



I-Amp 4.500T, I-Amp 8.150T

Power Amplifier

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# 1 General information

This document contains important instructions for the safe operation of the product. Read and follow the safety instructions and all other instructions. Keep the document for future reference. Make sure that it is available to all those using the product. If you sell the product to another user, be sure that they also receive this document.

Our products and documentation are subject to a process of continuous development. They are therefore subject to change. Please refer to the latest version of the documentation, which is ready for download under [www.thomann.de](http://www.thomann.de).

## 1.1 Symbols and signal words

In this section you will find an overview of the meaning of symbols and signal words that are used in this document.

| Signal word   | Meaning  |
|---|--|
| <b>DANGER!</b>  | This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.        |
| <b>WARNING!</b>   | This combination of symbol and signal word indicates a possible dangerous situation that can result in death or serious injury if it is not avoided.           |
| <b>NOTICE!</b>  | This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided. |
| Warning signs   | Type of danger   |
|  | Warning – high-voltage.  |
|  | Warning – danger zone.   |

## 2 Safety instructions

### Intended use

This unit amplifies audio frequency signals for the operation of passive loudspeakers. It is designed for professional use only. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

### Safety



#### **DANGER!**

#### **Risk of injury and choking hazard for children!**

Children can suffocate on packaging material and small parts. Children can injure themselves when handling the device. Never allow children to play with the packaging material and the device. Always store packaging material out of the reach of babies and small children. Always dispose of packaging material properly when it is not in use. Never allow children to use the device without supervision. Keep small parts away from children and make sure that the device does not shed any small parts (such knobs) that children could play with.



#### **DANGER!**

#### **Danger to life due to electric current!**

Within the device there are areas where high voltages may be present. Never remove any covers. There are no user-serviceable parts inside. Do not use the device when covers, safety equipment or optical components are missing or damaged.



### **DANGER!**

#### **Risk of death from electrical current!**

Hazardous voltage may be present at cable ends and screw terminals. The connection of screw terminals and all maintenance and repair work on the electrical installation of the device may only be performed by a qualified electrician. Always perform maintenance and repair work when the device is free from voltage. Failure to comply may result in electric shock and risk of fire and loss of life. Always observe all electrical safety instructions applicable in the country of operation.



### **DANGER!**

#### **Danger to life due to electric current!**

A short circuit could lead to a fire hazard and risk of death. Always use proper ready-made insulated triple-core mains cable with a safety plug. Do not modify the mains cable or the plug. In case of isolation damage, disconnect immediately the power supply and arrange repair. If in doubt, seek advice from a qualified electrician.



### **WARNING!**

#### **Possible hearing damage due to high volumes on speakers or headphones!**

With speakers or headphones connected, the device can produce volume levels that may cause temporary or permanent hearing impairment. Over an extended period of time, even levels that seem to be uncritical can cause hearing damage. Do not operate the device permanently at a high volume level. Decrease the volume level immediately if you experience ringing in your ears or hearing impairment.



### **NOTICE!**

#### **Risk of fire due to covered vents and neighbouring heat sources!**

If the vents of the device are covered or the device is operated in the immediate vicinity of other heat sources, the device can over-heat and burst into flames. Never cover the device or the vents. Do not install the device in the immediate vicinity of other heat sources. Never operate the device in the immediate vicinity of naked flames.



**NOTICE!****Damage to the device if operated in unsuitable ambient conditions!**

The device can be damaged if it is operated in unsuitable ambient conditions. Only operate the device indoors within the ambient conditions specified in the "Technical specifications" chapter of this user manual. Avoid operating it in environments with direct sunlight, heavy dirt and strong vibrations. Avoid operating it in environments with strong temperature fluctuations. If temperature fluctuations cannot be avoided (for example after transport in low outside temperatures), do not switch on the device immediately. Never subject the device to liquids or moisture. Never move the device to another location while it is in operation. In environments with increased dirt levels (for example due to dust, smoke, nicotine or mist): Have the device cleaned by qualified specialists at regular intervals to prevent damage due to overheating and other malfunctions.

