments when playing commercial SMF music files, please refer to page 64.

During recording, the control track will store the operations as follows.

○ Panel Operations (Voice selections, Tempo changes, Rotary fast/slow etc.)

Newly recorded performance data will be added without erasing the previously recorded data.

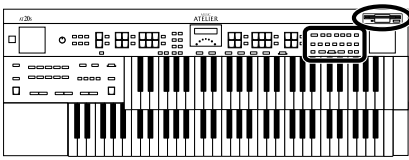
If you wish to erase all the recorded data and record new performance data, use the editing function "Erase" (erase performance data) to erase the data (p. 85).

○ Expression Pedal Operations

This will depend on the expression function in the Function menu. The way in which expression operations are recorded will depend on the setting of the "Exp. Source" item "Recording" in the Function menu.

PEDAL	Expression pedal operations will be recorded. If expression data has already been recorded, the previously recorded data will be erased as the new data is recorded.
COMPOSER	Expression pedal operations will not be recorded. If expression data has already been recorded, the previously recorded data will remain without being erased.

For details refer to "Changing the Function of the Expression Pedal (Exp. Source)" (p. 81).



Playing Back Performance Songs Stored on Floppy Disk

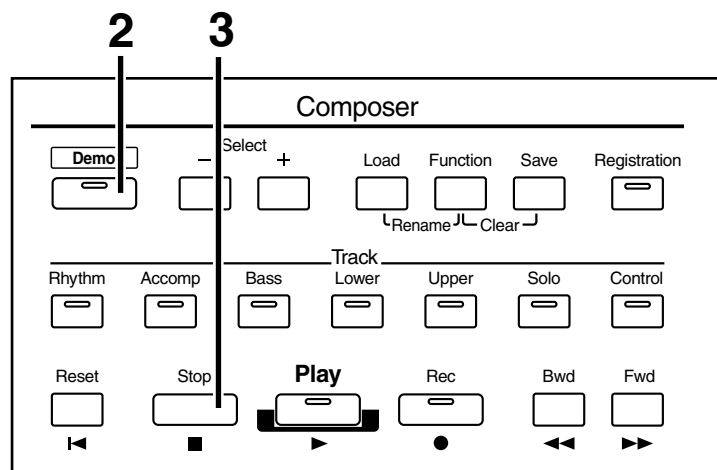
In addition to playing back the music you recorded on the instrument and saved to a floppy disk, AT-20S also lets you enjoy a wide variety of commercially available song files, such as defined below.

SMF Music Files

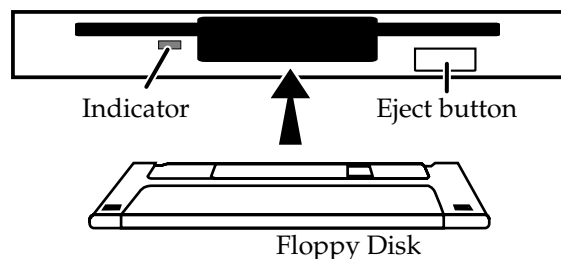
The Standard MIDI File (SMF) format was designed to provide a means for exchanging performance data among a wide variety of devices. In addition to the song files described earlier, the AT-20S is also capable of playing back any Standard MIDI File compatible with the General MIDI 2 or GS formats.



If you wish to purchase SMF music files, please contact the dealer where you purchased the AT-20S.

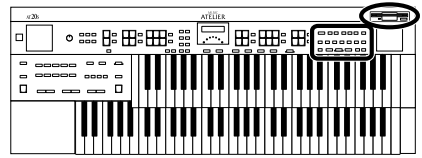


1. Insert a floppy disk containing commercially available SMF music files into the floppy disk drive.



NOTE

Never eject a disk while reading or writing is in progress, since that can damage the magnetic surface of the disk, rendering it unusable. (The disk drive's indicator will light up at full brightness when the drive is busy reading or writing data. Ordinarily, the indicator will be less brightly lit, or be extinguished.)



Record and Playback Your Performance

When the performance song loaded from a disk is a Standard MIDI File, " : " will be displayed after the file name.

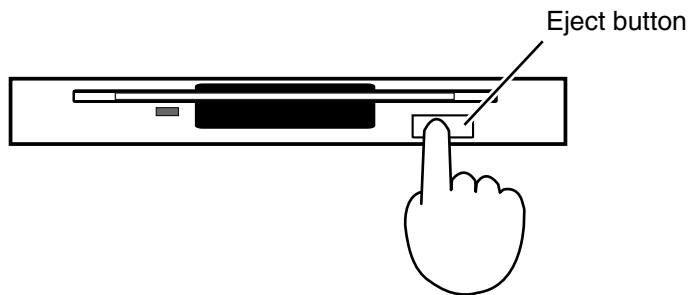
```
My Song      +505  
:180
```

2. When you wish to play back all the performance songs in order, press the [Demo] button.

The performance data will begin playing. When the last song ends, you will return to the first song

3. To stop playback, press the [Stop] button.

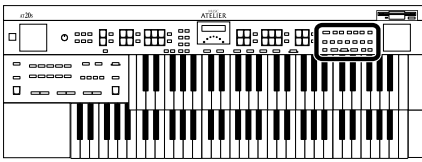
4. Press the eject button.



The floppy disk is ejected a little out of the slot. Gently grasp the end of the floppy disk and pull it out.

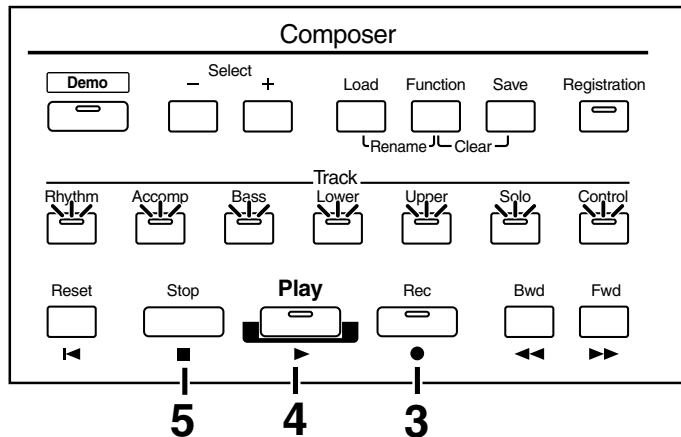


When you only wish to play back one song, press the Select [-] and [+] buttons to select the song, then press the [Play] button.



Recording a Performance

You can record the performance that you play. You can also record your performance while playing rhythms or automatic accompaniment.



1. Select the panel settings needed for recording the performance.

2. Make sure that a floppy disk is not inserted in the disk drive.

If a floppy disk is in the disk drive, press the Eject button (p. 37) and remove the floppy disk.

3. Enter the recording standby mode by pressing the [Rec] button.

The [Rec] button's indicator will light. The [Play] button indicators will blink.

4. Press the [Play] button to start recording.

When you press the [Play] button, the metronome will play two measures (bars) of count-in before recording begins.

If you wish to use Rhythm and Automatic Accompaniment as you record, press the [Start/Stop] button instead of the [Play] button to begin recording. Also, if the [Sync] button is lit (i.e., if Sync Start is ON), recording will begin the instant you play the Lower keyboard.

5. Press the [Stop] button when you have completed your recording.

The Track indicator where a performance song is recorded will change from a flashing to a constant light.

If you press the [Reset] button instead of the [Stop] button, the unit resets (returns) to the beginning of the song just recorded.

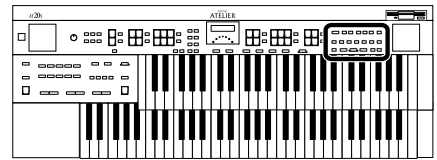


When you press the [Intro/Ending] button (or [Start/Stop] button) while recording a Rhythm performance or Automatic Accompaniment, the Rhythm performance and Automatic Accompaniment will stop. However, the recording itself will continue. Press the [Stop] button to stop recording.



The Play and Stop functions can both be assigned to the foot switch. Each touch of the switch will alternate the operation between the Play and Stop functions (p. 90).

Record and Playback Your Performance



You can also choose to cancel the metronome count-in before recording starts (p. 79).



If you press the [Rec] button when a song has been selected from the floppy disk, the selected song will be completely loaded into the AT-20S and the Composer will enter into the recording standby mode.

If you wish to record a new song, press the Select [-] and [+] buttons to first select "NEW SONG" before pressing the [Rec] button. Alternatively, eject the disk from the floppy disk drive before pressing the [Rec] button.

```
NEW SONG      1
♩120
```

● If the following screen appears

```
Internal Memory
Near Limit
```

When the instrument's memory is nearing capacity.

```
Memory Full
```

When recording was automatically canceled because the memory limit was reached.

Recording Each Part Separately

As you listen to the recorded performance, you can record each Part in sequence. In this method, each part is recorded one after another: first the Rhythm part, then the bass part, etc. If there are any previously recorded performances, you can listen to them as you record additional parts.

- 1. Select the panel settings needed for recording the performance.**
- 2. Press the [Bwd] / [Fwd] buttons to select the desired measure (bar) when you start recording.**

If you wish to start recording from the beginning of the song, press the [Reset] button.

- 3. Press the [Rec] button to enter the recording standby mode.**

The [Rec] button indicator will light, and the [Play] button and the track buttons of un-recorded tracks will blink.

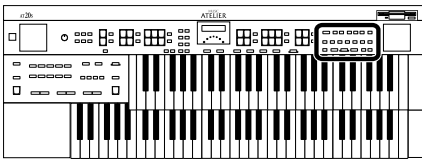
The button indicators of tracks that are already recorded will light.

- 4. Press the [Play] button to start recording.**

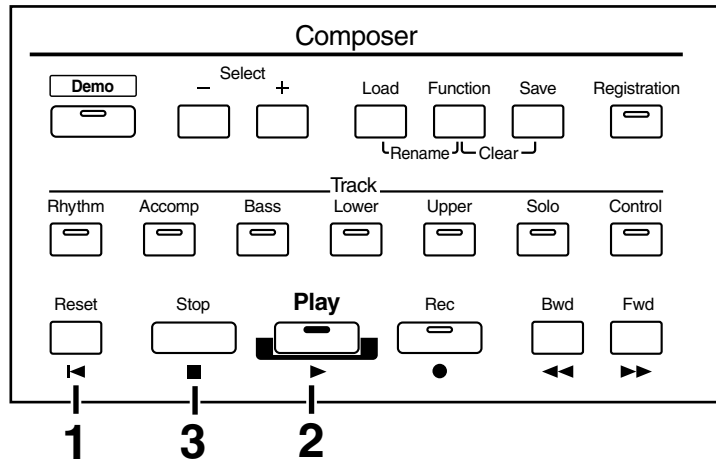
When you press the [Play] button, the metronome will play two measures (bars) of count-in before recording begins. As you listen to the performance song previously recorded, record the Part into a new Track.

- 5. Press the [Stop] button when your recording is completed.**

The track button indicators for which performance data has been recorded will be lit.



Playing Back a Performance Song



- 1. Press the [Reset] button to return to the beginning of the first measure (bar).**

The location at which playback will start will return to the beginning of measure 1. When you wish to play a performance song from a specific point, press the [Bwd] / [Fwd] buttons to select the desired measure (bar).

- 2. Press the [Play] button to start playback.**

After playback reaches the end of the performance, it will stop automatically.

- 3. To stop playback at any point, press the [Stop] button.**



If you press the [Play] button while holding down the [Stop] button, the metronome will play two measures (bars) of count-in before playback starts.



The [Play] and [Stop] functions can be assigned to the foot switch. Each touch of the switch will alternate the operation between the Play and Stop functions (p. 90).



You can specify whether or not the Expression Pedal will affect the playback and what you play while Atelier music data is being played back (p. 81).



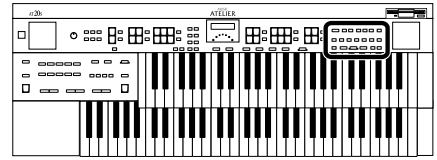
If you use the Rhythm or Automatic Accompaniment immediately after having loaded and played back a song other than an Atelier performance song, such as SMF's, etc., the playback may not sound right (the voices may have changed, etc.) To prevent this from happening, press the [Reset] button before playback.

■ Add a Count Sound to Match the Timing (Count In)

In cases such as when you want to perform in time with a song, you can have a count sound played before playback of the song begins, allowing you to synchronize your own performance with the song.

Playing back a song after playing the count sound is called "Count In."

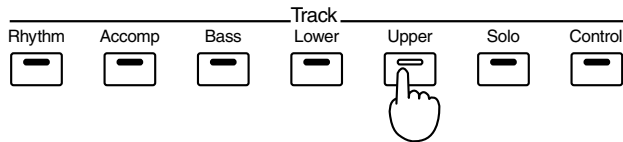
- 1. Hold down the [Stop] button and press the [Play] button.**



Silencing a Specific Track (Track Mute)

The button indicators for tracks in which performances were recorded will be lit. By turning off these track button indicators, you can temporarily silence the sound. This is referred to as "Track Mute."

Example: Muting the sound for Upper Part



1. Press a track button whose indicator is lit to turn the light off.

The track whose indicator was turned off will be muted (silenced).

2. Press the track button once again (indicator lights).

The part that had been muted will return to normal and will be heard.

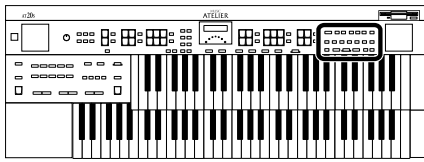
■ Track Assignments When Playing Commercial SMF Music Files

- When you playback without loading (p. 59) the SMF music files

Button	Channel
[Rhythm]	10
[Accomp]	1
[Bass]	2
[Lower]	3
[Upper]	4
[Solo]	5, 6, 7, 8, 9, 11, 12, 13, 14, 15, 16

- When you first load and then playback the SMF music files (p. 72)

Button	Channel
[Rhythm]	10
[Accomp]	Performance data other than 2 and 10
[Bass]	2
[Lower]	Nothing (Performance data from the ATELIER series can be recorded)
[Upper]	Nothing (Performance data from the ATELIER series can be recorded)
[Solo]	Nothing (Performance data from the ATELIER series can be recorded)

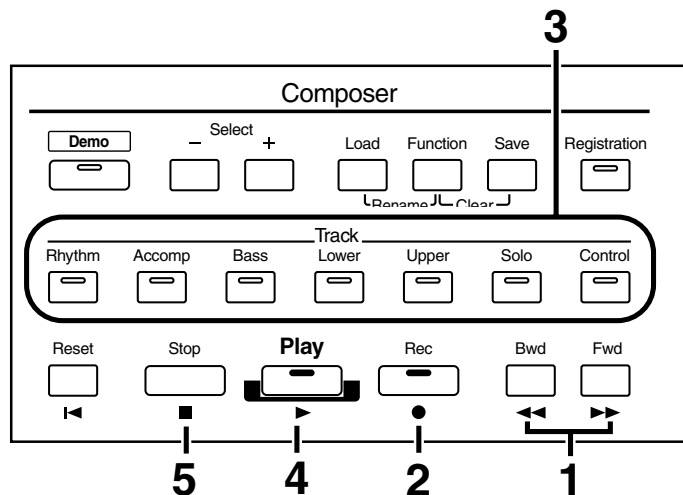


Re-Recording

If you made a mistake in your performance during recording, you can re-record just a portion of the musical data in the track.

NOTE

If you wish to re-record with different settings for voices, tempo, part balance, erase the recorded song (p. 66) and re-record again. If the Control track still contains data from before you re-recorded, the volume or sounds may change during playback.



1. Press the [Reset] button or the [Bwd] / [Fwd] buttons to move to the measure (bar) where you wish to start re-recording.

2. Press the [Rec] button to enter into the recording standby mode.

The [Rec] button indicator will light, and the indicators of the [Play] button and the track buttons of unrecorded tracks will blink. The track buttons of tracks already-recorded will light.

3. Press the Track button which you wish to re-recording (indicator blink).

The song data of the specified Track (with the exception of the Control Track) will be erased as new song data is recorded.

When the indicator of a Track is lit constantly, no song data has been recorded on that Track.

4. Press the [Play] button to start recording.

When you press the [Play] button, the metronome will play two measures (bars) of count-in before recording begins.

5. Press the [Stop] button when your recording is completed.

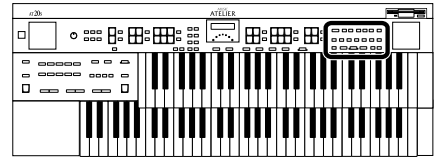
The button indicators of tracks which were re-recorded will change from flashing to being constantly lit.

NOTE

If you wish to keep the existing Expression Pedal data, and record only the panel operations, you can make settings to prevent the operation of the Expression Pedal from being recorded (p. 81).

