QRS Analog / MIDI Interface (AMI)
Cat. No. 50060

Owners Manual

January, 1998

Overview

Thank you for purchasing the QRS Analog/MIDI Interface (AMI). The AMI is a highly innovative, professional quality MIDI device that Electronic Musician called "an engineering breakthrough." With the AMI you can playback the QRS library of prerecorded piano music. Another outstanding feature is the capability to record MIDI information to any reasonable quality standard tape recording device and media, including most commercially available cassette and reel-to-reel tape recorders. The AMI is as easy to use as a tape recorder.

With the AMI you can record to tape MIDI sequence information that you have created "live" or with a sequencer. The AMI then allows you to replay this information and send it to your MIDI instruments. You can use the AMI and a tape recorder in place of costly, fragile and often cumbersome hardware sequencers or computers.

Additional AMI features allow you to perform several sophisticated and advanced tasks. It is well worth your while to read this manual thoroughly and familiarize yourself with all of the capabilities and features of your AMI. Since the QRS AMI is so innovative and unique, we welcome any technical questions, comments and suggestions you have. We invite you to contact us directly at: 941-597-5888.

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Contents

AMI Features

• Reads and writes with high reliability to most reasonable quality tape recorders and media.

• Can output MIDI information either passively (over all channels), or on MIDI channels 1, 2 or 10.

• Variable speed tape reader capability.

• High and Low Bandwidth data settings. We strongly recommend that you use the AMI in the High Bandwidth setting (with High Bandwidth switch ON). It you are using a poor quality tape deck and experiencing sync difficulties, you may try using the AMI in the Low Bandwidth setting.

• After-Touch Filter On/Off Switch allows you to filter out unnecessary bandwidth consuming, After-Touch information.

• Special Duplicate Switch (Clock/Duplicate), allows you to make backup duplicate tapes of your QRS AMI recordings.
IMPORTANT: The Clock/Duplicate Switch also selects whether MIDI timing bytes will be recorded to tape. If the Clock/Duplicate Switch is turned OFF, NO MIDI timing will be recorded to tape. See "**Clock/Duplicate Dip Switch**" discussion.

• The standard AMI can handle System Exclusive Dumps of up to 2000 bytes.

• Special MIDI data Merge Switch allows you to merge "live" keyboard with prerecorded AMI MIDI information tapes.

• Supports the recording of MIDI timing information (only when the AMI Clock/Duplicate Switch is turned ON), allowing you to use the AMI as a "dumb" Sync box. See "**Clock/Duplicate Dip Switch**" discussion.

• Special MIDI Write indicator light shows when MIDI data is being written to or read from tape.

• Special MIDI Transmit Priority assigns first priority to MIDI channel 10, the Roland drum channel, and second priorty to MIDI channel 1, a user selectable channel. Put your highest priority track, i.e., your drum track on MIDI channel 10, and your second highest priority track, i.e., your bass track, on MIDI channel 1.

Panel Description (See Fig. 1)

1.   Power Supply Jack. For 9 Volt DC, wall mount supply.

2.   MIDI In Jack. This MIDI 5 Pin Din will typically be connected to your master keyboard or your computer's MIDI Out.

3.   MIDI Out Jack. This MIDI 5 Pin Din will typically be connected to your master keyboard MIDI IN or your piano's MIDI IN.

4.   Audio In Jack. 1/4" Phono Jack will typically be connected to your tape recorder's Left Channel Audio Out or your CD player's Left Channel Audio out.

5.   Audio Out Jack. 1/4" Phono Jack will typically be connected to your tape recorder's Left Channel Audio IN or the CD IN on your CD Keyboard Player or the Analog IN on your Pianomation System. This signal can be wirelessly tranmitted to any of these devices. It is activated by the Write Button.

6.   MIDI In/Out Indicator Light. This indicator light will flicker when the AMI is in Record Mode and MIDI information is being input at the AMI's MIDI In Jack or when the AMI is in Play Mode and MIDI information is being output at the AMI's MIDI Out Jack.

7.   Analog Read/Write (ln/Out) Indicator Light. This will light when the AMI is in Record Mode and when a Tape Out signal is being written to Tape, or when the AMI is in Play Mode and a pre-recorded AMI tape is being played successfully.

8.   Write (to Tape) Switch.   When first pressed, the Tape Read/ Write Indicator will light, and the AMI will go into MIDI Write to Tape Mode. After this, any MIDI information appearing at the AMI MIDI In Jack will be encoded, sent out the Audio Out Jack, and then can be recorded to Tape. If the AMI is not in Write Mode, MIDI information CANNOT be written to tape. When this Switch is pressed again, the Tape Read/Write Indicator will turn off, and the AMI will be taken out of Tape Write Mode and will be ready to read AMI recordings.

