The Iguana User's Manual

This are compressed PNG (Portable Network Graphics) format images shown to give an idea of the manual. The printed manual is much easier to read.

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FOR THE MIRAGE, MIRAGE-DSK, OR RACK-MOUNT



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LEAPING LIZARDS

THE IGUANA V1.7 / 1

PROGRAMMED BY STEVEN FOX

REQUIREMENTS

THE IGUANA requires an ENSONIQ MIRAGE, MIRAGE-DSK, or MIRAGE rack-mount, some disks formatted for the Mirage, at least a couple MIDI cables, and at least one other MIDI instrument.

WHAT THE IGUANA DOES

THE IGUANA allows you to store all your MIDI system exclusive (SysEx) data on ordinary Mirage formatted disks. Up to three 128k files can be stored on a disk. Each file can hold up to 99 banks containing patch data, sequence data, performance data, or any other MIDI SysEx data your MIDI instrument is capable of sending. Any of the 99 banks can easily be selected for sending back to the the MIDI instrument. Also, any bank can be deleted in order to make room in THE IGUANA's 128k buffer for other data.

Almost every MIDI instrument capable of sending and receiving MIDI SysEx data can be used with THE IGUANA. Some obscure, or non standard MIDI SysEx protocols are not supported by THE IGUANA. Some examples are given at the end of these instructions. THE IGUANA has recently been updated and is compatible with a greater number of MIDI devices than before.

If your MIDI instrument is not capable of initiating a MIDI SysEx dump, THE IGUANA can even send a SysEx request message to the instrument. You can create, then save to disk, up to 50 request messages.

THE IGUANA includes a MIDI delay, allowing you to slow the transmission of ${\sf SysEx}$ data to your instruments.

THE IGUANA allows you to preview your patches or play your connected instruments from the Mirage keyboard, or, if you own a rack-mount Mirage, you can play from another connected keyboard.

THE IGUANA also allows you to re-boot your Mirage with any other operating system without having to switch off.

Also included are the SYSEX DATA chart and the REQUEST MESSAGES chart. These are necessary for keeping track of which banks your SysEx data is stored in, and for keeping information about the request messages. Also included is a chart for converting decimal, binary, and ASCII values to hex.

THE IGUANA will replace your personal computer for patch storge and since it is integrated into your keyboard setup it is perfect for patch storage on the road, or for swapping with your friends. Files created using THE IGUANA are compatible with THE IGUANA JUNIOR, a new operating system from Leaping Lizards which lets you play your Mirage as normal and gives you all the performance enhancements of O.S. 3.d, plus the ability to load and transmit SysEx data to your other MIDI instruments, all within one operating system.

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STARTING UP
      First, turn on the power to your Mirage and insert your IGUANA disk.
      THE IGUANA has completely loaded, the Mirage keyboard will be disabled and
     you won't be able to make any music with your Mirage. Connect the MIDI cables from your Mirage to the MIDI instrument you want to transfer MIDI SysEx data with. Connect MIDI IN on your Mirage to the MIDI OUT on the other instrument. Likewise, connect the MIDI IN on the other instrument to
      the MIDI OUT on your Mirage.
"HI" = MAIN MENU
     On the LED display you will see a greeting, "HI". This display is the main
     menu, and is the point where you can select any of THE IGUANA's functions.
      This display will be referred to as the "main menu" throughout these
      instructions.
              The following functions can be selected from the main menu:
            KEY
                       DISPLAY FUNCTION
                                                                               RANGE
                        "Er" = EDIT A REQUEST MESSAGE
                                                                               01-50
                       "Lr" = LOAD REQUEST MESSAGES FROM DISK
"Sr" = SAVE REQUEST MESSAGES TO DISK
             *2*
             *3*
             *4*
                       "dL" = SET MIDI DELAY
                                                                               00-99
                   "Eb" = ERASE A BANK

