

User Manual

iAC 4X125 DSP Installation Power Amplifier



[illegible]

Safety instructions

When using this electronic device, basic precautions should always be taken, including the following:

- 1 Read all instructions before using the product.
- 2 Do not use this product near water (e.g., near a bathtub, washbowl, kitchen sink, in a wet basement or near a swimming pool etc). Care should be taken that objects do not fall into liquids and liquids would not be spilled on the device.
- 3 Use this device when you are sure that it has a stable base and it is fixed securely.
- 4 This product, in combination with loudspeakers 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 consult with otorhinolaryngologist.
- 5 The product should be located away from heat sources such as radiators, heat vents, or other devices that produce heat.
- 6 Note for power connections: for pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.
- 7 The power supply should be undamaged and never share an outlet or extension cord with other devices. Never leave device plugged into the outlet when it is not being used for a long period of time.
- 8 Power disconnection: when the power cord connected to the power grid is connected to the machine, the standby power is turned ON. When the power switch is turned ON, the main power is turned ON. The only operation to disconnect the power supply from the grid, unplug the power cord.
- 9 Protective Grounding - An apparatus with class I construction shall be connected to a power outlet socket with a protective grounding connection.
Protective Earthing - An apparatus with class I construction shall be connected to a mains socket outlet with a protective earthing connection.
- 10 The lightning flash with an arrowhead symbol, with an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons. 
- 11 The exclamation mark 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 appliance. 
- 12 There are some areas with high voltage inside, to reduce the risk of electric shock do not remove cover of the device or power supply.
The cover should be removed by the qualified personnel only.
- 13 The product should be serviced by qualified service personnel if:
 - The power supply or the plug has been damaged.
 - Objects have fallen into or liquid has been spilled on the product.
 - The product has been exposed to rain.
 - The product has been dropped or the enclosure damaged.



CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

To reduce the risk of electric shock, do not remove screws. No user-serviceable parts inside. Refer servicing to qualified service personnel. To reduce the risk of fire, electric shock or product damage, do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

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Before you start

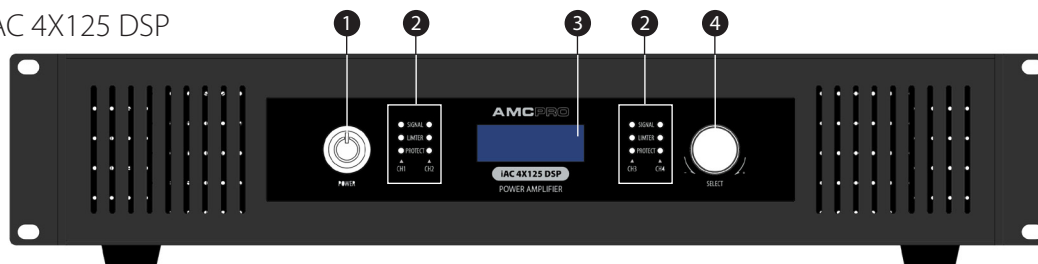
iAC 4X125 DSP four-channel amplifier with an integrated digital signal processor is designed for 100 V and low impedance background music systems. It has an RS 232 control port for amplifier integration with third-party automation systems. Balanced Phoenix and stereo RCA input with audio link connection for easy installation, multiple voltage output suitable for 8 Ω , 70 V, and 100 V speaker lines.

FEATURES

- Six points parametric EQ
- Input gain adjustment
- Full RS232 control
- Limiter
- Delay
- Input gate
- Low and high pass filter
- Cooling FAN setup
- Transformerless output
- Output configuration
- Front panel control lock
- StandBy setup
- Balanced and unbalanced inputs