9.   Dip Switch Group. Provides control of various AMI functions described in detail on the following pages.

Dip Switch Descriptions

10. Merge Switch. If ON, this will allow you to merge any MIDI information appearing at the AMI MIDI In Jack with any MIDI information the AMI is decoding from tape. This allows you to merge your Master Keyboard along with prerecorded AMI sequences. If turned OFF, MIDI information appearing at the MIDI In Jack will NOT be merged with the AMI playback information. If you encounter any type of MIDI feedback, make sure this switch is set to OFF.

11. Clock/Duplicate Switch. The Clock/Duplicate Switch has two functions:

1) It selects whether MIDI timing bytes will be recorded to Tape. If the Switch is turned OFF, NO MIDI timing information will be recorded to tape. If you want to record timing information or if you are using the AMI to make a MIDI Sync track, then this Switch must be set to ON. MIDI timing does take up a significant amount of the available AMI recording bandwidth so if MIDI timing is not essential, leave this Switch OFF and do not record it onto tape.

2) If ON, this feature allows you to create tape backups of your AMI playback information. When switched to ON, any AMI tape information coming in the AMI Audio IN will be reshaped and sent at a dubbing level out the AMI Audio Out Jack. When making a duplicate cassette, the AMI Audio Out should be connected to the Tape Audio IN on another tape recorder. This means, of course, that two tape recorders are required to duplicate an AMI cassette tape. Tapes should be duplicated for your protection if you intend to play the tape more than 100 times. This Switch would normally be set to OFF.

12. High Bandwidth Switch. When ON, this will switch the AMI to High Bandwidth, allowing MIDI information to be encoded to a High Bandwidth reducing MIDI arpeggiation. This switch normally is set to ON.
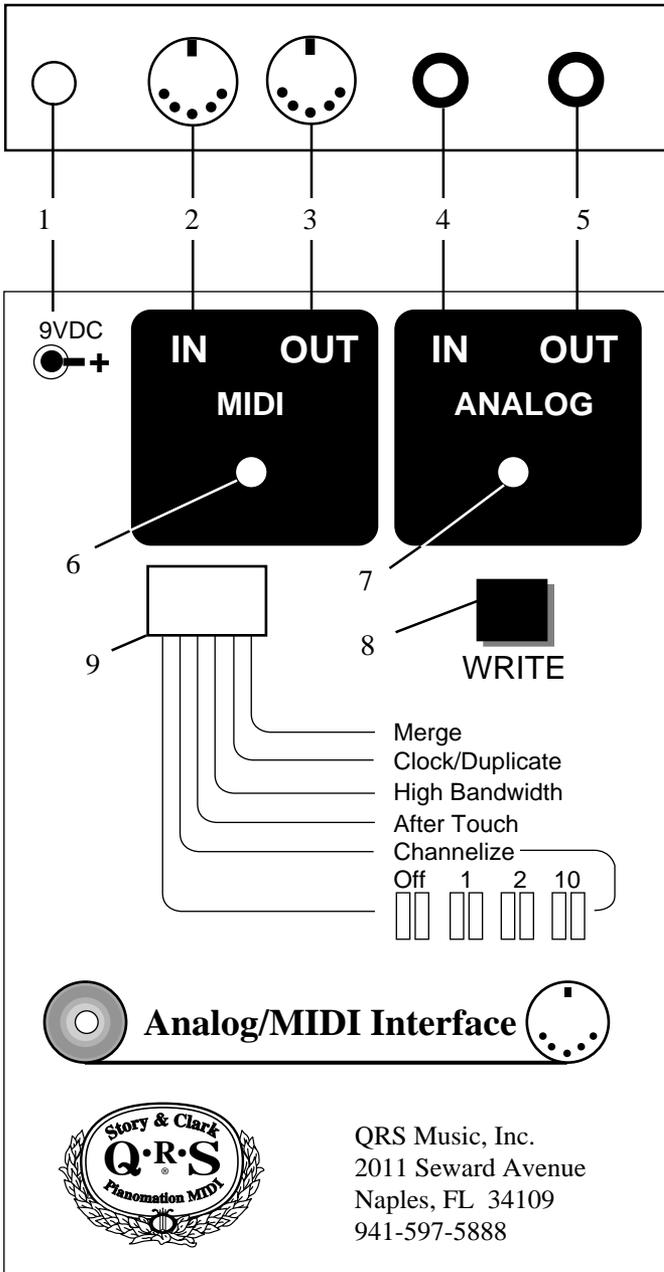
Dip Switch Descriptions