"PI" = PLAY INSTRUMENT

"Cb" = CLEAR BUFFER
             *5*
                                                                               01-99
             *6*
             *7"
                    = "rb" = RE-BOOT THE MIRAGE
             *8*
            "REC" = "rE" = RECEIVE MIDI
                                                                               01-99
             "PLAY" = "PL" = TRANSMIT MIDI
                                                                               01 - 99
            "LOAD" = "LO" = LOAD A FILE
"SAVE" = "SA" = SAVE A FILE
                                                                               1-3
                                                                                1-3
            "VALUE"
                              = FREE MEMORY
                                                                               FF-00
           THE IGUANA's functions will be explained in the same order as
           they are listed above over the next few pages. Probably the best
           way to understand how to make THE IGUANA work is to try out each
           function out as you read. Be sure to read this instruction manual
           thoroughly before beginning any serious work with THE IGUANA.
"1" = "Er" = EDIT REQUEST MESSAGE
     Press "1", on the LED display you will see "Er". By pressing "CANCEL" you
     can exit the "edit request message" function and return to the main menu.
     Press "ENTER" and the LED will display a number. This number is the value
     of the last selected request message, if you've just powered up it will be
     Use the ON/OFF keys to select the number of the request message you want to
     edit. "ON" increments the number, "OFF" decrements the number. You can select a number between "Oi" and "50".
                                   (continued on next page)
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Press "ENTER" again and the LED will show you the value of the first byte of that request message. Up to 16 bytes can be edited for each request message. In most cases this is more than enough.

Use the ON/OFF keys to change the value, in hex, of the first byte. You will notice that bytes greater than 7F, except for FO and F7, cannot be selected. This is because the MIDI SysEx protocol does not allow any other values.

When the correct value for the first byte has been chosen, press "ENTER" to edit the second byte. Repeat this procedure until the entire request message has been entered. Press "CANCEL" to return to the main menu.

When you have completed editing a SysEx request message, write down the instrument and a description of the request message on your REQUEST MESSAGES chart next to the corresponding request number. EXAMPLES: "DX-7 - 32 VOICE BULK DUMP", or, "TX81Z - MIDI CHANNEL 1 / 32 INTERNAL VOICES".

A FEW HINTS ABOUT SYSEX REQUEST MESSAGES:

The first byte in a MIDI SysEx request message must always be an "FO" and the last byte must always be an "F7".

You can check your current location in the request message by pressing the "PARAM" key. If you are editing the first byte, you will see "01". If you are editingthe last byte, and the request message is 16 bytes long, you will see "16".

If the request message is less than 16 bytes long, any bytes in the message following the byte "F7" will be not be transmitted. You do not need to edit these bytes.

The 16 bytes in the request message can only be edited in a forward manner. If you want to change a preceding byte, press "ENTER" several times until you loop around from the end to the beginning of the request message again. Check your location in the message by pressing the "PARAM" key.

Any previously edited request message can be re-edited.

If you do not know the request message of your instrument or can instead cause the bulk dump from its front panel then you don't need to edit a request message.

EXAMPLE: Message for requesting 32 voices from a YAMAHA TX81Z on MIDI channel 2:

FO 43 21 04 F7

EXAMPLE: Message for requesting 40 voices from an ENSONIQ ESQ-1 on MIDI channel 1:

FO OF 02 00 OA F7

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"2" = "Lr" = LOAD REQUEST MESSAGES

Press "2", on the LED display you will see "Lr". By pressing "CANCEL" you can exit the "load request messages" function and return to the main menu.

Insert your original IGUANA disk. Press "ENTER" and the 50 request messages will be loaded from disk. If no disk error occurs you will return to the main menu. If a disk error occurs, refer to the POSSIBLE DISK ERRORS listing on page 8.

"3" = "Sr" = SAVE REQUEST MESSAGES

Press "3", on the LED display you will see "Sr". By pressing "CANCEL" you can exit the "save request messages" function and return to the main menu.

Insert your original IGUANA disk. Press "ENTER" and the 50 request messages will be saved to disk. If no disk error occurs you will return to the main menu. If a disk error occurs, refer to the POSSIBLE DISK ERRORS listing on page 8.

"4" = "dL" = MIDI DELAY

MIDI DELAY is used when sending SysEx dumps to an instrument which is not able to receive MIDI data transmitted at full speed. By delaying, or slowing down the transmission rate from THE IGUANA, it gives the instrument more time to process the incoming data.