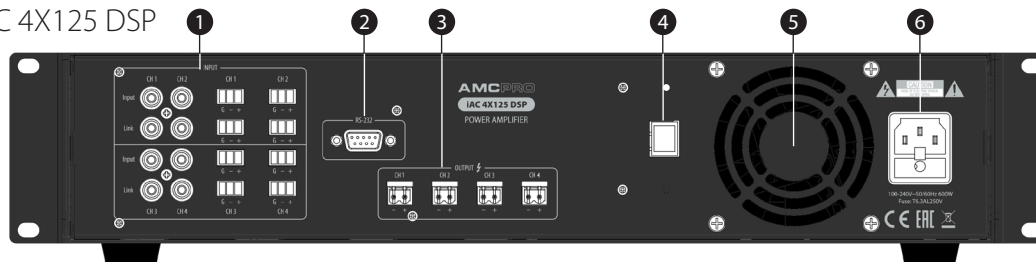
Operation

Front Panel | iAC 4X125 DSP



1. Power button | 2. Signal, limiter & mute indicators | 3. LCD display | 4. Rotary encoder

Rear Panel | iAC 4X125 DSP



1. Stereo RCA & balanced Phoenix inputs, Link outputs | 2. RS232 serial interface | 3. Main Phoenix outputs
4. Digital audio input (optional) | 5. Ventilation fan | 6. Main power connector

Operation

Front panel functions

LED INDICATORS

THE SIGNAL INDICATOR: illuminates to indicate an audio signal in the amplifier's input.

LIMITER INDICATOR: the amplifier has a built-in audio signal limiter to limit output power. When the input audio signal exceeds the set threshold, the limiter reduces a signal level to a safe value and indicates activity.

MUTE INDICATOR: illuminates when mute function is activated. Muted channel is indicated with red LED light.

POWER BUTTON

Switch amplifier power ON or OFF.

LCD DISPLAY

LCD screen displays main information and allows adjust amplifier settings.

ROTARY ENCODER

The knob is dedicated to controlling volume and operating an amplifier with the help of a simple and intuitive menu.

Press and hold the rotary encoder for two seconds to bring the main menu, turn it to scroll through the menu, and press it shortly to enter the setting or sub-menu. Adjust parameter value by turning the encoder and press it to save the adjusted parameter value.

To jump back from any menu and skip the settings hold the encoder until the LCD brings the home screen. (This method does not apply for EQ adjusting.)

Amplifier automatically saves settings and returns home screen after 20 seconds of inactivity.

Push the rotary encoder shortly on the home screen to select between amplifier channels CH1 – CH4. Hold it to activate the selected channel menu. All other control the same as listed above.

Operation

Rear panel functions

STEREO RCA & BALANCED PHOENIX INPUTS

These inputs are designed for line level audio only. Please use a preamplifier to connect a microphone to this amplifier. Pay attention: the Phoenix link output carries audio only from the Phoenix input, and the RCA link output carries audio only from the RCA input. Audio signals from the Phoenix and RCA inputs are not cross-connected.

AMPLIFIER OUTPUTS

Audio outputs are available for 8 Ω , 70 V, and 100 V speaker lines. By default, all outputs are set to Low Z configuration. To use 70 V or 100 V outputs, change this setting via the Output Mode menu (page 10).

RS232 SERIAL INTERFACE

Designed to control the main function of iAC amplifiers by using a serial interface. RS232 protocol is listed at the end of this user manual (page 11).

MAIN POWER CONNECTOR

Power connector with built-in fuse holder. The fuse specification is listed on the rear panel.

Main menu

MENU HOME SCREEN



Menu system In normal operating mode shows the volume of each amplifier channel. Push the rotary encoder to switch channels between CH1 – CH4. Push and hold the rotary encoder to enter the main menu and access more controls of parameters.

INPUT GAIN



The amplifier can adjust input gain in the +/- 12dB range. A setting is based on a DSP chip and dedicated to precisely matching audio source output and amplifier input levels. Default input gain - 0 dBu. Positive value means that input signal is amplifier by indicated value, negative value – input level decreased.