IMPORTANT: AMI recordings in the High or Low Bandwidth setting MUST also be played with the SAME setting; i.e. the AMI recordings with the Low Bandwidth setting WILL NOT play at all with the AMI set to High Bandwidth and vice versa. All CDs are recorded in the High Bandwidth.
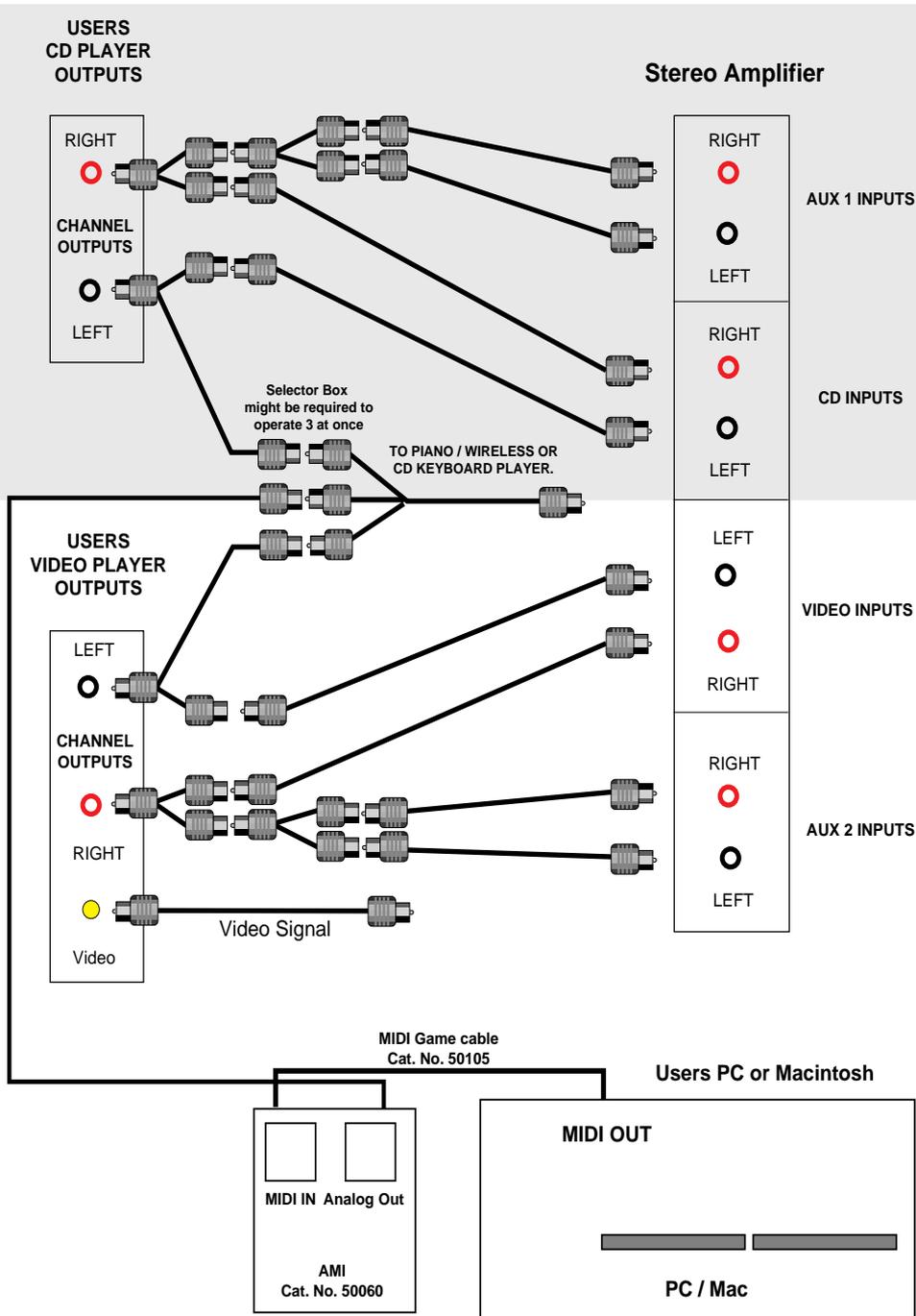
13. After Touch Switch. When OFF, this will filter out all MIDI After Touch information from the AMI tape data. After Touch MIDI information is generated on many popular synthesizers at a tremendous rate and can consume most of the available MIDI Bandwidth. If After Touch is filtered out (i.e., this switch set to OFF), MIDI arpeggiation will be far less, and the AMI playback quality will be far better. For this reason, this switch should normally be left OFF.