**NOTICE!****Damage to the device due to high voltages!**

The device can be damaged if it is operated with the incorrect voltage or if high voltage peaks occur. In the worst case, excess voltages can also cause a risk of injury and fires. Make sure that the voltage specification on the device matches the local power grid before plugging in the device. Only operate the device from professionally installed mains sockets that are protected by a residual current circuit breaker (FI). As a precaution, disconnect the device from the power grid when storms are approaching or if the device will not be used for a longer period.

**NOTICE!****Risk of fire due to installation of a wrong fuse!**

Using fuses of a different type than compatible with the device may cause a fire and seriously damage the device. Only use fuses of the same type. Observe the labelling on the device casing and the information in the "Technical data" chapter.

**NOTICE!****Interference with nearby electrical devices due to magnetic fields!**

The device generates strong magnetic fields that can interfere with the function of poorly shielded devices. The magnetic fields are strongest directly above and below the Power Amplifier. You should therefore never place sensitive devices such as pre-amplifiers, radio transmission systems, or tape decks directly above or below the Power Amplifier. When placing the Power Amplifier in a rack, you should place it at the bottom thereof, and place any other equipment at the top of the rack.

### 3 Features

#### Sirus I-Amp 4.500T

- 4-channel installation amp, 4×480 watts @ 70/100 V (RMS), Class-D amplifier
- Low-noise and low-distortion due to high-current switching capacity
- Protection circuits such as thermal, short circuit, on/off muting
- Limiter, Euroblock input and output, gain on the front for easy access
- Signal, clip, protect and power LED, Euroblock contacts for deactivation, priority and error status
- Frequency response 100 Hz–15 kHz, input impedance 20 k ohm balanced / 10 k ohm unbalanced
- Dimensions: (W × D × H) 483 × 360 × 44 mm, 19-inch rack size (1 RU)
- Weight: 6.3 kg

#### Sirus I-Amp 8.150T

- 8-channel installation amp, 8×150 watts @ 70/100 V (RMS), Class-D amplifier
- Ideal for installations such as multi-zone applications
- Protection circuits such as thermal, short circuit, on/off muting
- Euroblock input and output, volume control and mains switch installed on the back
- Signal, clip, protect and power LED
- Frequency response 100 Hz–15 kHz, input impedance 20 k ohm balanced / 10 k ohm unbalanced
- Dimensions: (W × D × H) 483 × 360 × 44 mm, 19-inch rack size (1 RU)
- Weight: 7 kg

## 4 Installation and starting up

Unpack and check carefully there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the product against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

Create all connections while the device is off. Use the shortest possible high-quality cables for all connections. Take care when running the cables to prevent tripping hazards.



### **DANGER!**

#### **Risk of death from electrical current!**

Hazardous voltage may be present at cable ends and screw terminals.

The connection of screw terminals and all maintenance and repair work on the electrical installation of the device may only be performed by a qualified electrician. Always perform maintenance and repair work when the device is free from voltage. Failure to comply may result in electric shock and risk of fire and loss of life.

Always observe all electrical safety instructions applicable in the country of operation.



### **DANGER!**

#### **Risk of death from electrical current!**

The output voltages of modern high-performance amplifiers may result in death or serious injury.

Never touch the bare ends of loudspeaker cables when the amplifier is on.



### **NOTICE!**

#### **Interference with nearby electrical devices due to magnetic fields!**

The device generates strong magnetic fields that can interfere with the function of poorly shielded devices. The magnetic fields are strongest directly above and below the Power Amplifier.

You should therefore never place sensitive devices such as pre-amplifiers, radio transmission systems, or tape decks directly above or below the Power Amplifier. When placing the Power Amplifier in a rack, you should place it at the bottom thereof, and place any other equipment at the top of the rack.

### **Rack mounting**

The unit has been designed for rack mounting in a standard 19-inch rack; it occupies one rack unit.

### **Input signals**

The input signals are connected to the Euroblock terminals. The supplied sockets are used for this purpose.