Press "4", on the LED display you will see "dL". By pressing "CANCEL" you can exit the "MIDI delay" function and return to the main menu.

Press "ENTER" and the LED will display a number. This number is the current value of delay. Use the ON/OFF keys to select the value of the delay, from "00" to "99".

Press "ENTER" to use the value you've selected and return to the main menu. Press "CANCEL" to use the original value before you changed it and return to the main menu.

A value of "00" equals no delay. On power up, THE IGUANA sets the delay value to "04" as this appears to be most compatible with other MIDI devices.

"5" = "Eb" = ERASE BANK

Press "5", on the LED display you will see "Eb". By pressing "CANCEL" you can exit the "erase bank" function and return to the main menu.

Press "ENTER" and the LED should display a number. If the display flashes "no" then all the banks are empty. Press "CANCEL" to return to the main menu.

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If the LED displays a number, the number represents the first full bank in memory. Refer to your SYSEX DATA chart and use the ON/OFF keys to select the bank you want to erase.

Press "ENTER" again and the selected bank will be erased. It may take up to 15 seconds to erase a bank. Once a bank has been erased, you will return to the main menu.

"6" = "PI" = PLAY INSTRUMENT

PLAY INSTRUMENT is extremely useful as it allows you to audition and play patches you've just sent to an expander which doesn't have its own keyboard.

Press "6", on the LED display you will see "PI". By pressing "CANCEL" you can exit the "play instrument" function and return to the main menu.

Press "ENTER", then use the ON/OFF keys to select "on" if you want to play your instrument from the Mirage keyboard, or "oF" if you want to play from another connected keyboard. Press "ENTER" when you have selected.

If you selected "on", play Mirage keyboard, use the ON/OFF keys to select the MIDI channel you want the Mirage to play on, ranging from "01" to "16". Press "ENTER" again and the LED display will go blank. Play your Mirage keyboard and you will play the connected instrument. The sustain pedal can also be used, however, the pitch and modulation wheels cannot be used.

If you select "oF", play connected keyboard, the LED display will go blank. MIDI data from any instrument connected to the MIDI IN port of the Mirage will pass through the Mirage, and out to the instrument connected to the MIDI OUT port of the Mirage.

To exit the "play instrument" function, stop playing the Mirage, or the connected keyboard, and press the "CANCEL" key for a second or two. When you release the key, you will return to the main menu.

"7" = "Cb" = CLEAR BUFFER

By clearing the buffer you will erase every bank of SysEx data currently stored in the Mirage buffer, and the "free memory" display will reset to "FF". This basically returns THE IGUANA to its boot-up state.

To clear the buffer press "7", "7", then "ENTER" (the second "7" prevents accidental clearing). Pressing any other keys will return you to the main menu.

"8" = "rb" = RE-BOOT MIRAGE

When you are finished using THE IGUANA you can re-boot your Mirage without having to switch off.

To re-boot, insert a disk with the operating system you want to boot and press "8", "8", then "ENTER" (the second "8" prevents accidental re-booting). Pressing any other keys will return you to the main menu.

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"REC" = "rE" = RECEIVE MIDI

Press "REC", on the LED display you will see "rE". By pressing "CANCEL" you can exit the "receive MIDI" function and return to the main menu.

Press "ENTER" and the LED will display a number between "00" and "50". This number is the value of the SysEx request message you want to send to the instrument (see "EDIT REQUEST MESSAGE"). Refer to your REQUEST MESSAGES chart and use the ON/OFF keys to select the request message you want to send.

A special number, "00", should be selected if you do not need to send a request message. Always use "00" if you are not sending a request message.

Press "ENTER" again and the display will go blank. The SysEx request message will be sent to the instrument and MIDI data should start being received by the Mirage. If you are instead initiating the SysEx dump from the front panel of the instrument, do so now. To show that SysEx data is being received, the Mirage LED will light up in a square pattern.