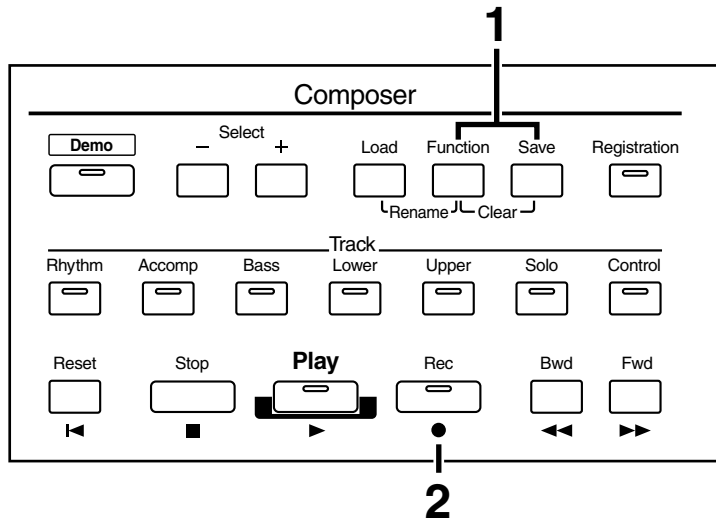
MEMO

You can use punch-in recording (p. 75) to re-record only the area that you specify.



Erasing a Performance Song

If you wish to discard your recording and re-record from the beginning, or if you wish to record a new performance, you must erase the previously-recorded data.



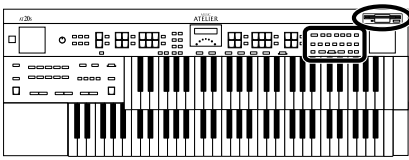
- 1. Press the [Function] and [Save] buttons simultaneously.**

The following message, asking you to confirm your choice, will be displayed.

```
Clear Song Sure?  
Yes:REC No:RST
```

To cancel the procedure, press the [Reset] button.

- 2. If you are sure that you wish to erase the song, press the [Rec] button.**



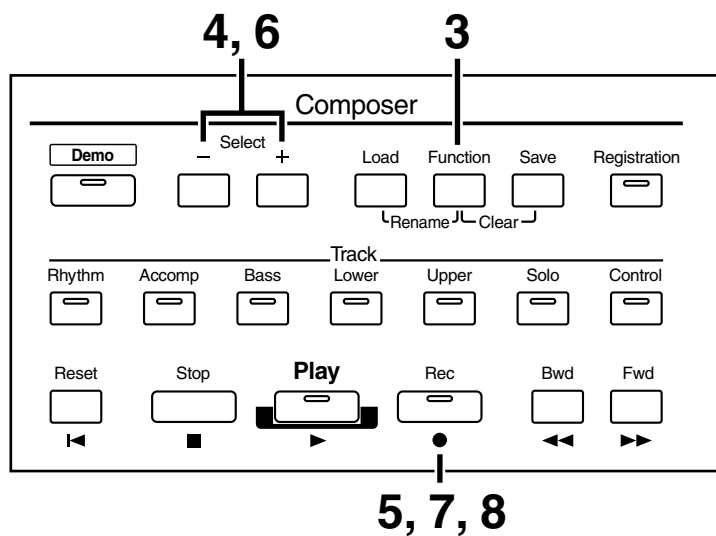
Formatting Disks

Before any floppy disk (new or used) can be used with the AT-20S, it must first be formatted (prepared).

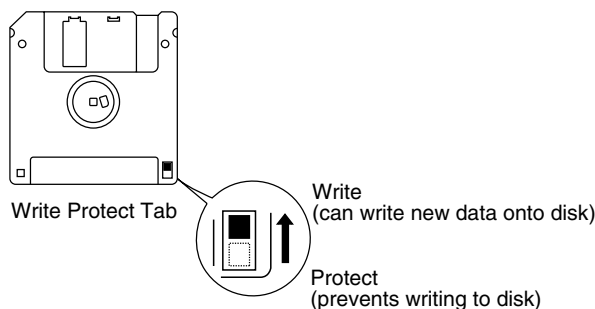
Floppy disks must first be “formatted” (initialized) before they can be used by the AT-20S to store data. “Formatting” is the process of erasing any data which may have been on the disk and making the format of the floppy disk match the format of the device. The AT-20S cannot use a floppy disk that has a format differing from its own format.

NOTE

Formatting a disk will erase any data that may have been stored on it. Carefully check any previously used disk to be sure it doesn't contain any valuable data.



- 1. Make sure that the write protect tab of the floppy disk is in the “Write” (permit) position.**



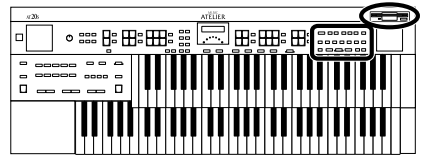
- 2. With the label of the floppy disk facing upward, insert it into the disk drive until it clicks into position.**

The disk drive is located to the upper right of the AT-20S's keyboard.

NOTE

Please DO NOT insert the floppy disk into the gap between the cabinet the lid.

- 3. Press the [Function] button.**



Record and Playback Your Performance

- 4. Press the Select [-] and [+] buttons to select “Disk Utility.”**

```
Disk Utility  █  
Yes:REC
```

- 5. Press the [Rec] button.**

- 6. Press the Select [-] and [+] buttons to select “Format Disk.”**

```
Format Disk  █  
Yes:REC No:RST
```

- 7. Press the [Rec] button.**

The following message, asking you to confirm, will be displayed.

```
Format Sure?  
Yes:REC No:RST
```

To cancel the procedure, press the [Reset] button.

- 8. Press the [Rec] button again to perform the Format.**

While formatting is in progress, the following display appears.

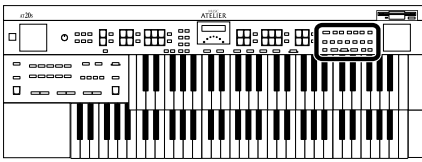
```
Formattin9  
25% 00.....
```

When disk formatting is completed the following screen appears, then basic screen re-appears.

```
Format Disk  
Completed
```

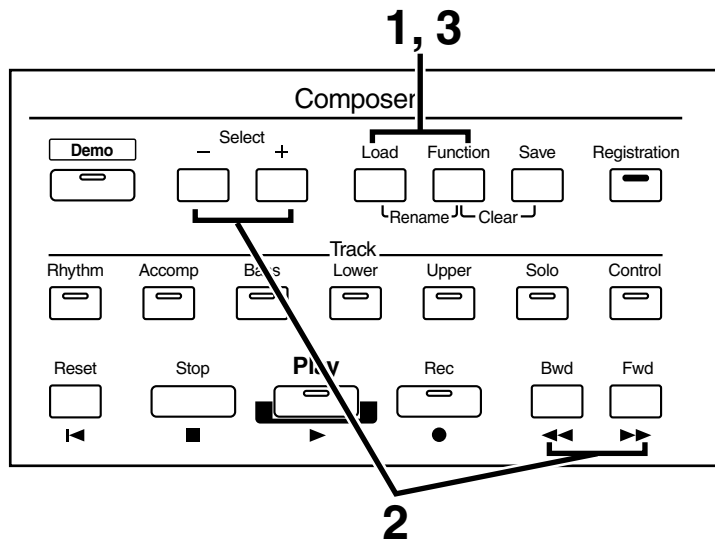
NOTE

Never attempt to remove the floppy disk until formatting is complete.



Changing the Name of a Performance Song (Rename)

A name is automatically assigned to a performance song that you record. However, at some point you may wish to change the name to something more meaningful.



- 1. Press the [Load] and [Function] buttons simultaneously.**
- 2. Press the Select [-] and [+] buttons to move the cursor, and press the [Bwd]/[Fwd] buttons to select a character.**

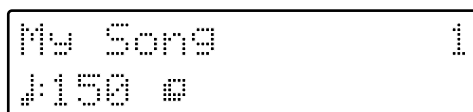
The following characters can be selected when changing a name:

space! " # % & ' () * + , - . / : ; = ? ^ _ A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z 0 1 2 3 4 5 6 7 8 9

To delete a character, press the [Reset] button. A space can be inserted by pressing the [Rec] button.

- 3. To confirm the new name, simultaneously press the [Load] and [Function] buttons once again.**

The new name is now inserted.

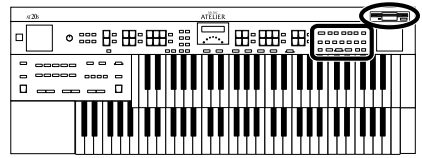


NOTE

It is not possible to save during the Rename procedure.

NOTE

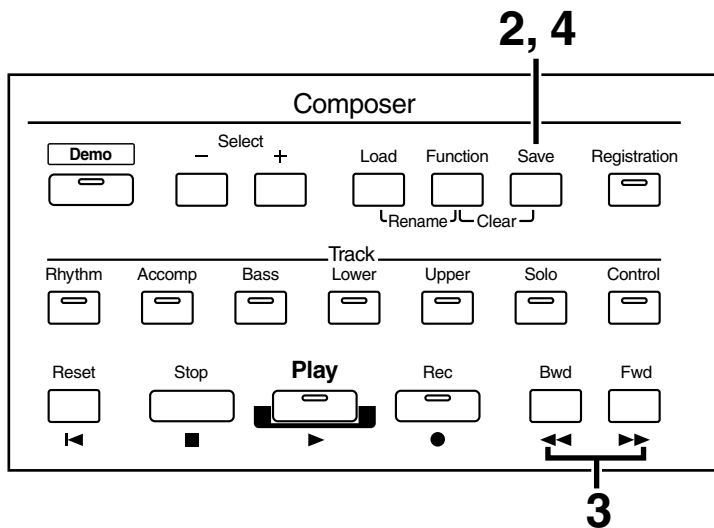
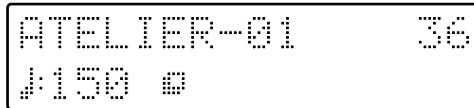
You cannot directly change or edit the name of a performance song stored on a disk. The song must first be loaded (p. 72) into the instrument, edited, and then saved to disk again.



Record and Playback Your Performance

Saving Performance Songs onto Floppy Disk

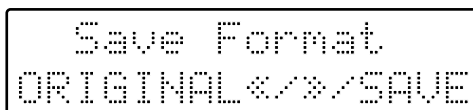
The performance data that you recorded will disappear when the power of the AT-20S is turned off. If you wish to keep the performance data, you can save it on a floppy disk. If the performance data has never been saved to a floppy disk, a "⏏" symbol appears in the display. When the performance data is saved to a floppy disk, this symbol will no longer be displayed.



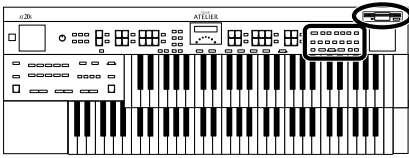
1. Insert a floppy disk formatted (p. 67) on the AT-20S into the disk drive.
2. Press the [Save] button to save the performance.
3. Press the [Bwd] / [Fwd] button to select the format.

You can select either "ORIGINAL" or "SMF" format.

ORIGINAL Save data in Atelier format
SMF Save data in SMF format



SMF (Standard MIDI File) is a data format that was created as a standardized way to exchange music data between devices made by different manufacturers.



4. Press the [Save] button to confirm the format.

While performance data is being saved to the floppy disk, the following display appears.

```
ATELIER-01      36
Saving...
```

NOTE

Music data that was saved in Atelier format cannot be played back correctly on instruments other than the Atelier series.

NOTE

Saving performance data in SMF format (SMF) requires a longer time than saving it in Atelier format (ORIGINAL).

Performance data that was saved in SMF format will be indicated by a “:” symbol.

```
My Song      *  1
:180
```

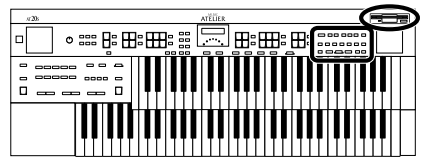
● If the following screen will appear

If the floppy disk already contains performance data of the same name, the following display will appear.

```
Overwrite Song ?
Yes:REC No:RST
```

○ If you wish to update the contents of the performance data

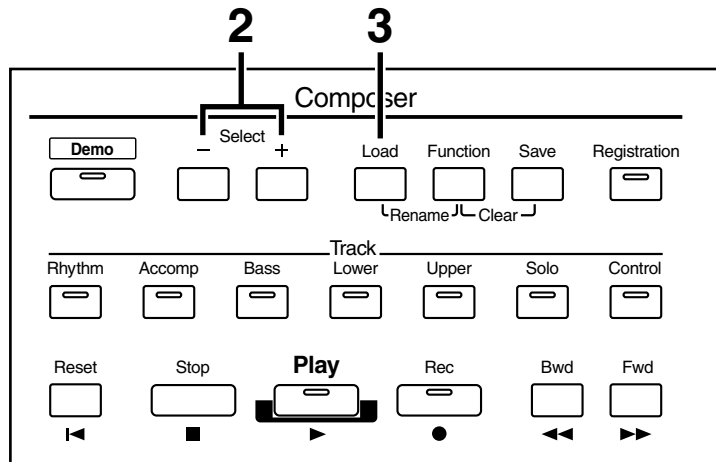
1. Press the [Rec] button.
-
- ### ○ If you wish to save the data without erasing the performance data already on floppy disk you must rename the song
1. Press the [Reset] button to cancel saving.
 2. Change the name (p. 69), and perform the Save procedure once again.



Record and Playback Your Performance

Loading Performance Songs Into the AT-20S

To edit (p. 83) or re-record a performance song that is stored on a floppy disk, you must first load that song into the instrument.

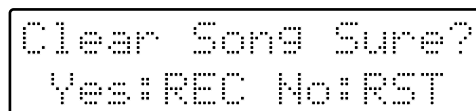


- 1.** Insert the floppy disk containing performance songs into the disk drive.
- 2.** Press the Select [-] or [+] button to select the performance song you wish to load.
- 3.** Press the [Load] button.

The selected performance data will be loaded into internal memory.

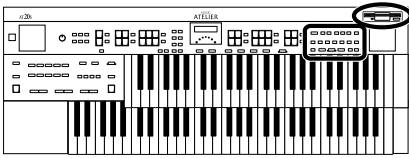
● If the following screen will appear

The following message below is shown when the performance song in the unit has not been saved to floppy disk.



○ If you wish to erase the performance song

- 1.** Press the [Rec] button.
- If you wish to save the performance song on a floppy disk
- 1.** Press the [Reset] button to cancel the procedure.
 - 2.** Save the song onto a floppy disk (p. 70).



If you load a song other than Atelier performance songs (SMF music files, etc.), the Rhythm (drum) Part will automatically be loaded into the Rhythm track, and the other Parts loaded into the Accomp and Bass tracks.



If loading is canceled because the memory limit has been reached, the following message will be displayed:

Memory Full

■ Layering a New Recording onto SMF Music Files

You can load a SMF music file into the AT-20S and play it back while you record your own playing as an additional layer.

- 1. Insert a floppy disk containing commercially available SMF music files into the floppy disk drive.**
- 2. Press the Select [-] [+] buttons to select the music file that you wish to load into the AT-20S.**
- 3. Press the [Load] button.**

The selected music file will be loaded.

When SMF music files is loaded into the AT-20S, it will be stored in the following tracks;

Rhythm The Rhythm performance (channel 10)

Bass The Bass performance (channel 2)

Accomp Performance data other than the Rhythm and Bass (except channels 2 and 10)

- 4. Make the panel settings that you wish to record.**
- 5. Press the [Bwd] button and [Fwd] button to move to the measure at which you wish to begin recording.**
- 6. Press the [Rec] button to enter record-ready mode.**

The [Rec] button indicator will light, and the [Play] button indicator will blink.
- 7. Press the [Play] button to begin recording.**

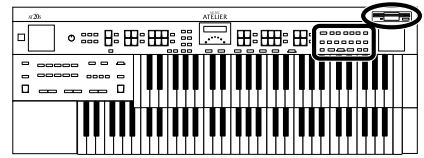
As you record, the music file that was loaded into the AT-20S will play back.
- 8. Press the [Stop] button to stop recording.**



The performance data you recorded can be saved on a floppy disk (p. 70).



Commercially sold music files can also be loaded into the AT-20S, but for reasons of copyright protection, cannot be saved in SMF format.



Deleting Performance Songs Stored on Disk

Follow the steps below to erase a performance song that was saved onto a floppy disk.

- 1.** Insert the floppy disk containing performance songs into the disk drive.
- 2.** Press the [Function] button.
- 3.** Press the Select [-] or [+] button to select “Disk Utility.”

```
Disk Utility #  
Yes#REC
```

- 4.** Press the [Rec] button.
- 5.** Press the Select [-] or [+] button to select “Delete Song.”

```
# Delete Song  
Yes#REC No#RST
```

- 6.** Press the [Rec] button.
To cancel the procedure, press the [Reset] button.
- 7.** Using the [Bwd]/[Fwd] buttons, select the performance song to be erased.
- 8.** Press the [Rec] button.

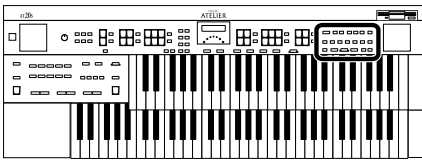
You will see the following:

```
ATELIER-01  S01  
Del Sure?REC/RST
```

To cancel the procedure, press the [Reset] button.