**Sirus I-Amp 4.500T**

- Up to four input signals can be connected to the device (channel terminals *[CHA]*–*[CHD]*).

**Sirus I-Amp 8.150T**

- Up to eight input signals can be connected to the device (channel terminals *[INPUT1]*–*[INPUT8]*).
- To connect unbalanced input signals, use the *[+]* and *[G]* terminals of the respective channel on the Euroblock.
- To connect balanced input signals, use the *[+]*, *[-]* and *[G]* terminals of the respective channel on the Euroblock.

The respective input signals can be assigned to different zones, or one input signal can be assigned to all zones.

**Speaker connection**

The device is equipped with two Euroblock terminals that can be used to connect the ELA speakers (70-V technology or 100-V technology). You need to set the relevant operating mode (70 V or 100 V) for each individual channel via DIP switches.

Observe the following diagram when connecting the loudspeakers. The total power consumption of the connected speakers must be below the maximum power of the amplifier. We recommend a power reserve of 20%.

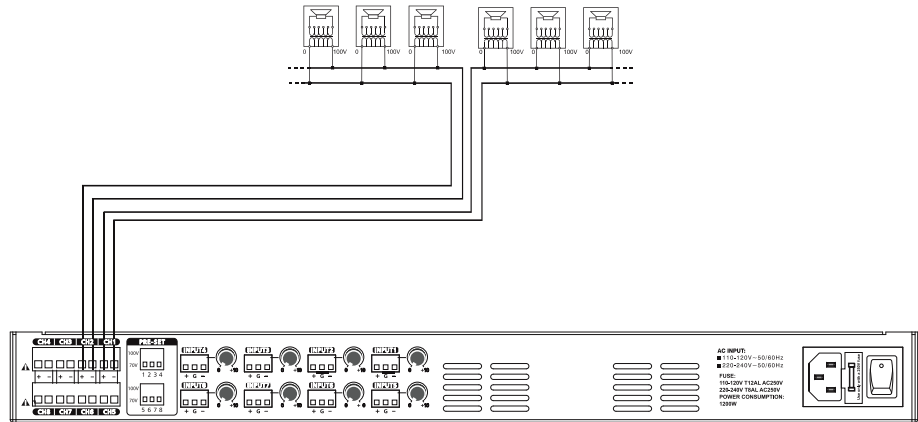
**Sirus I-Amp 4.500T**

- In the device, up to four input signals can be assigned to four different speaker zones, or one single input signal can be assigned to all four speaker zones.

## Sirius I-Amp 8.150T

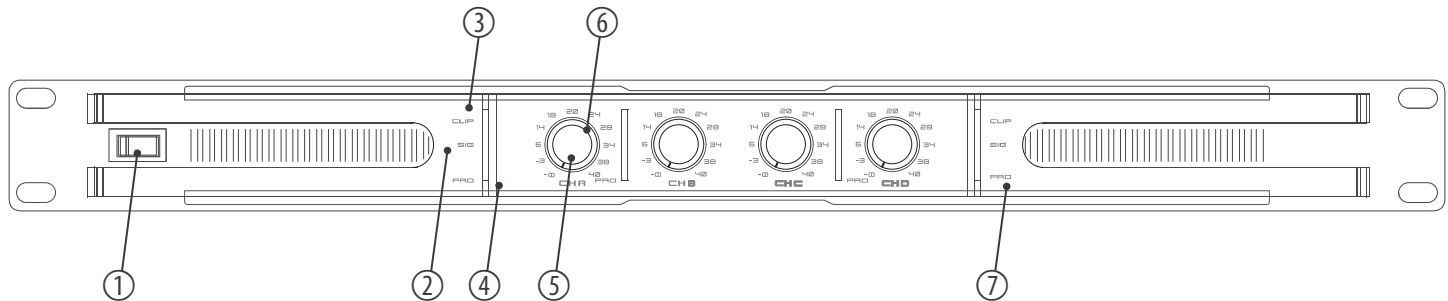
- Up to eight input signals can be assigned to eight different speaker zones on the device.

In the example, three 100-V speakers connected in parallel are connected to two speaker connections that form two speaker zones.