14/15. Channelize Switches. All MIDI sequence information recorded with the AMI is recorded exactly as it is played into the AMI with all MIDI channel information preserved. Alternatively, these two channel switches allow you to channelize all the MIDI information coming from the AMI to a single MIDI channel, either 1, 2, or 10. This channelization capability is of value if you have MIDI information on several MIDI channels and you would like to audition and play the piece over one MIDI channel. If both of these switches are OFF, the AMI plays recorded MIDI data over the MIDI channel on which the individual data was recorded. If the two switches are set to any other position than OFF, the MIDI data will be channelized to the channel indicated on the AMI front panel. Both these switches should normally be OFF (**NO** channelization). **IMPORTANT**: If Channelize is turned ON, the AMI will NOT transmit any recorded MIDI Program change information since the recorded Program Changes are usually channel specific. Also, when Channelize is ON, the AMI does NOT channelize any MIDI information recorded on MIDI Channel 10 since this MIDI channel has been designated as the AMI's "protected" MIDI Drum Channel.

Panel Description

9VDC

IN OUT
MIDI

IN OUT
ANALOG

WRITE

Merge
Clock/Duplicate
High Bandwidth
After Touch
Channelize
Off 1 2 10

Analog/MIDI Interface

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Story & Clark
Q·R·S
Pianomation MIDI

CD / Tape / Computer Setup

USERS
CD PLAYER
OUTPUTS

Stereo Amplifier

RIGHT

CHANNEL
OUTPUTS

LEFT

RIGHT

AUX 1 INPUTS

LEFT

RIGHT

CD INPUTS

LEFT

**Selector Box
might be required to
operate 3 at once**

**TO PIANO / WIRELESS OR
CD KEYBOARD PLAYER.**

LEFT

VIDEO INPUTS

RIGHT

USERS
VIDEO PLAYER
OUTPUTS

LEFT

CHANNEL
OUTPUTS

RIGHT

RIGHT

AUX 2 INPUTS

LEFT

Video

Video Signal

**MIDI Game cable
Cat. No. 50105**

Users PC or Macintosh

MIDI OUT

MIDI IN Analog Out

**AMI
Cat. No. 50060**

PC / Mac

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Typical System Setup (See Fig. 2)

The AMI is designed to work with any reasonably good CD player, cassette or reel-to-reel tape recorder. A typical system setup (Fig. 2) for playback of QRS AMI CD's consists of the AMI, a CD player and a Sound Module. This setup is connected as follows: The Left Channel Out of the CD player is connected to the AMI Analog IN. The MIDI Out of the AMI is connected to the MIDI IN of your sound module. This would be the typical setup for using the AMI as a MIDI "Player Piano".

A typical system aetup (see Fig. 2) consists of the AMI, a cassette deck and a master keyboard. This setup is connected as follows: 1) The MIDI Out of the master keyboard is connected to the AMI MIDI In Jack. 2) The MIDI Out jack of the AMI is connected to the MIDI In on the master keyboard. 3) The AMI Analog Out is connected to the tape recorder Tape In. 4) The tape recorder Analog Out is connected to the AMI Analog In. This system setup allows you to play your master keyboard, record this MIDI information, via the AMI to tape, and afterwards playback this recorded MIDI information, via the AMI from tape. This also would be the typical setup for using the AMI as a MIDI "Player Piano".

If you are going to use the AMI to run a more extensive MIDI setup with multiple synthesizer modules, you should make sure that all of the synthesizer MIDI In's in your setup are connected to the AMI MIDI Out. This can be accomplished by daisy chaining together the various MIDI In's to the Thru's on your various synths. You should leave your master keyboard's MIDI Out connected to the AMI MIDI In.

As mentioned in the "**Panel Description**" (see discussion on Merge Switch), the AMI has the capability to merge MIDI information coming in the MIDI In jack with MIDI information being played back from tape. If the Merge Switch is On, the setup described here will allow you to play "Live" master keyboard tracks through your existing MIDI system, along with the AMI prerecorded sequence information.

Operation

To begin using the AMI, make sure you have read the preceding sections of this manual. Your system should be setup along the guidelines outlined in the "**Typical System Setup**" section. **Also, all the AMl Dip Switches normally should be set to OFF except for the High Bandwidth switch which should be set to ON**. These are the default settings suggested in the "**Panel Description**" section of this manual.

We strongly suggest that you use a high quality tape for all of the AMI recordings. The reliability of the AMI tapes you create is only as good as the reliability of the tape media itself.