- 9.** To delete the performance song, press the [Rec] button again.

When erasing is completed, the basic screen reappears.



Re-Recording Part of Your Performance (Punch-in Recording)

After you have recorded a performance, you can re-record a specified portion of the performance. With this method, you listen to the recorded performance, and re-record just the desired area. This recording method is called "Punch-in Recording."

To use Punch-in Recording, you can...

- Turn on the Function menu item "Punch In/Out," and specify the area that you wish to re-record.



- Use the Composer to play back the recorded performance, and re-record just a specific portion.

○ Specify the Area that You Wish to Re-record

1. Press the [Function] button.

2. Press the Select [-] and [+] buttons to select "Punch In/Out."

```
▣ Punch In/Out ▣  
Yes: REC
```

3. Press the [Rec] button.

4. Press the [Bwd] / [Fwd] buttons to select "ON."

```
Punch In/Out  
ON <*/*/REC
```

ON Punch-in Recording

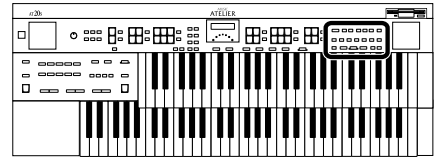
OFF Normal Recording

5. Press the [Rec] button.

6. Press the [Bwd] / [Fwd] buttons to select "from" (the first measure that you wish to re-record).

```
Punch I/O Meas.  
from: 2 <*/*/REC
```

Record and Playback Your Performance



7. Press the [Rec] button.
8. Press the [Bwd] / [Fwd] buttons to select “for” (the number of measures that you wish to re-record).

Punch I/O Meas.
for: 4 </>

9. Press the [Function] or [Display/Exit] button.

○ Re-record While You Listen to the Song

10. Enter the recording standby mode by pressing the [Rec] button.
11. Press the Track button which you wish to re-record (indicator blink).
12. Press the [Play] button.

When you press the [Play] button, the metronome will play two measures (bars) of count-in before recording begins.

When you reach the first measure of the specified area, recording will begin. When the specified area ends, recording will end, and playback will resume.

- While the song is playing back or recording, the [Rec] button’s indicator will be lit as follows.

While the performance is playing back	The [Rec] button’s indicator will blink
While you are re-recording	The [Rec] button’s indicator will light constantly

NOTE

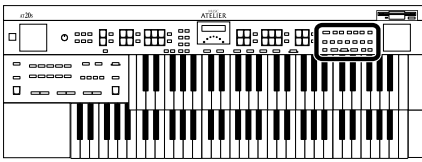
When recording has ended for the specified area and the data is once again playing back, the [Rec] button’s indicator will resume flashing.

13. Press the [Stop] button to stop the song.

The indicator of the track button which recorded the performance will light.

MEMO

When Punch-in Recording ends, the Function menu item “Punch In/Out” will return to OFF (normal recording). If you wish to use punch-in recording once again, you must make the “Punch In/Out” setting once again.



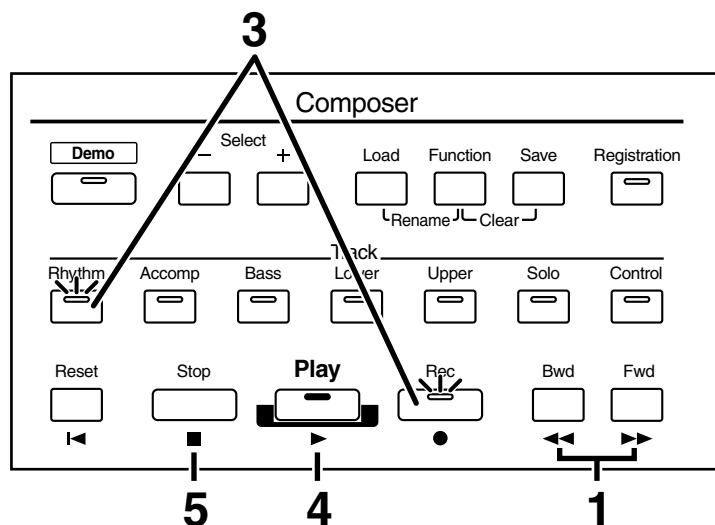
Recording and Layering Drum Parts (Loop Recording)

You can repeatedly record over a specified area to build up multiple performances. This type of recording is called “Loop Recording.”

This recording method is convenient when you wish to layer drum sounds individually for the Rhythm part.

NOTE

“Loop Recording” can be used only when recording the Rhythm part.



- 1.** Pressing the [Bwd] and [Fwd] buttons, move to the measure where you wish to start Loop Recording.
- 2.** Press the [Drums/SFX] button to select a Drum Set or Sound Effect Set (p. 28).
- 3.** Enter the recording standby mode by pressing the [Rec] button and [Rhythm] button.

The [Play] button and [Rhythm] button indicators will blink.

- 4.** Press the [Play] button.

When you press the [Play] button, the metronome will play two measures (bars) of count-in before recording begins.

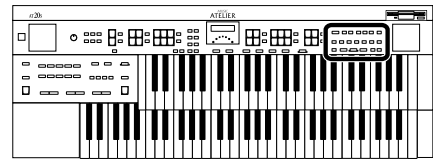
When recording reaches the end of the measure, it will return to the beginning of the measure, allowing you to continue recording to layer additional notes.



You can change the number of measures over which Loop Recording will occur. Please refer to “Changing the Number of Measures for Loop Recording” (p. 78).

- 5.** Press the [Stop] button to stop recording.

Record and Playback Your Performance



○ Changing the Number of Measures for Loop Recording

With the initial settings, Loop Recording will occur over one measure. In the Function menu you can change the number of measures over which Loop Recording will occur.

- 1. Press the [Function] button.**
- 2. Press the Select [-] and [+] buttons to select “Loop Recording.”**



The Number of Measures for Loop Recording

- 3. Press the [Bwd] button and [Fwd] button to select the number of measures for Loop Recording.**
- 4. Press the [Function] or [Display/Exit] button.**

The number of measures for Loop Recording has now been specified.

Use the procedure for Loop Recording to begin recording.

Using Song with a Different Tempo Than That of the Performance Song

- 1. Insert the floppy disk containing the performance song whose tempo you want to change into the disk drive.**
- 2. Use the Select [-] or [+] button to select the performance data you wish to load.**
- 3. Press the [Load] button.**


The selected performance data will be loaded into internal memory.
- 4. Determine the tempo with the Tempo [◀] and [▶] buttons.**
- 5. Hold down the [Reset] button and press the [Rec] button.**

Settings for the Composer

Changing the Key When Playing Back Songs

SMF Music files or a performance that you recorded can be transposed for playback.

1. Press the [Function] button.
2. Using the Select [-] and [+] buttons, select “Play Transpose.”



The LCD screen displays the menu item "Play Transpose" with a cursor on the left and right sides. Below the text, the number "0" and a left-right arrow icon are visible.

3. Press the [Bwd]/[Fwd] buttons to select the value for transpose.

Each press of the [Bwd]/[Fwd] buttons transpose the key by a semitone.

You can transpose the song within a range of -24 to +24 semitone.

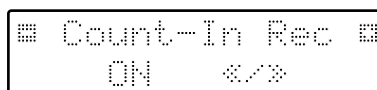
To return to the basic screen, press the [Function] button or the [Display/Exit] button.

→ You can transpose the keyboard for performance. For details refer to “Transposing to a Different Key (Transpose Buttons)” (p. 46).

Count-in Recording

This setting (ON/OFF) determines whether or not a metronome count-in (2 measures) will be heard after pressing the [Play] button on recording. The count-in helps you to establish the tempo before you begin playing.

1. Press the [Function] button.
2. Using the Select [-] and [+] buttons, select “Count-In Rec.”



The LCD screen displays the menu item "Count-In Rec" with a cursor on the left and right sides. Below the text, the word "ON" and a left-right arrow icon are visible.

3. Press the [Bwd]/[Fwd] buttons to turn it ON or OFF.

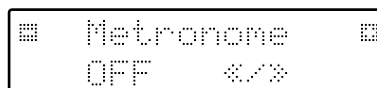
ON A two-measure count will sound before recording
OFF No count will sound before recording

To return to the basic screen, press the [Function] button or the [Display/Exit] button.

Changing the Metronome Setting

This setting determines whether or not the metronome will sound.

1. Press the [Function] button.
2. Using the Select [-] and [+] buttons, select “Metronome”

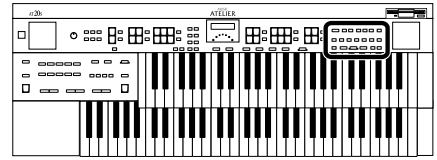


The LCD screen displays the menu item "Metronome" with a cursor on the left and right sides. Below the text, the word "OFF" and a left-right arrow icon are visible.

3. Press the [Bwd]/[Fwd] buttons to select OFF, REC, or ON.

OFF Not heard at all
REC Heard only while recording
ON Heard constantly

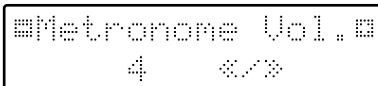
To return to the basic screen, press the [Function] button or the [Display/Exit] button.



Adjusting the Metronome Volume

You can adjust the volume of the metronome.

1. Press the [Function] button.
2. Using the Select [-] and [+] buttons, select “Metronome Vol.”



3. Press the [Bwd]/[Fwd] buttons to select the desired volume level (1–10).

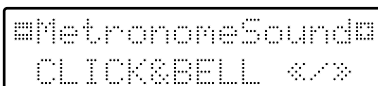
Increasing the value will raise the volume of the metronome.

To return to the basic screen, press the [Function] button or the [Display/Exit] button.

Changing the Sound of the Metronome

You can choose one of 4 different sounds for the metronome.

1. Press the [Function] button.
2. Press the Select [-] and [+] buttons to select “Metronome Sound.”



3. Press the [Bwd] / [Fwd] buttons to select the type of sound for the metronome.

CLICK&BELL Conventional metronome sound
ELECTRONIC Electronic metronome sound
VOICE ENG. Human voice (English)
VOICE JPN. Human voice (Japanese)

To return to the basic screen, press the [Function] button or the [Display/Exit] button.

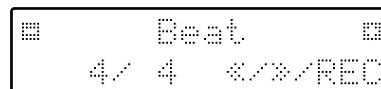
→ This setting remains stored in memory even while power is turned off.

Setting the Beat

This setting determines the beat to be used when recording performance songs.

Numerator 1 or higher (denominator x 2-1)
Denominator 2, 4, 8, 16

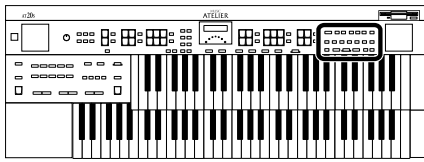
1. Press the [Function] button.
2. Using the Select [-] and [+] buttons, select “Beat.”



3. Press the [Bwd]/[Fwd] buttons to set the numeric value for the numerator.
4. To set the denominator, press the [Rec] button to move the cursor from the numerator to the denominator.
Press the [Rec] button again if you wish to return to the numerator.
5. Press the [Bwd]/[Fwd] buttons to set the numeric value for the denominator.

To return to the basic screen, press the [Function] button or the [Display/Exit] button.

- * When recording your performance with playing Rhythm performances or Automatic Accompaniment, the beat is set automatically.
- * You cannot change the beat of previously recorded songs.



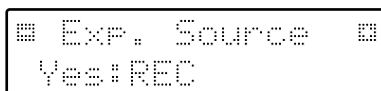
Changing the Function of the Expression Pedal (Exp. Source)

Specify how the Expression Pedal will function when your performance is being recorded and when ATELIER song files are being played back.

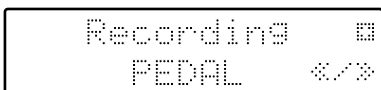
■ Function During Recording

Specify whether Expression Pedal operations will be recorded or not while your performance is being recorded.

1. Press the [Function] button.
2. Press the [-] or [+] Composer Select button to select “Exp. Source.”



3. Press the [Rec] button.
4. Press the Select [-] or [+] button to select “Recording.”
5. Press the [Bwd]/[Fwd] buttons to specify the pedal function.



PEDAL Expression Pedal movements will be recorded. The previous recording will be erased as new songs are recorded.

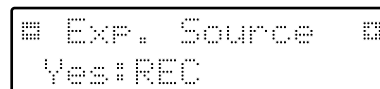
COMPOSER Expression Pedal movements will not be recorded. The previous data will remain without being erased.

To return to the basic screen, press the [Function] button or the [Display/Exit] button.

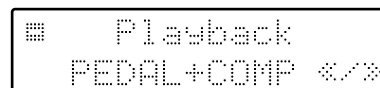
■ Function During Playback

You can specify whether or not the Expression pedal will function while ATELIER song files are being played back.

1. Press the [Function] button.
2. Press the Select [-] or [+] button to select “Exp. Source.”



3. Press the [Rec] button.
4. Press the Select [-] or [+] button to select “Playback.”
5. Press the [Bwd]/[Fwd] buttons to specify the pedal function.

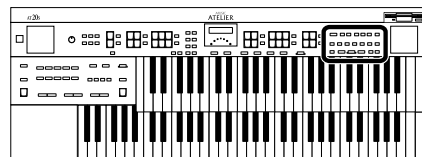


PEDAL+COMP Expression pedal will function. Expression pedal recording within the song file will also be effective.

COMPOSER Expression pedal will not function. The Expression pedal recording within the song file will be effective.

PEDAL Expression pedal will function. The Expression Pedal recording within the song file will be ignored.

To return to the basic screen, press the [Function] button or the [Display/Exit] button.



Muting Individual Channels of Performance Data

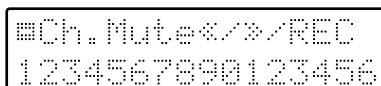
You can mute (silence) individual channels of performance data of SMF music files (sold separately).

* *It is not possible to mute the performance that you play on the AT-20S (except for the Rhythm and Automatic Accompaniment).*

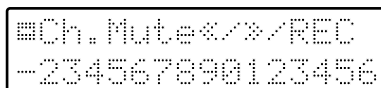
1. Press the [Function] button.
2. Press the Select [-] [+] buttons to select "Ch.Mute."

3. Press the [Bwd] / [Fwd] buttons to select the channel that you wish to mute.

From the left, these are "1 Ch. (channel 1), 2 Ch. ... 15 Ch., and 16 Ch."



4. Press the [Rec] button.



The number will change to "-", indicating that the corresponding channel has been muted.

5. Once again press the [Rec] button, and muting will be canceled.

To return to the basic screen, press the [Function] button or the [Display/Exit] button.

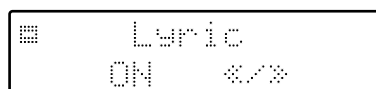
* *Channel mute will be defeated when you perform the following operations.*

- Press the Select [-] and [+] buttons to select different performance data.
- Press the [Demo] button to play performance data.

Switching the Display of Lyrics On or Off

Some music files have Lyrics included and these Lyrics can be displayed on the screen. You can turn on or off the lyrics display of such music files.

1. Press the [Function] button.
2. Press the Select [-] and [+] buttons to select "Lyric."



3. Press the [Bwd] / [Fwd] buttons to switch the lyric display "ON (displayed)" or "OFF (not displayed)."

To return to the basic screen, press the [Function] button or the [Display/Exit] button.

* *If you press a voice select button while playing back music files that contains lyrics, the display screen will switch, and the lyrics will no longer be displayed. To re-display the lyrics, press the [Play] button once again.*

→ *This setting remains stored in memory even while power is turned off.*

Edit Menu (Editing Song Files)

Song files that you record can be edited using five different functions.

The following editing functions are provided.

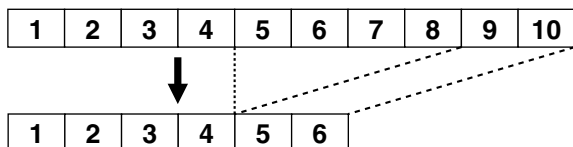
Delete measure	Deleting a Specific Measure (p. 83).
Delete Track	Delete the Recording from a Track (p. 84).
Erase Event	Erase Recording (p. 85).
Copy	Copying Measures (p. 86).
Quantize	Correct Timing Inaccuracies (p. 87).

* Once you edit data, it cannot be restored to its original condition. As a precaution against accidents, we recommend that you save your song to a floppy disk before you edit it.

Delete a Specific Measure (Delete Measure)

This function lets you delete specified measures (bars) of the song from all tracks. When any part of the song file is deleted, subsequent recording will be moved forward to fill the gap.

Example: To delete measures (bars) 5-8



1. Press the [Function] button.
2. Press the Select [-] [+] buttons to select "Edit Menu."

```
 Edit Menu
Yes#REC
```

3. Press the [Rec] button.
4. Press the Select [-] [+] buttons to select "Delete Measure."

```
Delete Measure
Yes#REC No#RST
```

To cancel the operation, press the [Reset] button.