## 5 Connections and controls

### Front of the Sirius I-Amp 4.500T

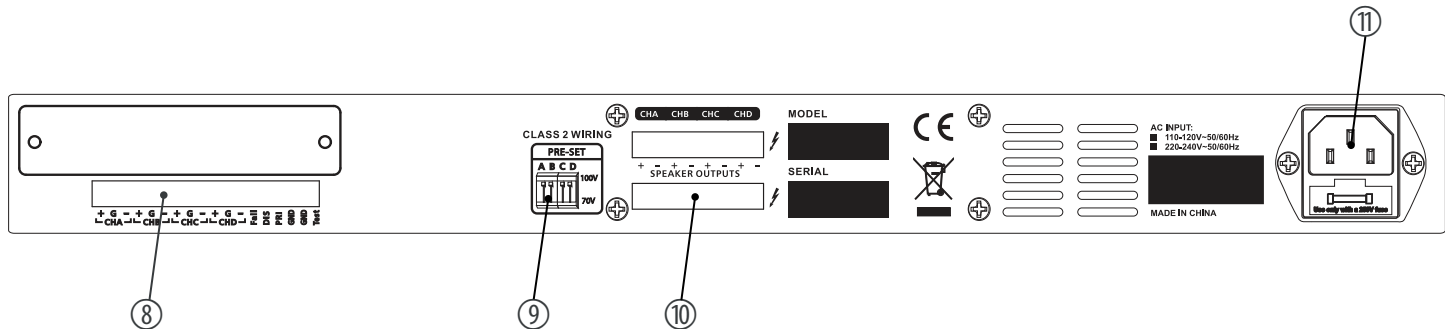


- |   |  |
|---|--|
| 1 | Mains switch. Turns the device on and off.   |
| 2 | [SIG]   Indicates the presence of an input signal. The higher the signal level, the faster the LED flashes.  |
| 3 | [CLIP]   Lights up when the channel is overdriven. In this case, reduce the signal level with the channel control until the LED goes out.  |
| 4 | [PRO]   Lights up when one or more protective circuits have tripped or the device is defective. No sound is output. Make sure that the vents of the device are free and that good ventilation is possible. Reduce the volume on the device. If the problem is resolved, the protection circuits are automatically reset and the device is ready for use again. |
| 5 | Channel control for input signal gain.   |

- 6 Channel LED lights up green when the device is turned on. Channel LED lights up red when test signal priority is enabled via the *[PRI]* Euroblock terminal.
- 7 *[BRI]* | Lights up when the unit is operating in bridged mode.



## Back of the Sirius I-Amp 4.500T



8 [CHA]–[CHD] | Signal inputs, designed as Euroblock terminals

[+] | Balanced or unbalanced signal input (+)

[G] | Ground (GND)

[-] | Balanced signal input (-); remains free in case of unbalanced input signals

[FAIL] | Error status output: +5 V in normal operation; 0 V when a protection circuit trips

[DIS] | Control input for switching off the device; Switching to ground (GND) switches the amplifier stage off.

[PRI] | Control input for switching the test signal priority; Switching to ground (GND) enables the test signal on the [Test] signal output. Channel LEDs light up red.