With everything hooked up as described, let's now record an AMI MIDI track to tape. Put your tape recorder into Record and press your recorder's Pause button. Now, press the AMI Write button and the AMI Analog Read/ Write Indicator will light, showing that an AMI signal is being output and is ready to record to tape. If your tape recorder permits level adjustment, adjust the record level to somewhere around -3db. NOTE: The Analog Read/ Write Indicator light must be ON during the entire recording process.

Next, release the Pause button on your tape recorder and let your deck start recording. We recommend that you let a couple of seconds elapse before you begin playing MIDI information into the AMI. This will provide a leader before the piece. When you are done recording the performance to tape, stop the tape recorder and again press the AMI Write button to take the AMI out of Write mode. After doing this, the Analog Read/Write Indicator will go out.

To playback what you have just recorded, rewind the tape to anywhere within the piece you have just recorded. Make sure your AMI is not in Write Mode and that the Tape Read/Write Indicator is OFF before you try playing back the piece. Now, press Play on your tape deck. The Analog Read/Write Indicator will now light, showing that an AMI signal is being read from tape, and you should be hearing the recorded MIDI information playing back.

Operation (Cont.)

IMPORTANT: If the Analog Read/Write Indicator goes out or flickers AT ALL during playback of the AMI tapes, you have a tape reading problem which should be fixed. If you encounter such a problem consult the "**Trouble Shooting**" section of this manual to find the cause. When playing back the AMI recorded tapes, the Analog Read/Write indicator light should be steadily lit or you will NOT achieve reliable performance.

When playing back the recorded MIDI information, you can shuttle your tape deck forward and backward to begin playing back recorded MIDI information from any place you desire. You can record several MIDI self selections to tape and shuttle your recorder to just before the piece you wish to play and then initiate playback. Alternatively, you can record individual pieces to individual tapes and thus avoid any cuing difficulties.

IMPORTANT: It you encounter any difficulties using the AMI at the - 3db level suggested, you should go ahead and try various level settings until you find the best level for your particular system. Don't be afraid to experiment. Often, the input and output levels on a cassette deck cannot be set and are fixed at No Gain, which is normally fine for the AMI operation.

MIDI Channel Transmit Priority

In order to minimize MIDI delay for drums and bass lines, etc., the AMI gives special MIDI Transmit Priority, first to MIDl channel 10 - the Roland drum channel, and then, to MIDI channel 1 - a user assignable channel. All other MIDI channels are recorded as they come in and are not given any special transmit priority. If you want the greatest playback precision on your drum track, be sure it is on MIDI channel 10. If you want the second greatest playback precision for example, on your bass track, be sure it is on MIDI channel 1. Alternately, you could put your lead line or some other time critical track on channel 1.

Tape Duplication

Cassette tape media will not last forever. If your AMI tape becomes scratched or damaged, the MIDI information at the scratched location may not playback properly. Consequently, we recommend that you make backup copies of all of your important sequence tapes. Because of the importance of backing up these tapes, a special dubbing feature has been incorporated in the AMI (see Panel Description Section - Clock/Duplicate Switch).

To duplicate a recording, you will need two tape recorders, one to play the existing AMI recording and the other to record the duplicate tape. Connect the Tape Out of the play deck to the AMI Tape In. Connect the AMI Tape Out to the record deck Tape In. Next, make sure the Clock/Duplicate Switch on the AMI is set to ON. You are now ready to duplicate a tape.

First, put the record deck in Record Mode and then start the playback deck playing the AMI recording you wish to duplicate. During playback, you can hook the AMI MIDI Out up to your MIDI system and monitor the MIDI piece as it is being duplicated. **REMEMBER**: All mistakes, tape drop out, or wrong MIDI information on your original tape WILL be duplicated onto the duplicate tapes you create.

IMPORTANT: Make sure to set your playback deck output to a high level, about + I0db, when using the AMI to make duplicate sequence tapes. This is needed for the AMI reshaping circuitry to function optimally.

IMPORTANT: Remember the Clock/Duplicate Switch also selects whether MIDI timing bytes will be recorded to tape. If you are not duplicating the AMI tapes and you do not wish to record MIDI timing information, **BE SURE the Clock/Duplicate Switch is turned to OFF,** or much of the AMI bandwidth may be inadvertently wasted recording MIDI timing information.

Recording MIDI Timing Information

The AMI is capable of recording MIDI timing information including MIDI Start, Stop, and Timing messages. Because of this, the AMI is capable of driving external sequencers and drum machines while also outputting normal non-timing MIDI data. This means the AMI can function as a "dumb" (i.e., not supporting "song pointer") MIDI Sync box, allowing you to record and Sync sequencers to a multitrack tape deck.