5. Press the [Rec] button.
6. Press the [Bwd]/[Fwd] buttons to specify "from" (the delete start measure).

```
Delete Measure
from: 5 </>/REC
```

7. Press the [Rec] button.
8. Press the [Bwd]/[Fwd] buttons to specify "for" (number of measures from the delete start measure).

```
Delete Measure
for: 4 </>/REC
```

If you wish to delete from a certain measure (bar) to the last measure (bar), set for "ALL".

9. To execute the delete operation, press the [Rec] button once again.

The following screen appears.

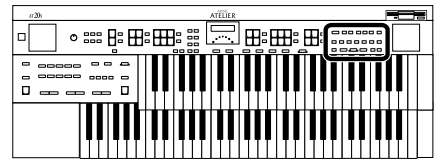
```
Delete Measure?
Yes#REC No#RST
```

To cancel the operation, press the [Reset] button.

10. Press the [Rec] button to start deleting the measure.

When the recording has been deleted, the basic screen reappears.

Edit Menu (Editing Song Files)



Delete the Recording from a Track (Delete Track)

This function lets you delete the recording from a track that you specify.

What is a Track?

The AT-20S has seven tracks. These tracks record the following performance data.

Track	Recorded Performances
RHYTHM	Rhythm performance, Drums/SFX
ACCOMP	Automatic Accompaniment (except Bass and Rhythm performance), SMF music files (except Bass and Rhythm performance)
BASS	Pedal Bass voice, Bass part of the Automatic Accompaniment, Bass part of the SMF music files
LOWER	Lower voice
UPPER	Upper voice
SOLO	Solo voice
CONTROL	Panel operations (ex.: switching the buttons), Expression pedal operations, Part Balance Volume

* SMF music files (except for data that was saved by the ATELIER series) stores the RHYTHM track in channel 10, and the remaining musical data in the ACCOMP and BASS tracks (p. 64).

1. Press the [Function] button.
2. Press the Select [-] [+] buttons to select "Edit Menu."
3. Press the [Rec] button.
4. Press the Select [-] [+] buttons to select "Delete Track."

```
■ Delete Track ■  
Yes:REC No:RST
```

To cancel the operation, press the [Reset] button.

5. Press the [Rec] button.

6. Press the [Bwd]/[Fwd] buttons to select the track that you wish to delete.

```
Delete </>/REC  
Track : RHYTHM
```

Settings: RHYTHM, ACCOMP, BASS, LOWER, UPPER, SOLO, CONTROL

7. Press the [Rec] button.

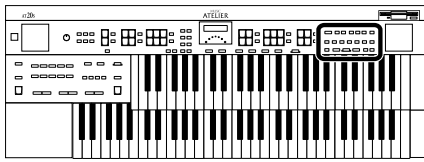
The following display appears.

```
Delete Track?  
Yes:REC No:RST
```

To cancel the operation, press the [Reset] button.

8. Press the [Rec] button once again to execute the Delete Track function.

When the recording has been deleted, the basic screen reappears.



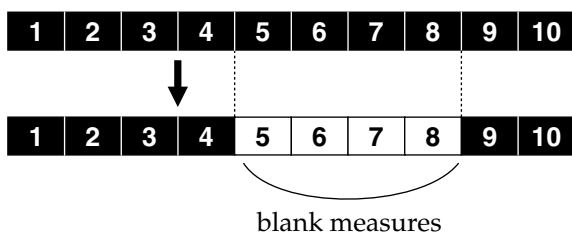
Erase Recording (Erase Event)

You can erase a specified portion of the performance in a specified area without making the song shorter. This is called the "Erase" function.

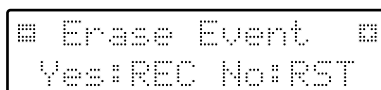
As an alternative to the method of erasing all performance data in a specified area, you can erase the following contents of the performance.

ALL	All recording
NOTE	Notes played on the keyboard
CONTROL	Panel operations (except voice settings), Part Balance Volume
EXPRESSION	Expression pedal recording
VOICE	Voice settings
TEMPO	Tempo setting

Example: Erasing measures (bars) 5-8

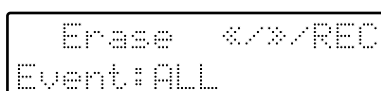


1. Press the [Function] button.
2. Press the Select [-] [+] buttons to select "Edit Menu."
3. Press the [Rec] button.
4. Press the Select [-] [+] buttons to select "Erase Event."



To cancel the operation, press the [Reset] button.

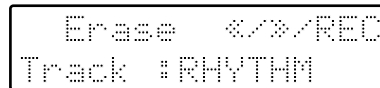
5. Press the [Rec] button.
6. Press the [Bwd]/[Fwd] buttons to select the data to be erased.



Settings: ALL, NOTE, CONTROL, EXPRESSION, VOICE, TEMPO

7. Press the [Rec] button.
8. Press the [Bwd] / [Fwd] buttons to select the track whose recording you wish to delete.

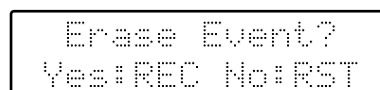
If you have selected EXPRESSION and TEMPO as the type of recording to be erased, the Track selection will not be available because the expression control recording is common to all tracks.



Settings: ALL, RHYTHM, ACCOMP, BASS, LOWER, UPPER, SOLO

If you select "ALL", the recording will be erased from all tracks.

9. Press the [Rec] button.
 10. Press the [Bwd] / [Fwd] buttons to specify "from" (erase start measure).
 11. Press the [Rec] button.
 12. Press the [Bwd] / [Fwd] buttons to specify "for" (number of measures from the erase start measure).
- If you wish to erase to the last measure (bar), set "for: ALL."
13. Press the [Rec] button.
- The following screen appears.

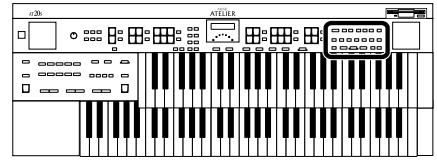


To cancel the operation, press the [Reset] button.

14. Press the [Rec] button once again to execute the Erase function.

When erasure is complete, the basic screen reappears.

Edit Menu (Editing Song Files)

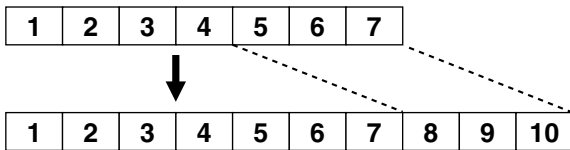


Copy Measures (Copy)

This function lets you copy a portion of recorded song to a different measure (bar) location in the same track.

* If a recording already exists at the copy destination, it will be erased.

Example: If you wish to copy measures (bars) 5–7 to measure (bar) 8

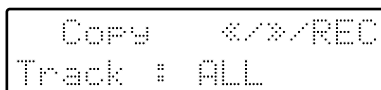


1. Press the [Function] button.
2. Press the Select [-] [+] buttons to select “Edit Menu.”
3. Press the [Rec] button.
4. Press the Select [-] [+] buttons to select “Copy.”



To cancel the operation, press the [Reset] button.

5. Press the [Rec] button.
6. Press the [Bwd]/[Fwd] buttons to select the track whose recording you wish to copy.



Settings: ALL, RHYTHM, ACCOMP, BASS, LOWER, UPPER, SOLO, CONTROL

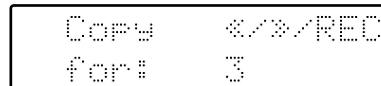
If you select “ALL”, the recording in all the tracks will be copied.

7. Press the [Rec] button.
8. Press the [Bwd] / [Fwd] buttons to specify “from” (copy start measure).



9. Press the [Rec] button.

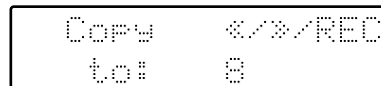
10. Press the [Bwd] / [Fwd] buttons to specify “for” (number of measures from the copy start measure).



To specify until the last measure (bar), set “for: ALL”.

11. Press the [Rec] button.

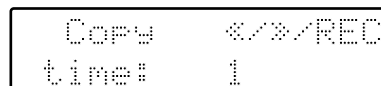
12. Press the [Bwd] / [Fwd] buttons to specify “to” (copy destination measure).



If you select “END,” the data will be copied following the end of the last measure.

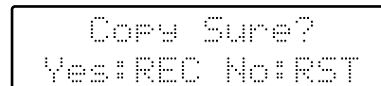
13. Press the [Rec] button.

14. Press the [Bwd] / [Fwd] buttons to specify “time” (number of times to copy the data).



15. Press the [Rec] button.

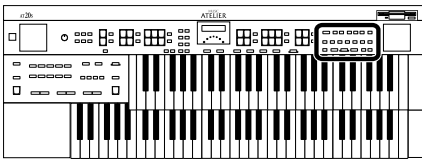
The following screen appears.



To cancel the operation, press the [Reset] button.

16. To execute the Copy function, press the [Rec] button once again.

When copying is complete, the basic screen reappears.

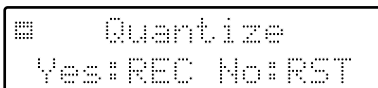


Correct Timing Inaccuracies (Quantize)

Quantize is a function that corrects the timing of notes to a specified resolution.

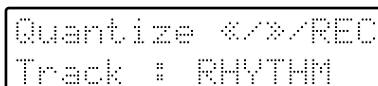
For example even if you intend to play at quarter-note timing, the notes may be slightly earlier or later than precise quarter-note intervals. In such cases, you can quantize to quarter note (1/4) timing to adjust the timing of the notes to precise quarter-note intervals.

1. Press the [Function] button.
2. Press the Select [-] [+] buttons to select "Edit Menu."
3. Press the [Rec] button.
4. Press the Select [-] [+] buttons to select "Quantize."



To cancel the operation, press the [Reset] button.

5. Press the [Rec] button.
6. Press the [Bwd]/[Fwd] buttons to select the track whose recording you wish to quantize.



Settings: ALL, RHYTHM, ACCOMP, BASS, LOWER, UPPER, SOLO

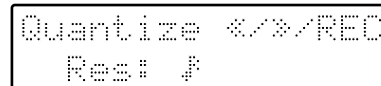
If you select "ALL", the recording in all the tracks will be quantized.

7. Press the [Rec] button.
8. Press the [Bwd] / [Fwd] buttons to specify "from" (quantize start measure).
9. Press the [Rec] button.
10. Press the [Bwd] / [Fwd] buttons to specify "for" (number of measures from the quantize start measure).

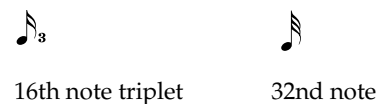
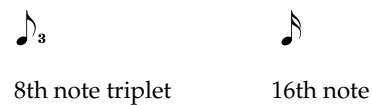
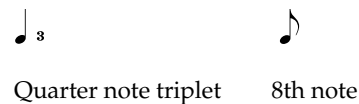
To specify the recording to the last measure (bar), set "for: ALL".

11. Press the [Rec] button.

12. Press the [Bwd] / [Fwd] button to specify "Res" (timing to which notes will be adjusted).

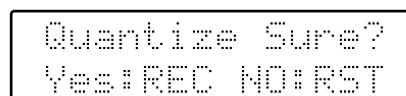


"Res" (timing to which notes will be adjusted) can be set to the following values.



13. Press the [Rec] button.

The following display appears.



To cancel the operation, press the [Reset] button.

14. To execute the Quantize function, press the [Rec] button once again.

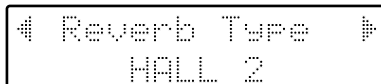
When quantization is completed, the basic screen reappears.

Adjusting the Effects

Changing the Reverb Type

You can select from the following 11 types of Reverb:

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Reverb Type.”



3. Press the Value [-] and [+] buttons to select a Reverb type.

ROOM 1	Reverberation of a small room
ROOM 2	Reverberation of a small club
ROOM 3	Reverberation of a large room
HALL 1	Reverberation of a large concert hall
HALL 2	Reverberation of a small concert hall
SMALL CHURCH	The reverberation of a small church
LARGE CHURCH	The reverberation of a large church
CATHEDRAL	The reverberation of a cathedral
PLATE	A bright, metallic Reverberation
DELAY	An echo-like sound repeated several times
PAN DELAY	Similarly to the above but where the sound is panned between the left and right speakers

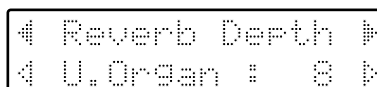
To return to the basic screen, press the [Utility] or [Display/Exit] button.

* It is not possible to modify the delay time (delay interval) when “PAN DELAY” is selected.

Changing the Depth of the Reverb

The depth of the Reverb can be set (0–10) for the following Parts. You can make independent settings for each Part.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Reverb Depth.”



3. Press the Part [◀] and [▶] buttons to select the part whose reverb depth you wish to adjust.

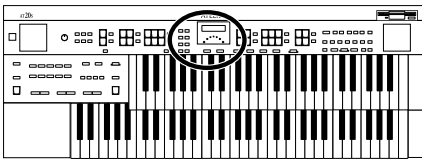
Part **Accomp (Automatic Accompaniment except Bass), Rhythm, Drums/SFX, A.Bass (Bass part of Automatic Accompaniment), Pedal, L.Organ, L.Orch, U.Organ,U.Orch, Solo**

4. Press the Value [-] and [+] buttons to adjust the setting.

Settings 0 – 10
 AUTO (Accomp, Rhythm, A.Bass)

For the three Parts of the Accomp, Rhythm and Accompaniment Bass, you have the option of selecting the “AUTO” setting. Parts for which “AUTO” is selected will be set to the Reverb Depth that is most suitable for the Rhythm currently selected.

To return to the basic screen, press the [Utility] or [Display/Exit] button.



Changing the Wall Type

By changing the type of reverb (p. 88) you can experience the feeling of performing in various different locations, and by changing the Wall Type (wall material) you can make further adjustments to the way in which reverberation occurs.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Wall Type.”

```
◀ Wall Type ▶
      WOOD
```

3. Press the Value [-] and [+] buttons to select a Wall type.

DRAPERY	Pleated curtain
CARPET	Carpet
ACOUSTIC TILE	Acoustical tile, sound-absorptive tile
WOOD	Wood
BRICK	Brick
PLASTER	Plaster
CONCRETE BLOCK	Concrete block
MARBLE	Marble

To return to the basic screen, press the [Utility] or [Display/Exit] button.

Sustain Effect

Sustain allows you to add a Sustain effect or decay to each voice after the keys are released.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Sustain.”

```
◀ Sustain ▶
      Upper : OFF ▶
```

3. Press the Part [◀] and [▶] buttons to select the part whose sustain you wish to adjust.

Keyboard Upper, Lower, Pedal

4. Press the Value [-] and [+] buttons to adjust the setting.

ON The Sustain effect is applied to the voices
 OFF The Sustain effect is not applied to the voices

To return to the basic screen, press the [Utility] or [Display/Exit] button.

Changing the Sustain Length

The sustain length can be set independently (SHORT, MIDDLE (Medium) or LONG) for the Upper and Lower keyboards and Bass Pedalboard. You can make a separate setting for each keyboard.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Sustain Length.”

```
◀ Sustain Length ▶
      Upper : LONG ▶
```

3. Press the Part [◀] and [▶] buttons to select the part whose sustain length you wish to adjust.

Keyboard Upper, Lower, Pedal

4. Press the Value [-] and [+] buttons to adjust the setting.

Settings SHORT, MIDDLE, LONG

To return to the basic screen, press the [Utility] or [Display/Exit] button.

Various Other Settings

Turning Initial Touch On/Off (Initial Touch)

Initial Touch is a function that translates the force used in playing the keys into a directly proportional amount of volume. It can be switched ON/OFF independently for the Upper and Lower Keyboards.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select "Initial Touch."

```
Initial Touch ▶
Upper : ON ▶
```

3. Press the Part [◀] and [▶] buttons to select "Initial Touch Upper," "Initial Touch Lower."

Part Upper, Lower

4. Press the Value [-] and [+] buttons to switch the Initial Touch "ON" or "OFF."

ON The harder you play the key, the higher the volume. Some voices switches the sound depending on the strength with which you play the keyboard.

OFF Volume remains constant regardless of how hard you play.

To return to the basic screen, press the [Utility] or [Display/Exit] button.

Changing the Function of the Foot Switch

You can select any of the following functions and assign them to Foot Switch.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select "Foot Switch."

```
◀ Foot Switch ▶
GLIDE
```

3. Press the Value [-] and [+] buttons to select the function for the foot switch.

To return to the basic screen, press the [Utility] or [Display/Exit] button.

Function

Description

ROTARY FAST/SLOW

Switch the Rotary speed between "FAST" and "SLOW."

GLIDE

While the Foot Switch is pressed, the pitch will temporarily be lowered, and will gradually return to normal when you release the Foot Switch.

LEADING BASS

The Leading Bass function will operate only while you continue pressing the Foot Switch. When the Leading Bass function is enabled, the lowest note of the chord you play on the Lower keyboard will be used as the bass note (the bottom note of the chord).

RHYTHM START/STP

Start/Stop the Rhythm.

COMP PLAY/STOP

The same function as the Composer [Play] button and [Stop] button. Each time you press the Foot Switch, the performance data will play back or stop.