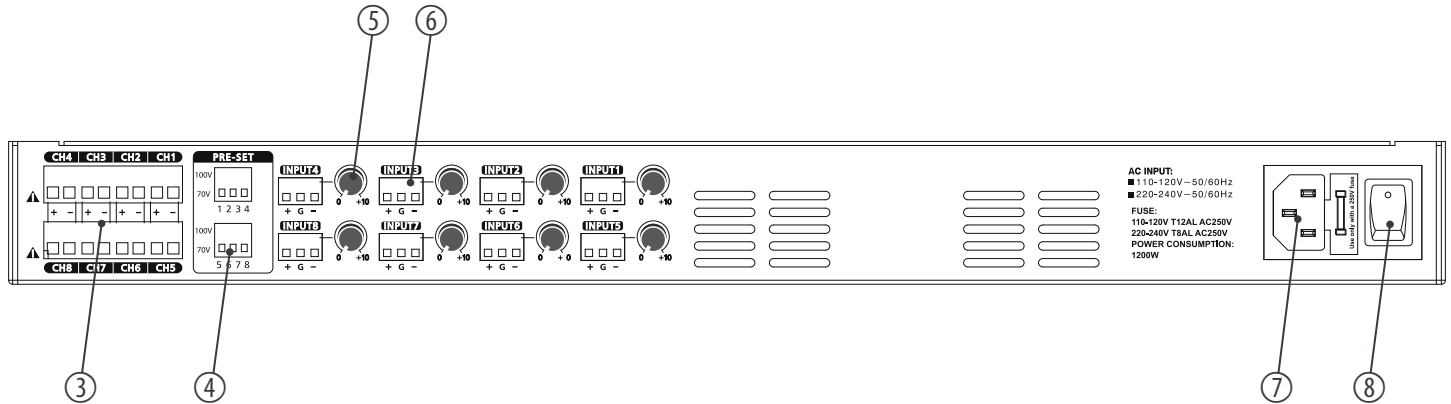
|    |  |
|----|--|
|    | <i>[GND]</i>   Ground (GND) for audio signal   |
|    | <i>[GND]</i>   Ground (GND) for control signal   |
|    | <i>[Test]</i>   Signal output for test signal priority; 0 V in normal operation; +5 V if test signal priority is enabled ( <i>[DIS]</i> control input switched to ground (GND) )   |
| 9  | <i>[PRE-SET]</i>   DIP switches for selecting the operating mode (70 V or 100 V) for each channel  |
| 10 | <i>[SPEAKER OUTPUTS]</i> <i>[CHA]</i> – <i>[CHD]</i>   Euroblock terminals as speaker output.  |
| 11 | IEC chassis plug for power supply with fuse holder. Before connecting to the power supply, check that the voltage selector on the bottom of the unit is in the correct position.<br><br>Should the fuse have blown, disconnect the unit from the power supply and replace the fuse with a new fuse of the same type. |

Front of the Sirius I-Amp 8.150T



|   |   |
|---|---|
| 1 | LED panel   |
|   | <p>[CLIP]   Lights up when the channel is overdriven. In this case, reduce the signal level with the [INPUT GAIN] control until the LED goes out.</p>   |
|   | <p>[SIG]   Indicates the presence of an input signal. The higher the signal level, the faster the LED flashes.</p>  |
|   | <p>[PRO]   Lights up when one or more protective circuits have tripped or the device is defective. No sound is output. Make sure that the vents of the device are free and that good ventilation is possible. Reduce the volume on the device. If the problem is resolved, the protection circuits are automatically reset and the device is ready for use again.</p> |
| 2 | <p>[POWER]   Lights up when the device is turned on.</p>  |

## Back of the Sirius I-Amp 8.150T



- 3 [CH1]–[CH8] | Euroblock terminals as speaker output.
- 4 [PRE-SET] | DIP switches for selecting the operating mode (70 V or 100 V) for each channel
- 5 Input signal gain control.
- 6 [INPUT1]–[INPUT8] | Signal inputs, designed as Euroblock terminals
  - [+ ] | Balanced or unbalanced signal input (+)
  - [G] | Ground (GND)
  - [-] | Balanced signal input (-); remains free in case of unbalanced input signals

- |   |  |
|---|--|
| 7 | IEC chassis plug for power supply with fuse holder. Before connecting to the power supply, check that the voltage selector on the bottom of the unit is in the correct position.<br><br>Should the fuse have blown, disconnect the unit from the power supply and replace the fuse with a new fuse of the same type. |
| 8 | [O]   Mains switch. Turns the device on and off.   |