As mentioned earlier in this manual, the Clock/Duplicate switch selects whether MIDI timing bytes will be recorded to tape. If the Clock/Duplicate switch is turned OFF, NO MIDI timing information will be recorded to tape. If you want to record any timing information or if you are using the AMI to create a MIDI sync track, this switch must be set to ON. To make a sync track, make sure the Clock/Duplicate switch is ON and record an AMI MIDI timing track onto one track of your multitrack tape deck. Next, use the AMI to decode this track as a master MIDI timing track, making your sequencer the timing slave to the AMI sync track. After doing this you can "roll off" one sequencer track at a time onto other tracks on your multitrack recorder.

IMPORTANT: MIDI timing does use a significant amount of the AMI recording bandwidth. So if MIDI timing is not essential, leave this Switch OFF, and DO NOT record timing onto tape. **It is recommended that you DO NOT record MIDI timing into sequence tracks if you can avoid it, since so much of the AMI bandwidth is used up recording the timing alone**. Also, if you turn the Clock/Duplicate Switch ON to record MIDI timing information, remember to turn it OFF when done.

IMPORTANT: The AMI does NOT generate "song pointer" information when recording MIDI timing information. Consequently, if you use the AMI as a sync box, you must play the sequence from the beginning each time. If you start playing the sequence anywhere past the beginning, sync WILL BE LOST.

High and Low Bandwidth

We recommend that you always run the AMI in the High Bandwidth setting (High Bandwidth switch ON). In High Bandwidth, the AMI Bandwidth is increased by 50% and consequently, the AMI MIDI delay is reduced by 50%. Our experience has been that any reasonable quality, front loading, stereo cassette deck works great in High Bandwidth. Furthermore, because of the equalization built into some tape decks, we have even experienced less reliability in Low Bandwidth than in High. However, if you are experiencing great difficulty operating the AMI in High Bandwidth, try using the Low Bandwidth setting.

IMPORTANT: The AMI tapes recorded in the High or Low Bandwidth MUST be played back with the SAME setting. The AMI sequences recorded with the Low Bandwidth setting WILL NOT play at all with the AMI set to High Bandwidth and vice versa.

Recording System Exclusive Information

The AMl is capable of recording and playing back System Exclusive information. However, because the data transmission rate of tape is significantly slower than that of MIDI, the size of the System Exclusive messages (also known as dumps) that the AMI can save to tape, is only as large as the data buffer inside of your AMI. The standard AMI has a data buffer size of 2000 Bytes, and the AMI 2K has a 32K Byte data buffer.

If you attempt to use the AMI to record System Exclusive messages (dumps) larger than the buffer memory inside of your AMI (either 2000 or 32K bytes), none of the System Exclusive message will be recorded.

If you have any questions about the size of a specific instrument System Exclusive message, you should consult the instrument's instruction manual and make sure the dump you would like to record is less than the side of the buffer in the AMI.

High and Low Bandwidth (Cont.)

If you do have the AMI 32K you should be able to record just about every System Exclusive dump in existence, with the possible exception of MIDI digital sampler dumps.

To record System Exclusive data to tape, simply put your tape deck into record, put the AMI into Write, and initiate the bulk dump from your instrument. You may have to consult your instrument's manual to find out how to initiate a Sys Ex bulk dump from it. When recording Sys Ex data to tape, the entire System Exclusive message has to be received by the AMI before the AMI will write any data to tape.

To replay System Exclusive data already recorded, simply shuttle to a place on the tape a little before the Sys Ex dump, put your tape deck into Play, and play the tape through the entire dump. The bulk dump is sent from tape continuously as it is read from tape, and the AMI MIDI indicator will light brightly and continuously as the data is sent.

The AMI saves an error check sum at the end of each Sys Ex dump recorded to tape. At the completion of reading a dump from tape, if any error has occurred, the AMI's Tape and MIDI indicator lights will both blink four times, alerting you that an error has occurred.

When recording important System Exclusive data to tape, we highly recommend that you replay the information and make sure this error indication does not occur. Additionally, if the Sys Ex information is very important, you may want to record it to tape more than once to insure that you have backup copies. If you start playing the AMI tape in the middle of a Sys Ex dump, none of the Sys Ex data will be sent. This insures that erroneous partial data isn't sent to your instruments. Accordingly, make sure that you give yourself a little leader before you record each Sys Ex dump. This will make it easier to rewind to a position before the start of any dump.