When the dump has completed, press "CANCEL" to exit "receive mode". If SysEx data from the instrument has been received, the LED will display a number ranging from "01" to "99". This is the BANK NUMBER. Find the number on your SYSEX DATA chart and next to it, under INST. and DESCRIPTION, write down the name of the instrument and a description of the SysEx data just received. EXAMPLES: "DX-7 - BULK DUMP (STUDIO SETUP #1)", or, "TX812 - FACTORY 24 PERFORMANCES".

If no SysEx data was received, you will return to the main menu.

By the way, the bank number cannot be selected by you, it is automatically assigned by THE IGUANA. The first bank number will always be "01" and it will increment with each SysEx dump received up to "99". After "99" the program will flash "Fu", FULL. However, it is unlikely that you will ever need this many banks in any one file.

If there was not enough room in the buffer to hold all the SysEx data received, the display will flash "Fu", FULL. None of the SysEx data received will be held in the buffer. Only complete SysEx dumps will be accepted.

Finally, press "CANCEL" again to return to the main menu.

"PLAY" = "PL" = TRANSMIT MIDI

Press "PLAY", on the LED display you will see "PL". By pressing "CANCEL" you can exit the "transmit MIDI" function and return to the main menu.

Press "ENTER" and the LED should display a number. If the display flashes "no" then all the banks are empty. You must load an IGUANA SysEx data file using the "load a file" function, or use the "receive MIDI" function, before selecting the "transmit MIDI" function. Press "CANCEL" to return to the main menu.

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If the LED displays a number, the number represents the first full bank in memory. Refer to your SYSEX DATA chart and use the ON/OFF keys to select the bank you want to send. Only currently full banks can be selected. An erased bank cannot be selected.

Press "ENTER" again and the data in the selected bank will be transmitted from the Mirage to your instrument. When transmission is complete, you will return to the main menu.

"LOAD" = "Lo" = LOAD A FILE

Press "LOAD", the LED display will flash "Lo". By pressing "CANCEL" you can exit the "load a file" function and return to the main menu.

Press the number "1", "2", or "3" for the file number you want to load. The display will stop flashing. At this point, if you press "CANCEL" you can exit the "load a file" function and return to the main menu.

Insert a disk on which you have previously saved an IGUANA SysEx data file. Press "ENTER" and the file will be loaded from disk. If no disk error occurs you will return to the main menu. If a disk error occurs, refer to the POSSIBLE DISK ERRORS listing on page 8.

After the file has loaded, you can continue to record more SysEx data (assuming there is free memory), or erase banks. Be sure to re-save the file if you make any changes.

"SAVE" = "SA" = SAVE A FILE

Press "SAVE", the LED display will flash "SA". By pressing "CANCEL" you can exit the "save a file" function and return to the main menu.

Press the number "1", "2", or "3" for the file number you want to save. The display will stop flashing. At this point, if you press "CANCEL" you can exit the "save a file" function and return to the main menu.

Insert a disk on which you want to save the IGUANA SysEx data file. Press "ENTER" and the file will be saved to disk. If no disk error occurs you will return to the main menu. If a disk error occurs, refer to the POSSIBLE DISK ERRORS listing on page 8.

Be sure to read the information on page 8 about saving files to disk.

"VALUE" = FREE MEMORY

At any time while on the main menu, pressing the "VALUE" key will display, in hex, how much free memory is left in the buffer. An empty buffer will read "FF", while a completely full buffer will read "00".

You may notice that after recording or erasing some banks that the free memory display does not change. The display registers changes of every 1/2k. A change of less than 1/2k may appear to have no affect on the free memory display.

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POSSIBLE DISK ERRORS:

If a disk error occurs the LED display will flash one of the following messages. When any flashing error occurs, press "CANCEL" to return to the main menu.

"nd" = There is no disk in the drive.

"Pd" = The disk is write protected.

"dE" = Your disk is seriously damaged or something is wrong with the disk drive.

"ud" = The disk is unformatted or has not been formatted for the Mirage.

"nF" = The file number selected does not exist on the disk.

SAVING FILES TO DISK

You can save your IGUANA SysEx data files to any normal disk formatted for the Mirage. Although any disk formatter may be used to format your disks, we recommend you use Leaping Lizards' "CHAMELEON", as it is the quickest and easiest to use disk format utility.