INTRO/ENDING

Play an Intro or Ending.

FILL IN TO VAR.

After inserting a Fill-In, playback will switch to the variation pattern.

FILL IN TO ORIG.

After inserting a Fill-In, playback will switch to the original pattern.

ORCHESTRATOR

Switch the Style Orchestrator button. If the Style Orchestrator [Basic] button or [Advanced2] button is selected, the [Basic] and [Advanced2] buttons will be switched. If the [Advanced1] button or [Full] button is selected, the [Advanced1] button and [Full] button will be switched.

BREAK

Stop the Rhythm for one measure (break)

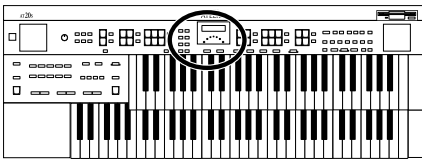
DAMPER OF UPPER

Notes played on the Upper keyboard will be sustained only while you continue pressing the Foot Switch.

DAMPER OF LOWER

Notes played on the Lower keyboard will be sustained only while you continue pressing the Foot Switch.

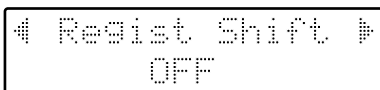
* If the Utility menu "Registration Shift" setting is "ON", the left Foot Switch will be dedicated to switching through the Registrations, and the "Foot Switch" setting will be ignored.



Using the Foot Switch to to Switch Registrations (Regist Shift)

You can use the Foot Switch as a dedicated switch for selecting registrations in order.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Regist Shift.”



3. Press the Value [-] and [+] buttons to switch the Regist Shift “ON” or “OFF.”

- ON Dedicated switch for selecting registrations
- OFF Functions other than selecting registrations can also be used

If Registration Shift is turned ON, each time you press the left Foot Switch, the registrations will be selected in the following order: 1 → 2 → 3 → ... → 12 → 1 → .. etc.

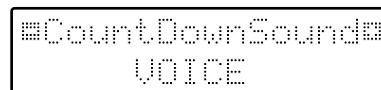
To return to the basic screen, press the [Utility] or [Display/Exit] button.

→ This setting remains stored in memory even while the power is turned off.

Changing the Sound of the Count Down (Count Down Sound)

You can change the sound that is used for the count played at the end of the intro (p. 34).

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Count Down Sound.”



3. Press the Value [-] and [+] buttons to select the type of sound for Intro Count Down.

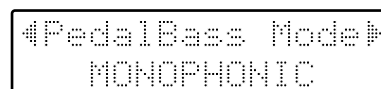
- VOICE Human voice count (One, two, three...)
- STICK Stick sound count

To return to the basic screen, press the [Utility] or [Display/Exit] button.

Changing the Pedalboard Polyphony (Pedal Bass Mode)

You can set the Bass Pedalboard to play simultaneous multiple notes or single notes only.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “PedalBass Mode.”

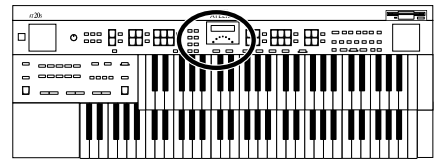


3. Press the Value [-] and [+] buttons to switch the Pedal Bass Mode “MONOPHONIC” or “POLYPHONIC.”

- MONOPHONIC Only single notes can be played.
- POLYPHONIC Multiple notes can be played.

To return to the basic screen, press the [Utility] or [Display/Exit] button.

Various Other Settings



Changing How the Solo Voice Responds (Solo Mode)

When the Solo voice is assigned to the Upper keyboard, you can specify how the Solo voice will respond when more than one key is pressed.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Solo Mode.”

```
◀ Solo Mode ▶  
TOP NOTE
```

3. Press the Value [-] and [+] buttons to change the setting for Solo Mode.

TOP NOTE	The Solo voice will sound the highest note that is played for the Solo part.
LAST NOTE	The Solo voice will sound the note that was most recently played for the Solo part.
POLYPHONIC	The Solo voice will sound all notes that are played for the Solo part.

To return to the basic screen, press the [Utility] or [Display/Exit] button.

Damper Pedal Assignment

You can specify which keyboard will be affected when you press the Damper (Sustain) pedal.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Damper Pedal.”

```
◀ Damper Pedal ▶  
to LOWER
```

3. Press the Value [-] and [+] buttons to change the setting for Damper Pedal.

to UPPER	The effect is applied to the voices played on the Upper keyboard.
to LOWER	The effect is applied to the voices played on the Lower keyboard.

* If the voice is a percussive voice (such as a Piano voice), the tone will be sustained, but fade away just like an acoustic piano. If the voice is a non-percussive instrument (such as a String voice), the tone will be sustained as long as the pedal is depressed.

Glide Destination

You can select the keyboard to which the effect will apply when you operate the Glide effect.

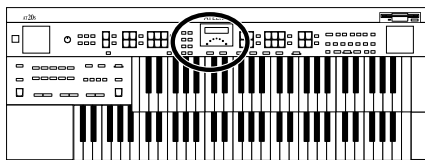
1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Glide.”

```
◀ Glide ▶  
to UPPER
```

3. Press the Value [-] and [+] buttons to change the setting for Glide.

to UPPER	The effect is applied to the voices played on the Upper keyboard.
to LOWER	The effect is applied to the voices played on the Lower keyboard.
to PEDAL	The effect is applied to the voices played on the Pedalboard.

To return to the basic screen, press the [Utility] or [Display/Exit] button.



Drums/SFX Set

This setting allows you to choose one of the following 8 Drum Sets or one Sound Effects Set.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select "Drums/SFX Set."

```
◀Drums/SFX Set ▶  
STANDARD
```

3. Press the Value [-] and [+] buttons to select the Drums/SFX set.

Settings STANDARD, ROOM, POWER,
 ELECTRONIC, TR-808, JAZZ, BRUSH,
 ORCHESTRA, SOUND EFFECTS

To return to the basic screen, press the [Utility] or [Display/Exit] button.

- The combination of sounds that are assigned to each key will differ depending on which Drums/SFX Set is selected. For details refer to "Drum Set List" (p. 106).
- You can select Drums/SFX Set using the [Drums/SFX] button and the Value [-] [+] buttons (p. 29).

Harmony Intelligence Type

This setting allows you to select the type of the Harmony Intelligence.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select "Harmony Type."

```
◀ Harmony Type ▶  
TRADITIONAL
```

3. Press the Value [-] and [+] buttons to select the type of Harmony Intelligence.

Settings TRADITIONAL, HARP, OCTAVE1,
 OCTAVE2

To return to the basic screen, press the [Utility] or [Display/Exit] button.

Turning Chord Intelligence On/Off (Chord Intelligence)

"Chord Intelligence" is a feature that intelligently plays the correct accompaniment chords the moment you play a key specifying a chord on the Lower keyboard during Automatic Accompaniment.

To play a C chord on the Lower keyboard, for example, you usually have to press down the three keys C, E, and G; but with Chord Intelligence, you only have to press the C Key to initiate a C chord accompaniment.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select "Chord Intelli."

```
◀Chord Intelli ▶  
ON
```

3. Press the Value [-] and [+] buttons to switch the Chord Intelligence "ON" or "OFF."

ON Chord Intelligence function is ON
OFF Chord Intelligence function is OFF

To return to the basic screen, press the [Utility] or [Display/Exit] button.

- For more information about chord fingering, see the "Chord List" (p. 109).

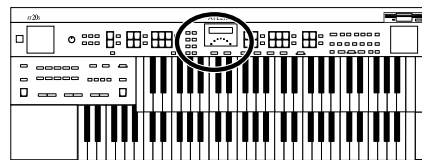
■ About the Chord Intelligence Function

When the [One Touch Program] button is pressed, the Chord Intelligence function is automatically switched ON (p. 35).

○ Switching Chord Intelligence Off...

- Press the Arranger [On/Off] button (so the indicator is extinguished). Switching off the Arranger automatically switches off the Chord Intelligence function as well.
- Switch OFF the "Chord Intelligence" setting in the Utility menu.

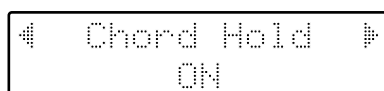
Various Other Settings



Turning Chord Hold On/Off (Chord Hold)

The Chord Hold function can be switched ON/OFF. When Chord Hold is ON, the Automatic Accompaniment will continue playing even when you lift your hand from the keyboard to play a new chord.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Chord Hold.”



3. Press the Value [-] and [+] buttons to switch the Chord Hold “ON” or “OFF.”

ON The Automatic Accompaniment determined by the chord played on the Lower keyboard is held (even if you release the keys).

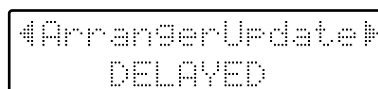
OFF When you release the keys that you played in the Lower keyboard, the Automatic Accompaniment will stop (be muted). Only the Rhythm (drum) performance will continue.

To return to the basic screen, press the [Utility] or [Display/Exit] button.

Registration Arranger Update (Arranger Settings Recall Timing)

You can specify how the settings related to Rhythm performances and Automatic Accompaniment will be recalled when you press a Registration button [1] – [4].

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “ArrangerUpdate.”



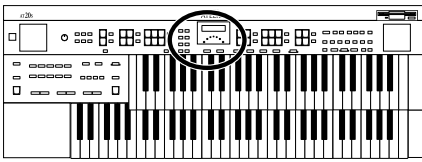
3. Press the Value [-] and [+] buttons to change the setting for Arranger Update.

DELAYED Settings related to Rhythm performances and Automatic Accompaniment will be recalled when you hold a Registration button for several seconds. If you quickly press the Registration button, only the panel settings (voice, etc.) that are not related to Rhythm and Automatic Accompaniment will be updated.

INSTANT Settings related to Rhythm performances and Automatic Accompaniment will be recalled the instant you press a button along with all other panel settings.

To return to the basic screen, press the [Utility] or [Display/Exit] button.

→ This setting remains stored in memory even while power is turned off.



Registration Transpose Update (Transpose Setting Recall Timing)

You can specify how the transpose setting will be recalled when you press a Registration button [1] – [4].

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Trans. Update.”

```
◀ Trans. Update ▶  
INSTANT
```

3. Press the Value [-] and [+] buttons to change the setting for Trans. Update.

DELAYED Transpose settings will be recalled when you hold a Registration button for several seconds.

INSTANT Transpose setting will be recalled the instant you press a button along with all other panel settings.

To return to the basic screen, press the [Utility] or [Display/Exit] button.

→ This setting remains stored in memory even while power is turned off.

Adjust the Standard Pitch (Master Tune)

The basic pitch of an instrument is generally considered as the pitch of the middle A note. The “Master Tune” parameter lets you adjust this basic pitch to match the pitch of any other instruments that are playing together with the AT-20S.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “Master Tune.”

```
◀ Master Tune ▶  
440.0 Hz
```

3. Press the Value [-] and [+] buttons to adjust the basic pitch.

Settings 415.3Hz – 466.2Hz (0.1 Hz units)

To return to the basic screen, press the [Utility] or [Display/Exit] button.

→ By pressing the Value [+] and [-] buttons simultaneously, you can restore the default setting (440.0 Hz).

→ This setting remains stored in memory even while power is turned off.

Adjust the LCD Contrast (LCD Contrast)

This setting allows you to adjust the contrast of the display.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select “LCD Contrast.”

```
◀ LCD Contrast ▶  
5
```

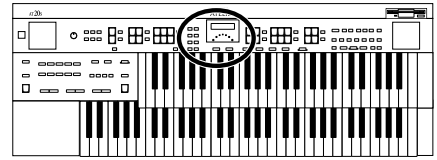
3. Press the Value [-] and [+] buttons to adjust the contrast of the screen.

Available settings 1–10 (higher values will darken the display)

To return to the basic screen, press the [Utility] or [Display/Exit] button.

→ This setting remains stored in memory even while power is turned off.

Various Other Settings



Selecting the MIDI Transmit Channel (Tx MIDI Channel)

When you use the MIDI connectors or the computer connector of the AT-20S to transmit musical data to external devices, for each keyboard (Upper, Lower, and Pedal) you can specify the channel on which your playing will be transmitted as MIDI messages.

You can modify these Tx (Transmit) MIDI settings as needed.

→ For details refer to p. 100)

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select "TxMIDI Channel."

```
◀TxMIDI Channel▶
Upper : 13 ▶
```

3. Press the Part [◀] and [▶] buttons to select a part.

Part Upper, Lower, Pedal, Control

4. Press the Value [-] and [+] buttons to select the MIDI transmission channel.

Channel 1-16

To return to the basic screen, press the [Utility] or [Display/Exit] button.

* The CONTROL part transmits expression pedal data and PC numbers.

MIDI IN Mode

This instrument contains two sound generators: one for SMF data playback and one for keyboard performance.

Normally, data received at the MIDI In connector will control only the sound generator for SMF data playback. However by changing the MIDI IN Mode setting, you can also control the keyboard sound generator from MIDI In.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select "MIDI IN Mode."

```
◀MIDI IN Mode▶
MODE 1
```

3. Press the Value [-] and [+] buttons to change the setting for MIDI IN Mode.

MODE 1 Control the instrument as a GS sound generator

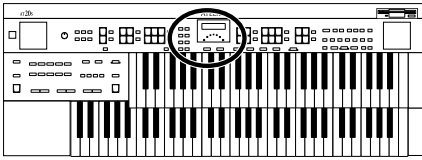
MODE 2 Channels 1–8 and channel 10 will be sent to the GS sound generator, and channel 9 and channels 11–16 will be sent to the keyboard sound generator.

Ch	MODE 1	MODE 2
1–8	GS	GS
9	GS	Drums/SFX
10	GS	GS
11	GS	Nothing
12	GS	Lower
13	GS	Upper
14	GS	Pedal Bass
15	GS	Nothing
16	GS	Solo, Control

To return to the basic screen, press the [Utility] or [Display/Exit] button.

→ There are limitations on the types of MIDI messages that can be received by the keyboard sound generator. For details refer to the "Midi Implementation" (sold separately).

→ This setting remains stored in memory even while power is turned off.



Specifying Transmission of PC Numbers (Send PC Switch)

Transmission of PC (Program Change) numbers can be switched ON/OFF.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select "Send PC Switch."

```

#Send PC Switch#
      OFF
  
```

3. Press the Value [-] and [+] buttons to switch the PC Switch "ON" or "OFF."

ON PC numbers are transmitted
 OFF PC numbers are not transmitted

To return to the basic screen, press the [Utility] or [Display/Exit] button.

→ This setting remains stored in memory even while power is turned off.

Setting PC Numbers (PC Number)

You can specify the Program Change number that will be transmitted from MIDI Out when a Registration is selected.

1. Press the [Utility] button.
2. Press the Menu [◀] and [▶] buttons to select "PC Number."

```

#PC Number
# PC Num#     1
  
```

3. Press the Part [◀] and [▶] buttons to select "Bank MSB," "Bank LSB," "PC Num."
4. Press the Value [-] and [+] buttons to change the setting.

Setting	Bank MSB (Bank Select MSB)	0-127
	Bank LSB (Bank Select LSB)	0-127
	PC Num (PC Number)	1-128

To return to the basic screen, press the [Utility] or [Display/Exit] button.

Connecting with External Devices

If you want to hook up an external instrument to the AT-20S, then this chapter is for you.

Names and Functions of Jacks and Connectors

1 MIDI Out/In Connectors

You can connect external MIDI instruments to these connectors to exchange performance information.

2 Output L (mono)/R Jacks

You can some awesome sounds if you connect speakers or other audio equipment to these jacks. You can also hook up a cassette recorder to record your performances.

3 Computer Connector

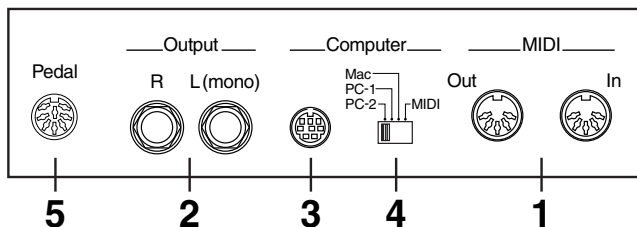
You can connect a computer to this connector to exchange performance information.

4 Computer Switch

Set this switch to Mac, PC-1, or PC-2 according to the type computer that's connected.

You can also switch between connections to the MIDI Out/In connectors and the Computer connector.

5 Pedal Connector



Making the Connections

If you're planning on connecting the AT-20S to other equipment with cables, be sure to follow the steps shown below to make the connections. By turning on or off devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

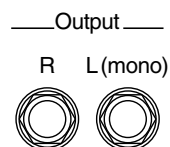
1. Turn down the volume all the way on all equipment.
2. Turn off the power to the AT-20S and other connected equipment.
3. Connect the AT-20S and other equipment with the cables.
4. Turn on the connected equipment.
5. Turn on the AT-20S.
6. Adjust the volume.

● After use, follow the steps below to switch off the power.