Closing Talk and Tips

The AMI is designed and engineered to compress as much as possible of the MIDI information that it records to tape. The frequency bandwidth of a reasonable quality tape recorder is significantly less than the full bandwidth of MIDI. The AMI uses several compression techniques and "tricks" to reproduce as much of this bandwidth as possible. In this way, the AMI is very much like Dolby Noise reduction - by accomplishing something which seems to be impossible.

Under ideal conditions, the AMI can reproduce MIDI at full MlDI bandwidth; under the worst conditions, the AMI may operate at about a fourth of MIDI bandwidth. Keep in mind that this extreme bandwidth reduction occurs only under the worst conditions, and that the AMI will reproduce typical MIDI sequence material extremely well. Also, this bandwidth reduction does not mean that any notes, controller or program information will be lost. However, if you are trying to record, for example, a 16 track sequence of dense chords and multichannel MIDI information, you may begin to hear "MIDI arpeggiation" or other timing distortions. There are several things you can do to keep this MIDI timing "distortion" to a minimum and to make the AMI reproduction as good as possible. These are the same things you would do to improve the performance of any sequencer. These tips include:

• If possible, when recording sequences with the AMI, filter out all After Touch; i.e., leave the AMI After Touch Switch set to OFF. After Touch can eat up as much as 50% of the available MIDI bandwidth.

• If possible, when recording sequences with the AMI, DO NOT record MIDI timing information, i.e. leave the Clock/Duplicate Switch set to OFF. MIDI timing cannot be compressed and can eat up as much as one half the AMI bandwidth at high tempos.

• Put your highest priority track, probably your drums, on the **Transmit Priority Channel 10**. Also, be sure to put your second highest priority track, possibly your bass or lead line, on the second **Transmit Priority Channel 1.**

Trouble Shooting

The AMI has been tested for hundreds of hours on many different kinds of tape decks and with many different types of tape.

The AMI operation has been found to be very reliable in all sorts of different setups and applications. The AMI, in normal operation, operates at about 1/4 of the full MIDI bandwidth. This means that if you use the AMI to record an 8 track sequence full of dense chords, you may hear some MIDI arpeggiation. However, in most applications, the AMI will function very well when producing multichannel MIDI sequence.

The AMI has been tested and does work fine with some hand held cassette decks (such as the SONY TCS 430). However, we have found this to be somewhat hit or miss, due to the small and sometimes unreliable 1/8" audio connections on these units. It is helpful to keep in mind that the AMI stores information to tape as digital data, NOT as audio information. We have found that tape decks with plastic housings are more susceptible to electrical noise interference and are less reliable than those with metal housings. We have found that high quality metal tape improves performance as well.

The Low Bandwidth mode is sometimes necessary when using lower quality tape decks.

IMPORTANT: The AMI recordings in the High or Low Bandwidth setting MUST also be played with the SAME setting; i.e., the AMI sequences recorded with the Low Bandwidth setting WILL NOT play at all with the AMI set to High Bandwidth and vice versa.

In order to further minimize MIDI delay on critical tracks such as drums and bass, the AMI gives special **MIDI Transmit Priority** first to MIDI channel I0 - the Roland drum channel, and then to MIDI channel I - a user assignable channel. All other MIDI channels are recorded to tape as they come in and are not given any special transmit priority. For the greatest playback precision on your drum track, make sure your drums are recorded on MIDI channel 10. If you want the second greatest playback precision on your bass track, for example, be sure it is recorded on MIDI channel 1.

Trouble Shooting (Cont.)

• Avoid over using pitch wheel, mod wheel, or other controller information in your sequences. The AMI does compress this information; however, at its worst, these can consume one half the available MIDI bandwidth.

• If it can be avoided, try to limit the amount of auto-correcting (quantizing) you do in a sequence, especially quantizing of massive chord groups. If, for example, you have five tracks of six-note chords all occurring at exactly the same time, you will hear MIDI "arpeggiation" on your AMI recording. If possible, try to have the various chords play at slightly different times.

• Use the best tape deck and tape material available to produce your AMI recordings. If the AMI encounters any significant tape drop out, it will generate an all notes off to avoid leaving any extraneous notes on. Tape dropouts will naturally occur less often with higher quality tape.

• You should make duplicates of all of your valued AMI recorded sequences and performance tapes. If an AMI recorded tape is scratched or wears out, it will not accurately duplicate the area where the tape has been damaged. Use the AMI's Duplicate feature to make copies of valued tapes BEFORE you wear them out.