When saving your IGUANA SysEx data files to disk we recommend you set aside a whole disk for this purpose. You can, however, save IGUANA SysEx data files to a disk on which you have also stored Mirage sounds. It will wipe out the corresponding sound bank though. For instance, saving IGUANA file 3 will wipe out both lower and upper sound banks 3.

THE IGUANA uses a slightly different file structure and directory than Ensoniq sound disks. If you store IGUANA files on the same disk as your sampled sounds and sequences DO NOT continue to save samples to the same disk, as doing so will wipe out THE IGUANA's directory and THE IGUANA will not be able to re-load the file later (however, THE IGUANA JUNIOR will). Always save your IGUANA SysEx data files to disk AFTER saving sounds!

By the way, you can save up to three IGUANA SysEx data files and the request messages on your original IGUANA disk. This has the advantage that everytime you boot up THE IGUANA, any request messages stored on the disk will automatically be loaded into memory.

SYSEX DATA & REQUEST MESSAGES CHARTS

Also included with THE IGUANA are a couple vital sheets of paper, the SYSEX DATA chart and the REQUEST MESSAGES chart. Because the Mirage's two digit display can hardly give you enough information about your SysEx data or request messages, we've included these as an aid for keeping track of what bank holds what, and for which instrument.

It is absolutely important that you write down the information about your SysEx data and your request messages.

You should not write on the original charts. You should make photocopies or make your own charts to use.

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TROUBLESHOOTING AND MISCELLANEOUS INFORMATION

1. You should find the SysEx request messages for your instrument listed somewhere in its owners manual. Some owners manuals, such as YAMAHA's original DX-7 manual, don't tell you anything. Bug your local dealer or bug the manufacturer for the information.

You will find that most request messages will be listed in hex, but some manufacturers list them in decimal, or binary, or ASCII. A conversion chart has been included with this manual to help you convert the values into hex.

Some obscure and non-standard MIDI protocols are not supported by THE IGUANA, including the following examples:

ROLAND products send bulk or sequence data in a handshaking protocol requiring numerous requests and acknowledgments. This method of communication is not possible with THE IGUANA. However, newer Roland products, such as the D-50 synth, can optionally send data in a *one way* or bulk dump mode. This allows it to be compatible with MIDI disk drives and THE IGUANA.

CASIO's CZ-101 has a completely non-standard MIDI protocol and there is no way THE IGUANA can communicate with it.

OBERHEIM's XPANDER sends patches individually, rather than as bulk data. You will have to send patches one at a time to THE IGUANA.

ENSONIQ'S ESQ-1 and ESQm have no problem sending and receiving a single or 40 voice bulk dump. However, the ESQ-1 cannot send sequence dumps to THE IGUANA unless the ESQ-1 has had the rev 2.3 or higher software installed. The rev 2.3 software allows the ESQ-1 to be compatible with MIDI disk drives and THE IGUANA.

- 3. If your instrument does not respond to your SysEx request message, or does not accept the SysEx dump, make sure that the MIDI cables are correctly connected, MIDI IN to MIDI OUT, and MIDI OUT to MIDI IN. Check that the instrument's MIDI channel corresponds to the channel designated in the request message, or in the bulk dump. Check that the instruments MEMORY PROTECT is off. Try changing the MIDI DELAY value.
- 4. It is possible to store more than one patch or one bulk dump per bank. If you daisy chain your MIDI instruments via their MIDI THRU ports you can even store patches from several instruments in a single bank. Set THE IGUANA to receive MIDI and initiate a dump from the first instrument. When the dump is finished, begin a dump from the second instrument, and so on. When you transmit this bank later, assuming your instruments are correctly daisy chained in the opposite direction, you can instantly setup all your instruments with the correct patches and sequences for a particular song or set of songs.
- 5. During disk operations or whenever MIDI data is being transmitted or received, parts of the Mirage's LED display will light up, or the display will animate in a square-like pattern. This is just to let you know that something is happening and that THE IGUANA is doing its job.