## 6 Technical specifications

### Sirus I-Amp 4.500T

|   |  |
|---|--|
| Amp class   | Class D  |
| Input impedance   | 20 k $\Omega$ (balanced)<br>10 k $\Omega$ (unbalanced)   |
| Power output (RMS)                                      | 480 W / 4×400 W  |
| Frequency response, $\pm 1$ dB                          | 100 Hz...15 kHz (0 / -3 dB)  |
| Input sensitivity (Limiter Off)                         | 0.9...1.1 V (0 / -1 dBV)   |
| Gain (100 V)  | 40 dB  |
| Signal-to-noise ratio                                   | > 95 dB  |
| Crosstalk   | > 70 dB  |
| Total harmonic distortion @ 50% of maximum output power | < 0.1 %  |
| Power supply  | 110/230 V ~ 50 Hz  |
| Fuse  | 110 V: 5 mm $\times$ 20 mm, 15 A, 250 V, slow blow<br>230 V: 5 mm $\times$ 20 mm, 10 A, 250 V, slow blow |
| Dimensions (W $\times$ H $\times$ D)                    | 483 mm $\times$ 44 mm $\times$ 360 mm  |

|                    |                   |                            |
|--------------------|-------------------|----------------------------|
| Weight             | 6.3 kg            |                            |
| Ambient conditions | Temperature range | 0 °C...40 °C               |
|                    | Relative humidity | 20%...80% (non-condensing) |

### Sirus I-Amp 8.150T

|   |   |
|---|---|
| Amp class   | Class D   |
| Input impedance   | 20 k $\Omega$ (balanced)<br>10 k $\Omega$ (unbalanced)  |
| Power output (RMS)                                      | 150 W / 8×135 W   |
| Frequency response, $\pm 1$ dB                          | 100 Hz...15 kHz (0 / -3 dB)   |
| Input sensitivity (Limiter Off)                         | 0.9...1.1 V (0 / -1 dBV)  |
| Gain (100 V)  | 40 dB   |
| Signal-to-noise ratio                                   | > 95 dB   |
| Crosstalk   | > 70 dB   |
| Total harmonic distortion @ 50% of maximum output power | < 0.1 %   |
| Power supply  | 110/230 V ~ 50 Hz   |
| Fuse  | 110 V: 5 mm $\times$ 20 mm, 12 A, 250 V, slow blow<br>230 V: 5 mm $\times$ 20 mm, 8 A, 250 V, slow blow |
| Dimensions (W $\times$ H $\times$ D)                    | 483 mm $\times$ 44 mm $\times$ 360 mm   |
| Weight  | 7 kg  |



|                    |                   |                            |
|--------------------|-------------------|----------------------------|
| Ambient conditions | Temperature range | 0 °C...40 °C               |
|                    | Relative humidity | 20%...80% (non-condensing) |

## 7 Plug and pin assignments

### Introduction

This chapter will help you select the right cables and plugs to connect your valuable equipment in such a way that a perfect sound experience is ensured.

Please note these advices, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into the socket, an incorrect connection may result in a destroyed power amp, a short circuit or 'just' in poor transmission quality!

### Balanced and unbalanced transmission

Unbalanced transmission is mainly used in semi-professional environment and in hifi use. Instrument cables with two conductors (one core plus shielding) are typical representatives of the unbalanced transmission. One conductor is ground and shielding while the signal is transmitted through the core.

Unbalanced transmission is susceptible to electromagnetic interference, especially at low levels, such as microphone signals and when using long cables.

In a professional environment, therefore, the balanced transmission is preferred, because this enables an undisturbed transmission of signals over long distances. In addition to the conductors 'Ground' and 'Signal', in a balanced transmission a second core is added. This also transfers the signal, but phase-shifted by 180°.

Since the interference affects both cores equally, by subtracting the phase-shifted signals, the interfering signal is completely neutralized. The result is a pure signal without any noise interference.

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## 8 Cleaning

### Fan grids

The fan grids of the device must be cleaned of any contamination, such as dust, etc. on a regular basis. Before cleaning, switch off the device and disconnect mains-operated devices from the mains. Only use pH-neutral, solvent-free and non-abrasive cleaning agents. Clean the unit with a slightly damp lint-free cloth.

## 9 Protecting the environment

### Disposal of the packaging material



For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

### Disposal of your old device



This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) in its currently valid version. Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.