1. Turn down the volume all the way on all equipment.
2. Turn off the AT-20S.
3. Turn off the connected equipment.

Connecting Audio Equipment

You can hook up a tape recorder or other audio device and record your performances on the AT-20S. Use an audio cable to connect the input jack on the audio set or amp mixer to one of the output jacks on the AT-20S. Use an audio cable with a standard plug. When purchasing an audio cable, please consult the vendor where you bought the AT-20S.



■ Connecting a Computer

The AT-20S provides a Computer connector. By connecting this to the serial port of your computer, you can transmit and receive musical data.

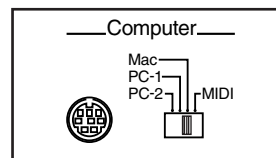
- 1. Turn off the AT-20S and the computer.**
- 2. Use a computer cable (sold separately) to connect the Computer connector on the AT-20S to a serial port on the computer.**
- 3. Set the Computer switch on the bottom of the unit to match the type of connected computer.**
→ Take a look at the Connection Examples.
- 4. Turn on the computer.**
- 5. Turn on the AT-20S.**
- 6. Make the settings for baud rate (transmission speed) for the computer and the software.**
→ For more information, refer to the documentation for the computer you are using.
- 7. You should also make the settings for the MIDI send channel (p. 96).**

○ Connection Examples:

○ Connection with an Apple Macintosh computer

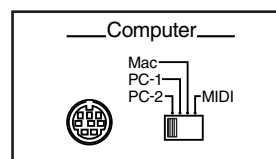
Use a computer cable (sold separately) to connect the Computer connector on the AT-20S to the modem port (or printer port) on the Apple Macintosh. Set the Computer switch to "Mac."

Use "PatchBay" on the Apple Macintosh to set the interface type (the clock speed for the MIDI interface) to "1 MHz."



○ Connection with an IBM PC

Use a computer cable (sold separately) to connect the Computer connector on the AT-20S to the COM1 or COM2 serial port on the IBM PC. Set the Computer switch to "PC-2."



Connecting with External Devices

If You're Using MIDI

● What's MIDI?

MIDI stands for "Musical Instrument Digital Interface," and is a unified standard for the exchange of performance data and other information between electronic instruments and computers.

The AT-20S is equipped with MIDI connectors and a Computer connector to let it exchange performance information with external devices. These connectors can be used to connect the AT-20S to an external device for even greater versatility.

● About MIDI Connectors

The AT-20S has two kinds of MIDI connectors. Connecting these to the MIDI connectors on a MIDI instrument makes it possible for the two instruments to control each other.

For instance, you can output sound from the other instrument or switch tones on the other instrument. You should also set the MIDI send channel as needed.

○ MIDI Out Connector

Only the notes played on the keyboard, movements of the Damper pedal, Expression data, and data indicating that a Registration button [1]–[4] was pressed will be transmitted to the external MIDI connector.

○ MIDI In Connector

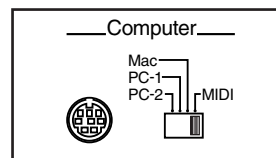
Performance messages from an external MIDI device are received here.

These incoming messages may instruct the receiving MIDI instrument to play sounds or switch tones.

The AT-20S contains two sound generators: one sound generator for its own keyboards and one GS sound generator (p. 113). Normally, musical data transmitted from an external device to the MIDI In connector is sent to the GS sound generator, but you can also set the "MIDI IN Mode" parameter (p. 96) so that the keyboard sound generator is controlled.

■ Connecting the AT-20S to a MIDI Instrument

1. Turn off the AT-20S.
2. Set the Computer switch on the bottom of the AT-20S to "MIDI."

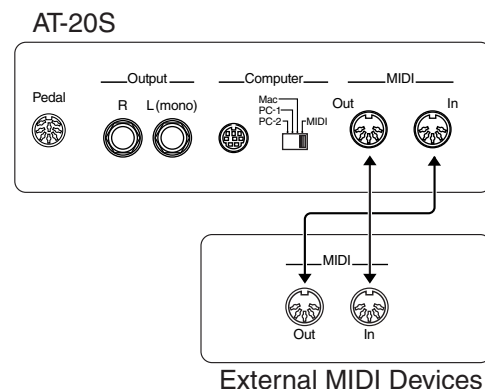


* When the AT-20S is powered up, the setting doesn't change until the power is reset, even if the computer switch is operated.

3. Use a MIDI cable (sold separately) to connect the MIDI connector on the external instrument to the MIDI connector on the AT-20S.
4. Turn on the external MIDI device and AT-20S.
5. You should change the setting of TxMIDI channel as needed.

Connection Example:

- Connecting the MIDI Device



* A separate publication titled "MIDI Implementation" is also available. It provides complete details concerning the way MIDI has been implemented on this unit. If you should require this publication (such as when you intend to carry out byte-level programming), please contact the nearest Roland Service Center or authorized Roland distributor.

Troubleshooting

If the AT-20S does not function in the way you expect, first check the following chart. If this does not resolve the problem, consult your dealer or a nearby Roland Service Station.

When you press the [Power On] switch, the power doesn't come on.

- Power cord is not connected correctly (p. 16).

No sound is heard.

- The [Master Volume] slider is set too low (p. 16).
- Headphones are connected (p. 17).
When you connect the headphones, the sound is heard only through the headphones.
- The volume of each Part Balance button is set too low (p. 26).
- The volume is set too low on the Expression Pedal (p. 47).
- You do not have a voice selected (p. 21).
Voices that have their button indicator lit can be played.
- You have selected Manual Drums for the Lower keyboard, and are playing a key to which no drum sound or Sound Effect has been assigned (p. 28, p. 106).

No sound is heard (when a MIDI instrument is connected).

- The power of the connected external devices is not turned on (p. 98).
- The Computer switch on the rear of the unit is not set to "MIDI" (p. 100).

Damper Pedal does not operate

- The damper pedal affects only the Lower keyboard. The damper pedal does not affect the Bass Pedalboard.
You can change the settings so that the damper pedal affects the Upper keyboard (p. 92).
- The damper pedal does not affect the Solo voice.

Expression Pedal does not operate

- The function of the Expression Pedal during recording (p. 81) or the function during playback (p. 81) has been set to "COMPOSER."

Can't use the function assigned to the foot switch

- If the Utility menu item "Registration Shift" (change Registrations) is ON (p. 91), the foot switch will be dedicated to switching the Registration.

When the Human Voice "Jazz Scat" is selected, playing dynamics do not change the sound

- The Utility menu item "Initial Touch" is turned OFF (p. 90).

Rotary effect is not be applied.

- Some sounds do not allow the rotary effect to be applied (p. 105).

When you release your fingers from keys in the Lower keyboard while Automatic Accompaniment and Rhythm are playing, the Rhythm performance only remains playing.

- Chord Hold is at OFF (p. 94).
The Automatic Accompaniment will play while you press a chord. If Chord Hold is turned ON, the Automatic Accompaniment will continue playing with the Rhythm even when you take your hand off of the Lower keyboard.

Even though you press only one key, a multiple number of notes sound.

- Harmony Intelligence is at ON (p. 40).
- Chord Intelligence is turned ON (p. 93).

Automatic Accompaniment sounds odd

- The keys for a chord were not pressed simultaneously.
- When Chord Intelligence is OFF (p. 93), the chord is not being pressed correctly.
- When performance data from a device other than the AT-20S is being played together with the Automatic Accompaniment, the Automatic Accompaniment may not be sounded correctly.

Rhythm sounds odd

- When performance data from a device other than the AT-20S is being played together with the Automatic Accompaniment, the Rhythm performance may not be sounded correctly.

Pitch is off.

- Transpose is in effect (p. 46).
- The tuning is incorrect (p. 95).
- While set for an octave shift (p. 27), you are playing keys beyond the recommended range. This does not indicate a malfunction.

Performance data cannot be played back

- While the Function menu appears in the display (with the exception of Channel Mute), playback is not allowed. If you wish to playback performance data, press the [Function] button once again to exit the Function menu (p. 79).

Troubleshooting

Recording is not possible

- Punch-in recording has been selected (p. 75).
- If you wish to erase a previously-recorded track and then re-record, press the track button for the desired track to make that button indicator blink before you begin recording (p. 65).
- While the Function menu appears in the display (with the exception of Channel Mute), recording is not allowed. If you wish to record performance data, press the [Function] button once again to exit the Function menu.

Lyrics are not indicated properly in the display

- With some music files, the lyrics cannot be displayed correctly.
- If you press a button while the lyrics are being shown in the display, the lyrics will disappear. To recall them, press the [Play] button.

The recorded performance has disappeared

- Any performance that has been recorded is deleted when the power to the unit is turned off. A performance cannot be restored once it's been deleted, so be sure to save it on a floppy disk before you turn off the power (p. 70).

The bass note of the Automatic Accompaniment does not sound

- When a voice is selected for the Pedal Bass part, the bass of the Automatic Accompaniment will not sound.

When you started a Rhythm with an Intro, the Rhythm did not sound

- Some Rhythms do not have rhythm sounds in the intro.

MIDI messages received at MIDI In are not sounded

- The Computer switch is not set to "MIDI" position (p. 100).
- The Computer switch was set to "MIDI" after the power was turned on.
Turn off the power, and then turn the power on once again.

Sound is distorted / cracked

- The Part Balance volume of each part is too high (p. 26).
- The Reverb volume has been raised when the volume of each Part Balance button is already raised.
Either lower the Reverb volume, or adjust the Part Balance of each part (p. 26).
- The [Master Volume] knob has been used to raise the overall volume excessively (p. 16).

Some keys (of certain keyboard parts) sound strange

- You've assigned the same voice, using the same range, to multiple parts.

The Rhythm does not change when you press the Registration [1]-[4] buttons

- The settings at which Registrations are recalled (Arranger Update) has been set to "DELAYED" (p. 94).

The volume changes during playback of performance data

- When recording is performed repeatedly while changing the Part Balance volume, the previously-recorded Part Balance data remains in the Control track. If you wish to get rid of the volume changes, use the Erase function (p. 85) to delete the Part Balance data.

Bass is heard even though you are not playing the Bass Pedalboard

- The Pedal [To Lower] button (p. 45) is ON.
When the Pedal [To Lower] button is ON, the Bass will be sounded by the Lower keyboard.

When playing the same sound in the Upper keyboard and Lower keyboard, the volume is different

- On one of the keyboards, "Initial Touch" is turned ON (p. 90).

Lower keyboard cannot be heard

- The Lower keyboard will not produce sound while an Intro or Ending is being played.

The sound is not played correctly

- If you layer the same type of sound, or play an octave-shifted organ sound, the timing at which you play a note or the phase relationship between the two sounds may affect the way in which the sounds are heard, but this is not a malfunction.

Can't play the demo songs

- A floppy disk is inserted in the disk drive.
In order to play the demo song, you must remove the floppy disk from the disk drive (p. 37).

Can't select Rhythms from a Music Style disk

- The Rhythm [Disk] button has not been selected (p. 37).

The volume level of the instrument connected to AT-20S is too low

- Could you be using a connection cable that contains a resistor?
Use a connection cable that does not contain a resistor.

Display Messages

■ E.00

Copy Protected.
Can't Save

Meanings:

- To protect the copyright, this music file cannot be saved as SMF format.
- When you want to save as Atelier format, you can save only original disk.

■ E.01

Can't Save
This Song.

Meanings:

- You can only play the music data. It cannot be saved on a floppy disk or internal memory.

■ E.02

Write Protected
Disk

Meanings:

- The protect tab on the floppy disk is set to the Protect position.
Change it to the Write position and repeat the procedure.

■ E.03

Master Disk

Meanings:

- This floppy disk cannot store the format or save any data. Insert a different disk and repeat the procedure.

■ E.05

Read Only Song.
Can't Save

Meanings:

- A new song cannot be saved onto this floppy disk.

■ E.10

No Disk

Meanings:

- No floppy disk is connected to the disk drive. Insert the disk correctly, and repeat the procedure.

■ E.11

Disk Full

Meanings:

- There is not sufficient space left on the floppy disk for the data to be saved. Save the data onto a different floppy disk or delete music data on the disk.

■ E.12

Unknown Disk

Meanings:

- The floppy disk inserted into the disk drive cannot be read.
Please format the floppy disk.

■ E.13

Disk Ejected

Meanings:

- The floppy disk was removed from the disk drive while loading or writing was in progress. Insert the floppy disk and repeat the procedure.

■ E.14

Damaged Disk

Meanings:

- This floppy disk is damaged and cannot be used. Insert a different disk and repeat the procedure.

■ E.15

Can't Read

Meanings:

- This song cannot be read.

■ E.16

Can't Play

Meanings:

- It cannot be read the floppy disk quickly enough. Press the [Reset] button, then press the [Play] button to play the song.

Display Messages

■ E.30

Memory Full

Meanings:

- The Rhythm data is excessively large, and cannot be loaded.
- The performance data is excessively large, and cannot be loaded.
- Since the internal memory is full, recording or editing is not possible.

■ E.40

MIDI Buffer Full

Meanings:

- The AT-20S cannot deal with the excessive MIDI data sent from the external MIDI device. Reduce the amount of MIDI data sent to the AT-20S.

■ E.41

Communication
Error

Meanings:

- A MIDI cable or computer cable has been disconnected. Connect it properly and securely.

■ E.43

Computer I/F
Error

Meanings:

- The Computer Switch is set to a wrong position or the computer is set wrongly. Switch off the AT-20S then set the Computer Switch to the correct position and set the computer correctly. After that, switch on the AT-20S again.

■ E.51

Memory Error

Meanings:

- There is something wrong with the system. Repeat the procedure from the beginning.

■ Others

Internal Memory
Near Limit

Meanings:

- The AT-20S is warning you that its memory will soon become full to capacity, so not much more recording can be done.

Clear Song Sure?
Yes:REC No:RST

Meanings:

- To carry out the procedure, you first need to erase performance data in the AT-20S. This message asks you to confirm that you don't mind doing this. To erase the data, press the [Rec] button. When you do not want to erase it, press the [Reset] button then save the data on disk.

Overwrite Regist?
Yes:REC No:RST

Meanings:




- This Registration is already being used. To overwrite the previous Registration data in this memory, press the [Rec] button. If you decide to keep the previous Registration data in this memory and save your settings in an unused memory, press the [Reset] button, press the [Select] button to select a number for which "--" is displayed, and then save the data.

Overwrite Song ?
Yes:REC No:RST

Meanings:

- There already is performance data having the same name on the disk. To replace the existing data with the new version, press the [Rec] button. To save it as a separate new file, press the [Reset] button first. Then, after changing the name, save it on disk.