• The AMI will function perfectly as a "dumb" (i.e., not supporting "song pointer") MIDI sync box. This means that if you are recording only MIDI timing information and no MIDI sequence information, the AMI will record and produce sync as well any other dumb sync box on the market. It is only when you are trying to record both MIDI timing, which can use up 50% of the available MIDI bandwidth, and dense sequence material, which can use up 100% of the available MIDI bandwidth, that you can run into trouble.

In normal sequencing applications the AMI will perform very well. In those cases of extremely dense sequencing, try to follow the above suggestions. If you do follow these tips, you should enjoy many hours of satisfying, trouble free operation. We hope you enjoy your AMI.

Trouble Shooting (Cont.)

If you are recording demanding drum tracks or sequences with drum tracks, if possible, try to step enter the drums rather than record them directly from a drum machine. Many drum machines send a MIDI On and a MIDI Off at the same instant - putting no delay between them. If you can put a delay between the drum On and Off for example, by step centering the drums from a keyboard, the bandwidth burden on the AMI will be halved and MIDI playback precision will be twice as good.

Trouble Shooting Check List

If you have any difficulties using the AMI you should check the following:

1. Are all cables working and plugged in properly?

2. Is your MIDI equipment connected and set up properly (on the right MIDI channel, MIDI receive enabled, etc.)?

3. Are you using a high quality CD player, tape deck and tape? Have you tried using high quality Metal Tape?
DO NOT use the AMI with a data or computer tape deck. These decks may seem sensible to use but have a much lower bandwidth (typically 5 kHz) than a common stereo cassette deck and subsequently will not work with the AMI.

4. Have you discovered the best input and output level settings on your tape deck? You may need to spend some time playing with different playback and record levels to find the best and most reliable settings. If the signal is too hot or too cold during record or playback, you may encounter problems. If recorded notes are being clipped or "drop out" entirely, you are probably experiencing level problems. You should play with the record and playback levels until the Tape Read/Write light does not blink (indicating tape drop out) at all during playback. If you still have problems, try a different tape deck or different tape. You might also try using your tape deck's other available channel in the event that your deck has undergone excessive or uneven head wear.

Trouble Shooting Check List

5. Is a dip switch in the wrong position? We recommend that all switches, except for the High Bandwidth switch which should he ON, remain in the OFF position to begin with. See the "Dip Switch Descriptions" section of this manual.

6. Are you getting MIDI feedback? If you are having any trouble with bizarre MIDI functioning such as the recorded sequence hogging down almost to a stop, you may be experiencing MIDI feedback. This can occur when you directly or indirectly connect the AMI MIDI output to the MIDI input. To make sure this isn't happening, try recording a sequence with only the AMI MIDI input hooked up, i.e., with nothing hooked to the AMI MIDI output. Next, try playing the AMI sequence back with only the AMI MIDI output hooked up, i.e., with nothing hooked to the MIDI input or Tape output. If this solves your problem, you need to find and eliminate the feedback loop.

7. Are you trying to record too much MIDI data, at one time? The AMI will function best if chord groups are not too dense and if the sequence material is NOT auto-corrected. If the sequence material is too dense, try to time shift dense tracks or chords or thin them out. Eliminate all unused MIDI data or tracks. If you still have problems, you may have to eliminate selected tracks. Try muting material until you find an acceptable quality performance. Also, we do suggest that you use the AMI in the High Bandwidth setting, since this will greatly reduce MIDI arpeggiation.

8. The AMI records information to tape as data. If you use noise reduction, such as DBX or Dolby, when recording or playing the AMI tracks, the data may be corrupted and the results may be unacceptable. We recommend that you DO NOT use noise reduction (i.e., DBX or Dolby) when playing or recording the AMI tracks.

9. If you are using a stereo deck, DO NOT record the AMI signal to both channels. Select one channel, either left or right, and use it alone.

Available Prerecorded CDs

Nostalgic Series

Liberace	400101
Ragtimers On Parade	400102
Ferrante & Teicher/Roger Williams	400103
Jazz Masters	400104
Golden Oldies	400201
Country Crossovers	400202
All Time Greatest Hits	400203
Contemporary Mega Hits	400204
Christmas Sing-Along 1	400301
Christmas Sing-Along 2	400302
Christmas Sing-Along 3	400303
Celebrity Christmas Sing-Along	400304
Broadway Musicals 1	400401
Broadway Musicals 2	400402
Broadway Musicals 3	400403
Broadway Musicals 4	400404
Roaring Twenties	400501
Fats Waller	400502
Fabulous Thirties	400503
Forties Big Band	400504
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Schumann: Piano Works Vol. 1	801220
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For Use with the Pianomation Nickelodeon

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