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6. THE IGUANA JUNIOR is a new operating system from Leaping Lizards which will enable you to have 0.S. 3.d, which is Ensoniq's 0.S. 3.2 with several performance enhancements added, plus a small version of THE IGUANA, all within one operating system. This means you won't have to re-boot operating systems in order to transmit your IGUANA SysEx data files or play samples. Now the performing musician can store MIDI data for all the keyboards, effects units, drum machines, or sequencers in his setup, on the same disks as his Mirage sounds. THE IGUANA JUNIOR will only load and transmit IGUANA SysEx data files, so you still will need THE IGUANA in order to record and save the MIDI data to disk. THE IGUANA JUNIOR sells for \$24.95, direct from Leaping Lizards.

BACKUP COPIES OF THE IGUANA

THE IGUANA is copy protected and cannot be copied. However, backup copies may be obtained directly from LEAPING LIZARDS by sending \$5.00 per backup IGUANA disk, plus \$2.50 shipping. Orders will be despatched immediately.

If your original IGUANA disk gets damaged you can return it to LEAPING LIZARDS for a prompt, free replacement.

THE IGUANA IS WRITTEN AND COPYRIGHT (C) 1987, 1988 BY STEVEN FOX.

THE IGUANA was written using LEAPING LIZARDS' MIRAGE MONITOR V1.0 for the C-64.

A great deal for only \$39.95 + \$2.50 shipping direct from LEAPING LIZARDS.

If you purchased THE IGUANA from LEAPING LIZARDS we will be informing you of any updates to the software. If you purchased THE IGUANA from your dealer, please send us your name and address so we can keep you up to date as well.

Ensoniq, Mirage, and ESQ-1 are registered trademarks of Ensoniq Corp.

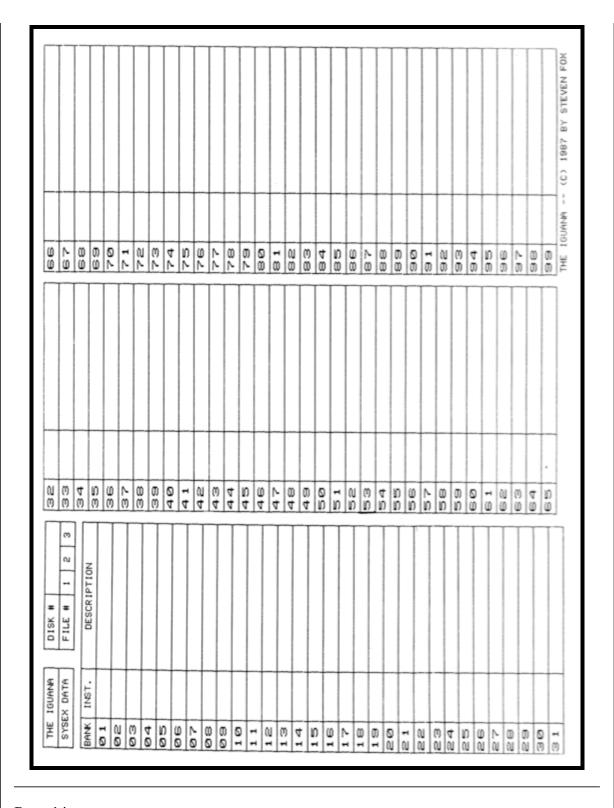
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Binary,	ASCII,	Decimal	to	Hexadecimal	conversion	chart
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BINARY ASC DEC	HEX BIN	ARY ASC	DEC	HEX
0000000100000100000001010000000110100000	01000 01000		67895-234567895-2345678988888888888888888888888888888888888	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

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THE 16UANW DISK #																											49 (C) 1987 BY STEVEN FOX	
	S	26	0	58	00	80	31	a	e e	4	9	36	3.7	38	88	9	1 1	4 0	4 ω	4	4 0	9 4	47	0	0,4	200	THE IGUM	
INST. INST.		\neg			\neg	$\neg \tau$	$\neg \tau$								_	_	_	-			_	_	_		_			
	D1SK	GES	DESCRIPTION																									