Voice List

A11	Full Organ1	*1		I11	Violin	*2	P31	Sax.Section	*2	
A12	Full Organ2	*1		I12	Viola	*2	P34	Sax/Brass		
A13	Full Organ3	*1		I13	Cello	*2	P41	Synth. Brass	*2	
A14	Full Organ4	*1		I14	Pizzicato	*2	Q11	Trumpet	*2	
A15	Full Organ5	*1		J11	Jazz Scat	*2	Q12	Trumpet2	*2	
A16	Full Organ6	*1		J12	Pop Voice	*2	Q13	Tp/Shake	*2	
A17	Full Organ7	*1		J13	Jazz Doo	*2	Q21	Mute Trumpet	*2	
B11	Jazz Organ1	*1		J14	Jazz Doot	*2	Q31	Trombone	*2	
B12	Jazz Organ2	*1		J15	Jazz Dat	*2	Q41	Flugel Horn	*2	
B13	Jazz Organ3	*1		J16	Jazz Bap	*2	Q42	F.Horn Solo1	*2	
B14	Jazz Organ4	*1		J17	JazzDowfall	*2	Q51	Soprano Sax	*2	
B15	Jazz Organ5	*1		J21	Choir		Q52	Soprano Sax2	*2	
B16	Jazz Organ6	*1		J22	Gregorian		Q61	Alto Sax	*2	
B21	Rock Organ1			J31	Synth. Choir		Q64	Alto Sax Ex	*2	
B22	Rock Organ2			K11	Grand Piano		Q71	Tenor Sax	*2	
C11	Lower Organ1	*1		K15	AEx PianoStr		R11	Flute	*2	
C12	Lower Organ2	*1		K21	Honky-tonk		R13	Flute3	*2	
C13	Lower Organ3	*1		K31	E.Piano1			R16	AEx Flute	*2
C14	Lower Organ4	*1		K32	E.Piano2		R21	Synth. Flute		
C15	Lower Organ5	*1		K35	Stage Rhodes	*2	R22	Pan Flute	*2	
C16	Lower Organ6	*1		K41	Harpsichord		R31	Oboe	*2	
D11	Pipe Organ1			K42	Clavi.		R32	Bassoon	*2	
D12	Pipe Organ2			L11	Accordion		R41	Clarinet	*2	
D13	Pipe Organ3			L12	Bandoneon	*2	R42	Clarinet2	*2	
D14	Pipe Organ4			L21	Harmonica	*2	R51	Shakuhachi	*2	
D15	Pipe Organ5			M11	Nylon-str.Gt	*2	R52	HumanWhistle	*2	
D16	Pipe Organ6			M21	Steel-str.Gt	*2	S11	Synth. Lead1	*2	
D17	Pipe Organ7			M22	12str Guitar	*2	S12	Synth. Lead2	*2	
D21	Diapason 8'			M23	Ac.Gtr Sld	*2	S13	Synth. Lead3	*2	
E11	Theater Or.1	*2		M31	Jazz Guitar	*2	S18	Sugar Key	*2	
E12	Theater Or.2	*2		M32	Clean Guitar	*2	T11	Organ Bass1		
E13	Theater Or.3	*2		M41	Overdrive Gt	*2	T12	Organ Bass2		
E14	Theater Or.4	*2		N11	Hawaiian Gt.	*2	T21	Pipe Org. Bs		
E15	Theater Or.5	*2		N12	Banjo	*2	T31	String Bass	*2	
E16	Theater Or.6	*2		N13	Mandolin		T32	Bass+Cymbal	*2	
E18	Tibia 8'	*2		N16	Shamisen	*2	T41	Contrabass1	*2	
F11	Synth. Org.1	*2		N21	Harp	*2	T42	Contrabass2	*2	
F12	Synth. Org.2			N31	Sitar	*2	T51	E.Bass1		
F13	Synth. Org.3	*2		O11	Vibraphone	*2	T52	E.Bass2	*2	
F21	Pop. Organ1	*1		O12	Glockenspiel		T61	Tuba		
F22	Pop. Organ2	*1		O13	Celesta		T71	Synth. Bass1		
G11	Strings1			O21	Marimba		T81	Voice Thum	*2	
G12	Strings2			O22	Xylophone		U11	Org. Attack1		
G15	Strings5			O24	MarimbaTrem1		U12	Org. Attack2		
G16	Strings6			O31	Tubular-bell		U15	Org. Click		
	AEx Strings			O41	Steel Drums		V11	Timpani		
H11	Slow Str.1			O43	Santur	*2	V31	Perc. Set1		
H21	Synth. Str.1			P11	Tp. Section	*2	V32	Perc. Set2		
H22	Synth. Str.2			P15	Power Brass	*2				
H31	Synth. Pad1			P17	BrassSect.1	*2				
H32	Synth. Pad2			P21	Fr.Horn Sect					

*1: Rotary: effective, Chorus: ineffective *2: Vibrato: effective, Aftertouch: effective : Active Expression Voice

Drum Set List

	JAZZ STANDARD	ROOM	POWER	ELECTRONIC
C2	36 Std Kick 1 37 Side Stick 38 Snare Drum 1 39 Hand Clap 40 Snare Drum 2 41 Low Tom 2 42 Closed Hi-hat 1 [EXC1] 43 Low Tom 1 44 Pedal Hi-hat 1 [EXC1] 45 Mid Tom 2 46 Open Hi-hat 1 [EXC1] 47 Mid Tom 1	Std Kick 1 Side Stick Snare Drum 1 Hand Clap Snare Drum 2 Room Low Tom 2 Closed Hi-hat 1 [EXC1] Room Low Tom 1 Pedal Hi-hat 1 [EXC1] Room Mid Tom 2 Open Hi-hat 1 [EXC1] Room Mid Tom 1	MONDO Kick Side Stick Gated SD Hand Clap Snare Drum 2 Room Low Tom 2 Closed Hi-hat 1 [EXC1] Room Low Tom 1 Pedal Hi-hat 1 [EXC1] Room Mid Tom 2 Open Hi-hat 1 [EXC1] Room Mid Tom 1	Elec BD Side Stick Elec SD Hand Clap Gated SD Elec Low Tom 2 Closed Hi-hat 1 [EXC1] Elec Low Tom 1 Pedal Hi-hat 1 [EXC1] Elec Mid Tom 2 Open Hi-hat 1 [EXC1] Elec Mid Tom 1
C3	48 High Tom 2 49 Crash Cymbal 1 50 High Tom 1 51 Ride Cymbal 1 52 Chinese Cymbal 53 Ride Bell 54 Tambourine 55 Splash Cymbal 56 Cowbell 57 Crash Cymbal 2 58 Vibra-slap 59 Ride Cymbal 2	Room Hi Tom 2 Crash Cymbal 1 Room Hi Tom 1 Ride Cymbal 1 Chinese Cymbal Ride Bell Tambourine Splash Cymbal Cowbell Crash Cymbal 2 Vibra-slap Ride Cymbal 2	Room Hi Tom 2 Crash Cymbal 1 Room Hi Tom 1 Ride Cymbal 1 Chinese Cymbal Ride Bell Tambourine Splash Cymbal Cowbell Crash Cymbal 2 Vibra-slap Ride Cymbal 2	Elec Hi Tom 2 Crash Cymbal 1 Elec Hi Tom 1 Ride Cymbal 1 Reverse Cymbal Ride Bell Tambourine Splash Cymbal Cowbell Crash Cymbal 2 Vibra-slap Ride Cymbal 2
C4	60 High Bongo 61 Low Bongo 62 Mute High Conga 63 Open High Conga 64 Low Conga 65 High Timbale 66 Low Timbale 67 High Agogo 68 Low Agogo 69 Cabasa 70 Maracas 71 Short Hi Whistle [EXC2]	High Bongo Low Bongo Mute High Conga Open High Conga Low Conga High Timbale Low Timbale High Agogo Low Agogo Cabasa Maracas Short Hi Whistle [EXC2]	High Bongo Low Bongo Mute High Conga Open High Conga Low Conga High Timbale Low Timbale High Agogo Low Agogo Cabasa Maracas Short Hi Whistle [EXC2]	High Bongo Low Bongo Mute High Conga Open High Conga Low Conga High Timbale Low Timbale High Agogo Low Agogo Cabasa Maracas Short Hi Whistle [EXC2]
C5	72 Long Low Whistle [EXC2] 73 Short Guiro [EXC3] 74 Long Guiro [EXC3] 75 Claves 76 High Wood Block 77 Low Wood Block 78 Mute Cuica [EXC4] 79 Open Cuica [EXC4] 80 Mute Triangle [EXC5] 81 Open Triangle [EXC5] 82 Shaker 83 Jingle Bell	Long Low Whistle [EXC2] Short Guiro [EXC3] Long Guiro [EXC3] Claves High Wood Block Low Wood Block Mute Cuica [EXC4] Open Cuica [EXC4] Mute Triangle [EXC5] Open Triangle [EXC5] Shaker Jingle Bell	Long Low Whistle [EXC2] Short Guiro [EXC3] Long Guiro [EXC3] Claves High Wood Block Low Wood Block Mute Cuica [EXC4] Open Cuica [EXC4] Mute Triangle [EXC5] Open Triangle [EXC5] Shaker Jingle Bell	Long Low Whistle [EXC2] Short Guiro [EXC3] Long Guiro [EXC3] Claves High Wood Block Low Wood Block Mute Cuica [EXC4] Open Cuica [EXC4] Mute Triangle [EXC5] Open Triangle [EXC5] Shaker Jingle Bell
C6	84 Bell Tree 85 Castanets 86 Mute Surdo [EXC6] 87 Open Surdo [EXC6] 88 ---- 89 ---- 90 ---- 91 ---- 92 ---- 93 ---- 94 ---- 95 ----	Bell Tree Castanets Mute Surdo [EXC6] Open Surdo [EXC6] ---- ---- ---- ---- ---- ---- ----	Bell Tree Castanets Mute Surdo [EXC6] Open Surdo [EXC6] ---- ---- ---- ---- ---- ---- ----	Bell Tree Castanets Mute Surdo [EXC6] Open Surdo [EXC6] ---- ---- ---- ---- ---- ---- ----
C7	96 ----	----	----	----

--- : no sound

[EXC] : will not sound simultaneously with other percussion instruments of the same number

Drum Set List

	TR-808	BRUSH	ORCHESTRA	SOUND EFFECT	
C2	36 37 38 39 40 41 42 43 44 45 46	808 Bass Drum 1 808 Rim Shot 808 Snare Drum Hand Clap Snare Drum 2 808 Low Tom 2 808 CHH [EXC1] 808 Low Tom 1 808 CHH [EXC1] 808 Mid Tom 2 808 OHH [EXC1] 808 Mid Tom 1	Std Kick 1 Side Stick Brush Tap Brush Slap Brush Swirl Low Tom 2 Closed Hi-hat 1 [EXC1] Low Tom 1 Pedal Hi-hat 1 [EXC1] Mid Tom 2 Open Hi-hat 1 [EXC1] Mid Tom 1	Concert BD 1 Side Stick Concert SD Castanets Concert SD Timpani F Timpani F# Timpani G Timpani G# Timpani A Timpani A# Timpani B	---- ---- ---- High Q Slap Scratch Push [EXC7] Scratch Pull [EXC7] Sticks Square Click Metronome Click Metronome Bell Guitar sliding Finger
C3	48 49 50 51 52 53 54 55 56 57 58 59	808 Hi Tom 2 808 Cymbal 808 Hi Tom 1 Ride Cymbal 1 Chinese Cymbal Ride Bell Tambourine Splash Cymbal 808 Cowbell Crash Cymbal 2 Vibra-slap Ride Cymbal 2	High Tom 2 Crash Cymbal 1 High Tom 1 Ride Cymbal 1 Chinese Cymbal Ride Bell Tambourine Splash Cymbal Cowbell Crash Cymbal 2 Vibra-slap Ride Cymbal 2	Timpani c Timpani c# Timpani d Timpani d# Timpani e Timpani f Tambourine Splash Cymbal Cowbell Concert Cymbal 2 Vibra-slap Concert Cymbal 1	Guitar cutting noise (down) Guitar cutting noise (up) String slap of double bass Fl.Key Click Laughing Screaming Punch Heart Beat Footsteps1 Footsteps2 Applause Door Creaking
C4	60 61 62 63 64 65 66 67 68 69 70 71	High Bongo Low Bongo 808 High Conga 808 Mid Conga 808 Low Conga High Timbale Low Timbale High Agogo Low Agogo Cabasa 808 Maracas Short Hi Whistle [EXC2]	High Bongo Low Bongo Mute High Conga Open High Conga Low Conga High Timbale Low Timbale High Agogo Low Agogo Cabasa Maracas Short Hi Whistle [EXC2]	High Bongo Low Bongo Mute High Conga Open High Conga Low Conga High Timbale Low Timbale High Agogo Low Agogo Cabasa Maracas Short Hi Whistle [EXC2]	Door Scratch Wind Chimes Car-Engine Car-Stop Car-Pass Car-Crash Siren Train Jetplane Helicopter Starship
C5	72 73 74 75 76 77 78 79 80 81 82 83	Long Low Whistle [EXC2] Short Guiro [EXC3] Long Guiro [EXC3] 808 Claves High Wood Block Low Wood Block Mute Cuica [EXC4] Open Cuica [EXC4] Mute Triangle [EXC5] Open Triangle [EXC5] Shaker Jingle Bell	Long Low Whistle [EXC2] Short Guiro [EXC3] Long Guiro [EXC3] Claves High Wood Block Low Wood Block Mute Cuica [EXC4] Open Cuica [EXC4] Mute Triangle [EXC5] Open Triangle [EXC5] Shaker Jingle Bell	Long Low Whistle [EXC2] Short Guiro [EXC3] Long Guiro [EXC3] Claves High Wood Block Low Wood Block Mute Cuica [EXC4] Open Cuica [EXC4] Mute Triangle [EXC5] Open Triangle [EXC5] Shaker Jingle Bell	Gun Shot Machine Gun Lasergun Explosion Dog Horse-Gallop Birds Rain Thunder Wind Seashore Stream
C6	84 85 86 87 88 89 90 91 92 93 94 95	Bell Tree Castanets Mute Surdo [EXC6] Open Surdo [EXC6] ---- ---- ---- ---- ---- ---- ---- ----	Bell Tree Castanets Mute Surdo [EXC6] Open Surdo [EXC6] ---- ---- ---- ---- ---- ---- ---- ----	Bell Tree Castanets Mute Surdo [EXC6] Open Surdo [EXC6] Applause ---- ---- ---- ---- ---- ---- ---- ----	Bubble Cat ---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
C7	96	----	----	----	----

--- : no sound

[EXC] : will not sound simultaneously with other percussion instruments of the same number

Rhythm List

Big Band/Swing

New Big Band
Fast BigBand
Scat Swing
Big Serenade
Organ Swing
BigBandSwing
A Cappella
Combo
Big Band
Big Band 2
ChooChooSwg
Boogie
Shuffle
Slow Swing

Country/Gospel

OldtimeCntry
Soft Gospel
Gospel Pop
Revival
Hoedown
Twostep
Easy Country
CountryRoads
CountryWaltz
Gospel 1
Anthem

Oldies/Contempo

70's 1
Michael'sPop
Marsey Beat
Lets Dance
Euro Dance
Swing Pop
50'sBallad
Slow Dance

Dreamin'
PopularPiano
Acoustic Pop
Beach Sound
Twist
50's Pop 1
Easy Listen1
Easy Listen2
ShufflePop 1
Motown

Ballad

8BeatBallad1
Sunnyfeelin'
Soft Ballad
Ballad
Love Romance
Love Songs
Torch Song
MediumBallad

World

Hawaiian
French Waltz

Latin

Mambo 3
Plena
Bossa Nova 1
Slow Bossa
Rhumba
Beguine
Bossa Nova
Bossa Nova 2
Chacha
Salsa
Mambo
Tango 1
Samba Rio

Waltz/March

Slow Waltz
March
March 4/4
March 6/8
Summer Days
Waltz
Musette

Trad/Showtime

Raindrops
Polka
Screen 1
Music Hall
Broadway
Charleston
Foxtrot
Dixieland
Festival

Acoustic

G.Pop
G.Fast Pop
P.Slow
P.Jazz
PianoRagtime
P.Night

Disk

Cute Pop
16Beat Pop 1

Chord List

● symbol : Indicates the constituent note of chords.

★ symbol : Chord shown with an "★" can be played by pressing just the key marked with the "★".

C	C#	D	E \flat	E	F
CM7	C#M7	DM7	E \flat M7	EM7	FM7
C7	C#7	D7	E \flat 7	E7	F7
Cm	C#m	Dm	E \flat m	Em	Fm
Cm7	C#m7	Dm7	E \flat m7	Em7	Fm7
Cdim	C#dim	Ddim	E \flat dim	Edim	Fdim
Cm7 (b5)	C#m7 (b5)	Dm7 (b5)	E \flat m7 (b5)	Em7 (b5)	Fm7 (b5)
Caug	C#aug	Daug	E \flat aug	Eaug	Faug
Csus4	C#sus4	Dsus4	E \flat sus4	Esus4	Fsus4
C7sus4	C#7sus4	D7sus4	E \flat 7sus4	E7sus4	F7sus4
C6	C#6	D6	E \flat 6	E6	F6
Cm6	C#m6	Dm6	E \flat m6	Em6	Fm6

Chord List

F#	G	A \flat	A	B \flat	B
F#M7	GM7	A \flat M7	AM7	B \flat M7	BM7
F#7	G7	A \flat 7	A7	B \flat 7	B7
F#m	Gm	A \flat m	Am	B \flat m	Bm
F#m7	Gm7	A \flat m7	Am7	B \flat m7	Bm7
F#dim	Gdim	A \flat dim	Adim	B \flat dim	Bdim
F#m7(b5)	Gm7(b5)	A \flat m7(b5)	Am7(b5)	B \flat m7(b5)	Bm7(b5)
F#aug	Gaug	A \flat aug	Aaug	B \flat aug	Baug
F#sus4	Gsus4	A \flat sus4	Asus4	B \flat sus4	Bsus4
F#7sus4	G7sus4	A \flat 7sus4	A7sus4	B \flat 7sus4	B7sus4
F#6	G6	A \flat 6	A6	B \flat 6	B6
F#m6	Gm6	A \flat m6	Am6	B \flat m6	Bm6

Settings That Are Stored After the Power Is Turned Off

Settings That Are Stored After the Power Is Turned Off

Arranger Update
Transpose Update
Master Tune
Registration Shift
Send PC Switch
MIDI IN Mode
Lyric On/Off
Metronome Sound
LCD Contrast
Registration Name

Settings That Are Stored in the Registration Buttons

Registration Name
Arranger Update
Transpose Update

Settings That Are Stored in the Individual Registration Buttons

Reverb Type
Reverb Depth
Bass [To Lower] button (ON/OFF)
Key Transpose
Playback Transpose
Foot Switch Assignment
Damper Pedal Assignment
[Harmony Intelligence] button (ON/OFF)
Harmony Intelligence Type
Rotary [Fast/Slow] button (ON/OFF)
Rotary [ON/OFF] button (ON/OFF)
Pedal Bass Mode
Solo Mode
Sustain buttons (ON/OFF)
Sustain Length
Tx MIDI Channel
Initial Touch ON/OFF
PC Number
Bank LSB
Bank MSB
Wall Type
The Voices assigned for each part
Part Balance [▲][▼] (Part Balance Volume)
The Reverb depth for each part

The Chorus settings (ON/OFF) of the voice for each part
The Octave settings for each part
The voices assigned to the [Others] buttons for each part
[Drums/SFX] button (ON/OFF)
Drums/SFX Set
Selected Rhythm
[Intro/Ending] button (ON/OFF)
[Sync Start] button (ON/OFF)
Style Orchestrator
Variation ON/OFF
Chord Intelligence ON/OFF
Arranger [ON/OFF] button (ON/OFF)
Tempo setting
Volume of the rhythm Accompaniment part
Reverb depth of the rhythm Accompaniment part
Volume of the rhythm drum part
Reverb depth of the rhythm drum part
Volume of the rhythm bass part
Reverb depth of the rhythm bass part

Glossary

Arrangement

This refers to changes that have been made in an original tune, by adding a new accompaniment or by changing the instruments used.

Automatic Accompaniment

Automatic Accompaniment is automatic accompaniment when just a few keys in the lower section of the keyboard are pressed to specify the chord.

Basic Chord

This refers to the most commonly used types of chord, which are generally the following six types: major chords, minor chords, minor seventh chords, minor seventh ($\flat 5$) chords, dominant seventh chords, and diminished seventh chords.

Chord

Notes of two or more pitches sounded simultaneously. Chords consisting of three notes are called "triads," and are the most basic type of chord.

Ending

This is the last part of the accompaniment. When you stop playing the Automatic Accompaniment, the AT-20S plays an Ending appropriate for the Rhythm.

Glide

An effect that temporarily lowers the pitch and then gradually returns it to normal.

Intro

This is the introductory portion of an Automatic Accompaniment performance. The AT-20S plays an intro ideally suited to each Rhythm when it starts playing the Automatic Accompaniment.

Inversion

When the lowest note of a chord is the root, the chord is said to be in "root position." In contrast, forms of a chord in which other notes are the lowest pitch are called "inversions."

Mute

To silence a sound. The AT-20S provides a Track Mute function that allows you to turn off the track button indicator of a track on which music data has been recorded, so that the corresponding track will temporarily be silenced.

Panel Settings

Settings such as sound selections, tempo, Rotary fast/slow.

Registration

A unit of data that contains the performance state of the instrument, such as sound selections and panel settings.

Reverb

An effect that simulates the reverberation of a room or concert hall.

Root Note

The root note is the basis of a chord. All chords are built on a root note, which is the part of the chord name given in uppercase letters.

Rotary

An effect which simulates the modulation given to the sound when a rotating speaker is used. The Rotary effect produces two types of modulation: fast or slow.

Sustain

An effect that adds a decay to each note. The AT-20S allows sustain to be applied to the voices of the upper part, lower part, and pedal part.

Voice

The AT-20S is able to produce the sounds of various instruments. These sounds are called "Voices."

About ATELIER Series Sound Generator

The ATELIER series come equipped with GM2/GS sound generators.

General MIDI

The General MIDI is a set of recommendations which seeks to provide a way to go beyond the limitations of proprietary designs, and standardize the MIDI capabilities of sound generating devices. Sound generating devices and music files that meets the General MIDI standard bears the General MIDI logo. Music files bearing the General MIDI logo can be played back using any General MIDI sound generating unit to produce essentially the same musical performance.

General MIDI 2

The General MIDI 2 is a set of recommended specifications that provide detailed definitions for functionality such as sound editing and effects that had not been defined in the General MIDI, and extend the sound map to allow a higher degree of performance expression and compatibility. Since the General MIDI 2 is compatible with the General MIDI, it is capable of reliably playing back music files bearing the General MIDI logo.

GS format

The GS Format is Roland's set of specifications for standardizing the performance of sound generating devices. In addition to including support for everything defined by the General MIDI, the highly compatible GS Format additionally offers an expanded number of sounds, provides for the editing of sounds, and spells out many details for a wide range of extra features, including effects such as reverb and chorus.

Designed with the future in mind, the GS Format can readily include new sounds and support new hardware features when they arrive.

Since it is upwardly compatible with the General MIDI, Roland's GS Format is capable of reliably playing back GM Scores equally as well as it performs GS music files (music files that have been created with the GS Format in mind). This product supports both the General MIDI and the GS

Format, and can be used to play back music data carrying either of these logos.

SMF with Lyrics

"SMF with Lyrics" refers to SMF (Standard MIDI File) that contains the lyrics. When music files carrying the "SMF with Lyrics" logo are played back on a compatible device (one bearing the same logo), the lyrics appears in its display.

MIDI Implementation Chart

Function...	Transmitted	Recognized	Remarks
Basic Channel Default Changed	9 (Drums/SFX) 12 (Lower) 13 (Upper) 14 (Pedal Bass) 16 (Solo, Expression, PC) 1-16	1-16 1-16 1-16 1-16 1-16 1-16	
Mode Default Messages Altered	x x *****	Mode 3 Mode 3, 4(M=1)	* 3
Note Number : True Voice	32-103 *****	0-127 0-127	
Velocity Note ON Note OFF	O *1 x 8n v=64	O x	
After Touch Key's Ch's	x x	O *2 O *2	
Pitch Bend	x	O *2	
Control Change	0, 32 O *1 1 x 5 x 6, 38 x 7 x 10 x 11 O 16 x 64 O 65 x 66 x 67 x 84 x 91 x 93 x 98, 99 x 100, 101 x	O *3 O *2 O *2 O *2 O *2 O *3 O *3 O *4 O *3 O *3 O *2 O *2 O *2 O *2 O *3 O *3 O *3 O *3 O *2	Bank select Modulation Portamento time Data entry Volume Panpot Expression General purpose controller (Glide) Hold 1 Portamento Sostenuto Soft Portamento control Effect1 depth Effect3 depth NRPN LSB, MSB RPN LSB, MSB
Prog Change : True #	0-127 *1 *****	O *3 0-127	Program number 1-128
System Exclusive	x	O	
System Common : Song Pos : Song Sel : Tune	x x x	x x x	
System Real Time : Clock : Commands	O O	x x	
Aux Message : All sound off : Reset all controllers : Local Control : All Notes OFF : Active Sense : Reset	x x x x O x	O (120, 126, 127) O x O (123-125) O x	
Notes	* 1 O x is selectable. * 2 O x is selectable by SysEx. * 3 Recognize only GS Part. * 4 Recognize only Keyboard Part.		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO

O : Yes
X : No

Main Specifications

AT-20S:Music Atelier

Keyboard

Upper keyboard:	49 notes (C3 - C7)
Lower keyboard:	61 notes (C2 - C7)
Pedalboard:	13 notes (C2 - C3)

Sound Generator

Conforms to GS/General MIDI 2

Max. Polyphony

64 voices

Voices (150 voices)

Upper Part:	Upper Organ, Upper Orchestral
Lower Part:	Lower Organ, Lower Orchestral
Solo Part:	Solo
Pedal Part:	Pedal

* Any two voices can be assigned to each [Others] button. (One for the Pedal [Others] button.)

Rhythms

10 group 90 Rhythms x 4 types (Style Orchestrator)

Disk Rhythm

2 Rhythms

* Music Style Disk (MSA series; sold separately) can provide additional Music Styles.

Number of Accompaniment/SMF play voices

226 voices

Arranger Function

Arranger On/Off, Start/Stop, Intro/Ending, Sync Start, Fill In (Variation/Original), Leading Bass, Style Orchestrator, Break, Chord Intelligence, One Touch Program, Intro Count Down

Drum/SFX Sets

8 Drum Sets/1 SFX Set

Master Tuning

415.3 Hz - 466.2 Hz (0.1 Hz Steps)

Key Transpose

-6 - +5 (Half steps)

Playback Transpose

-24 - +24 (Half steps)

Effects

Rotary Sound, Reverb, Sustain, Glide

Harmony Intelligence

4 Types

Registration Memories

4

Composer

Tracks:	7 Tracks
Note Storage:	Approx. 40,000 notes
Song Length	Max.: 999 measures
Tempo:	Quarter note = 20-250
Resolution:	120 ticks per quarter note
Recording:	Realtime (Replace, Punch In/Out, Loop)
Edit Function:	Delete Measure, Delete Track, Erase Event, Copy, Quantize

Metronome

Beat:	2/2, 0/4, 2/4, 3/4, 4/4, 5/4, 6/4, 7/4, 3/8, 6/8, 9/8, 12/8
Volume:	10 levels
Sound:	4 types

Disk Storage: 3.5 inch micro floppy disk

Disk Format:	720 K bytes (2DD), 1.44 M bytes(2HD)
Songs:	Max. 56 (2DD), Max. 99 (2HD)

Rated Power Output

30 W x 2

Speaker

Full-range (small)	8 cm x 2
Full-range (large)	16 cm x 2

Display

16 characters, 2 lines (backlit LCD)

Lyric

Yes

Pedal

Damper Pedal, Expression Pedal

Main Specifications

Connectors

Phones jack (Stereo), AC Inlet, Pedal connector, MIDI connectors (In/Out), Audio output jacks (L (mono)/R), Computer connector, Speaker jack

Power Supply

AC 117 V, AC 230 V, AC 240 V

Power Consumption

100 W (AC 117V)

100 W (AC 230V)

100 W (AC 240V)

Finish

Simulated Mahogany

Dimensions

Console: 1162 (W) x 572 (D) x 466 (H) mm

45-3/4" (W) x 22-9/16" (D) x 18-3/8" (H) inches

Stand: 1150 (W) x 510 (D) x 745 (H) mm

45-5/16" (W) x 20-1/8" (D) x 29-3/8" (H) inches

Total: 1162 (W) x 576 (D) x 1211 (H) mm

45-3/4" (W) x 22-11/16" (D) x 47-11/16" (H) inches

Weight

Console 40.7 kg / 89 lbs 12 oz

Stand 24.0 kg / 52 lbs 15 oz

Total 72.3 kg / 159 lbs 7 oz

Accessories

Owner's manual, 3.5 inch micro floppy disk (2HD) (Blank Disk), Music Style Disk, Power Cord

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

Demo Song List

To play the Demo Songs, please refer to "Listening to the Demo Songs" (p. 19).

■ AT-20S

Song Title	Composer	Player	Copyright
FastBigBand	Rosemary Bailey	Rosemary Bailey	© 2001 Roland Corporation
Organ Swing	Hal Vincent	Hal Vincent	© 2001 Roland Corporation
PianoStrings	Hector Olivera	Hector Olivera	© 2001 Roland Corporation
Soft Gospel	Ric Iannone	Ric Iannone	© 2001 Roland Corporation
Jazz Scat	Ric Iannone	Ric Iannone	© 1999 Roland Corporation
Acoustic	Ric Iannone	Ric Iannone	© 2001 Roland Corporation
TheaterOrgan	Jonas Nordwall	Jonas Nordwall	© 1995 Rodgers Instruments LLC
Big Band	Ric Iannone	Ric Iannone	© 1999 Roland Corporation

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* The data for the Demo song that is being played is not available at the MIDI Out connector.

■ Profile

Hal Vincent

Hal consistently delights his audiences with his keyboard artistry. He is equally at home on either the organ, piano, or electronic keyboard. Around the world, his concerts generate the often heard comment "...we loved it because he plays our kind of music." This is another of Hal's special skills: a knack for knowing just what music to play on any occasion.

An extensive repertoire combined with more than 30 years of world touring have netted Hal rave reviews while affording him the opportunity to work with some of the top names in show business. Hal has recorded several albums and published books of organ arrangements while establishing himself as an excellent clinician and teacher.

Hector Olivera

Hector Olivera was born in Argentina. He received his education at the Conservatory and the University of Buenos Aires followed by a scholarship at the famous Juilliard School of Music in New York. Olivera has performed extensively throughout the world including concerts at prestigious places such as the Notre Dame Cathedral in Paris and Carnegie Hall in New York. Hector Olivera's expertise involves both the traditional pipe organ and the electronic organ. Presently Olivera tours internationally playing some of the world's most magnificent pipe organs as well as his preferred electronic organ, the Roland Atelier for which he continues to collaborate with its development.

Jonas Nordwall

A native of Portland, Mr. Nordwall received his Bachelor of Music Degree in 1970 from the University of Portland studying with Arthur Hitchcock. Additional study was done with Frederick Geoghegan, the noted English/Canadian organist. As a teenager, Jonas had the privilege to study with Richard Ellsasser, one of the greatest virtuoso organist of 20th century.

Besides serving as Director of Music for the First United Methodist Church in Portland, Oregon and as the Organist for the Oregon Symphony Orchestra.

He has been a featured recitalist for national conventions of the American Theatre Organ Society and was Organist of the year for 1987.

Ric Iannone

Ric Iannone began playing the piano and accordion at the age of two and a half. By the time he was seven, he was performing public and private engagements with his musician father. For more than 20 years Ric has performed and traveled extensively throughout the United States and Europe, delighting audiences with his unique playing style and music arrangements. He is equally comfortable playing the organ, piano or keyboard, as a concert artist and product demonstrator.

Rosemary Bailey

Rosemary Bailey began playing the piano at the age of five, performing strictly classical music. She soon diversified and incorporated jazz and traditional popular styles in her repertoire. By the time she was nine years old, Rosemary had begun touring throughout the United states.

Concurrently, she maintained a weekly radio show, The Rosemary Bailey Show, broadcast from Chicago.

Rosemary has performed with many name artists including Victor Borge and Peter Nero as well as the Duke Ellington Orchestra. She was also featured soloist with the Chicago Symphony under the direction of Dr. Leon Stein.

At home on electronic as well as pipe organs, her concert schedule has taken her to such countries as Japan, South Africa, Canada, Italy, Spain, England, Holland, Denmark, Portugal, Germany and Australia.

Rosemary's unique arrangements involve the marriage of her classical and popular music background. Perfect pitch enables her to effortlessly field requests from the audience and adds spontaneity to all her programs.

Rosemary has developed a following of musical devotees wherever she performs and her numerous recordings are sought after by young and old alike.

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Mira Str. 19/108
P.O. Box 180
295400 Munkachevo, UKRAINE
TEL: (03131) 414-40

UNITED KINGDOM

Roland (U.K.) Ltd.
Atlantic Close, Swansea
Enterprise Park, SWANSEA
SA7 9FJ,
UNITED KINGDOM
TEL: (01792) 702701

MIDDLE EAST

BAHRAIN

Moon Stores
No.16, Bab Al Bahrain Avenue,
P.O.Box 247, Manama 304,
State of BAHRAIN
TEL: 211 005

CYPRUS

Radex Sound Equipment Ltd.
17, Diagorou Street, Nicosia,
CYPRUS
TEL: (022) 66-9426

IRAN

MOCO, INC.
No.41 Nike St., Dr.Shariyati Ave.,
Roberoye Cerahe Mirdamad
Tehran, IRAN
TEL: (021) 285-4169

ISRAEL

**Halilit P. Greenspoon &
Sons Ltd.**
8 Retzif Ha'aliya Hashnya St.
Tel-Aviv-Yafo ISRAEL
TEL: (03) 6823666

JORDAN

AMMAN Trading Agency
245 Prince Mohammad St.,
Amman 1118, JORDAN
TEL: (06) 464-1200

KUWAIT

Easa Husain Al Yousifi Est.
Abdullah Salem Street,
Safat, KUWAIT
TEL: 243-6399

LEBANON

Chahine S.A.L.
Gerge Zeidan St., Chahine Bldg.,
Achrafieh, P.O.Box: 16-5857
Beirut, LEBANON
TEL: (01) 20-1441

QATAR

**Al Emadi Co. (Badie Studio
& Stores)**
P.O. Box 62, Doha, QATAR
TEL: 4423-554

SAUDI ARABIA

**aDawlah Universal
Electronics APL**
Corniche Road, Aldossary Bldg.,
1st Floor, Alkhobar,
SAUDI ARABIA

P.O.Box 2154, Alkhobar 31952
SAUDI ARABIA
TEL: (03) 898 2081

SYRIA

**Technical Light & Sound
Center**
Khaled Ebn Al Walid St.
Bldg. No. 47, P.O.Box 13520,
Damascus, SYRIA
TEL: (011) 223-5384

TURKEY

**Ant Muzik Aletleri Ithalat
Ve Ihracat Ltd Sti**
Siraselvilcer Caddesi Siraselvilcer
Pasaji No:74/20
Taksim - Istanbul, TURKEY
TEL: (0212) 2499324

U.A.E.

**Zak Electronics & Musical
Instruments Co. L.L.C.**
Zabeel Road, Al Sherooq Bldg.,
No. 14, Grand Floor, Dubai, U.A.E.
TEL: (04) 3360715

NORTH AMERICA

CANADA

**Roland Canada Music Ltd.
(Head Office)**
5480 Parkwood Way Richmond
B. C., V6V 2M4 CANADA
TEL: (604) 270 6626

**Roland Canada Music Ltd.
(Toronto Office)**

170 Admiral Boulevard
Mississauga On L5T 2N6
CANADA
TEL: (905) 362 9707

U. S. A.

Roland Corporation U.S.
5100 S. Eastern Avenue
Los Angeles, CA 90040-2938,
U. S. A.
TEL: (323) 890 3700

As of November 1, 2003 (Roland)



This product complies with the requirements of European Directives EMC 89/336/EEC and LVD 73/23/EEC.

For EU Countries

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For the USA

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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