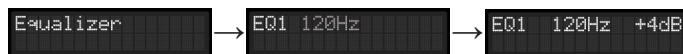
EQUALIZER

This is a parametric equalizer. Users are free to change EQ frequency, gain, and Q factor. Default frequency values are listed below:

EQ1: 120Hz GAIN: 0dB Q: 1	EQ3: 1kHz GAIN: 0dB Q: 1	EQ5: 16kHz GAIN: 0dB Q: 1
EQ2: 200Hz GAIN: 0dB Q: 1	EQ4: 4kHz GAIN: 0dB Q: 1	EQ6: 18kHz GAIN: 0dB Q: 1

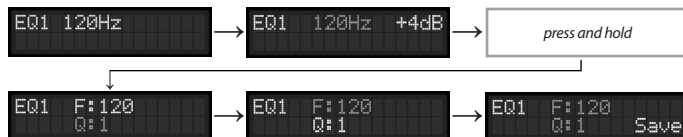
Operation

Adjusting EQ:



To adjust EQ select one of six EQ presets and press rotary encoder. In this setup amplifier allows to adjust selected EQ gain in +/- 12dB range. After adjusting press rotary encoder to save the settings and return main menu.

Setup EQ preset:



EQ frequency and Q factor can be changed by the user on the equalizer Sub-menu. DSP allows to choose an EQ point frequency in the 20Hz – 20kHz range and change the Q factor from 0.5 to 12. A smaller Q number represents wider frequency bandwidth that will be affected by the equalizer.

To change the preset select EQ and press and hold the rotary encoder till brings the EQ sub-menu. Set the frequency and press the knob to adjust the Q factor. Another press to save settings and jump back to the EQ menu.

HIGH PASS FILTER



Amplifier has internal high pass filter to cut off low audio frequencies. User is free to set high pass filter in 20 Hz-400 Hz range. High pass filter slope is fixed to 6 dB per octave.

LOW PASS FILTER



The setting allows connecting a passive subwoofer to amplifier and limit frequency range linked to low Z output. User can turn off this filter and have a full frequency range in the output or enable a high cut filter with a possibility to control cut area in 20 Hz - 200 Hz range. Filter slope is 6 dB per octave.

LIMITER

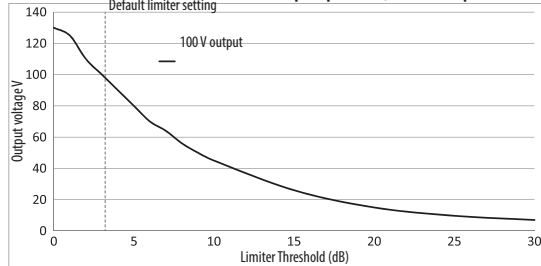


Audio DSP processor allows setup limiter in the range from -30dB to 0 dB. This setting keeps the amplifier and speakers in the safe zone and prevents audio from clipping and loudspeaker overloading. The following charts shows how the amplifier's output power depends on the limiter threshold. The limiter attack time is 1 ms and the release time is fixed to 1000 ms. Default limiter threshold level is -3 dB.

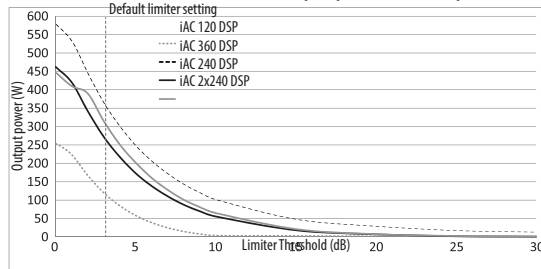
Operation

The red color LED in the front panel indicates that the limiter is activated, and the audio level reached the threshold level.

Limiter threshold relation with output power (100 V output mode)



Limiter threshold relation with output power (4 Ω output mode)



DELAY



DSP allows adding delay to an audio signal in 0 – 300 ms (0-102.9 m) range by using 1 ms resolution.

INPUT GATE



The amplifier has an installed audio gate. This function mutes the amplifier if the audio signal or noise in the input is smaller than the specifier threshold. Users can enable or disable this function.

By default audio gate is enabled. The audio gate threshold is fixed to -56dBu.

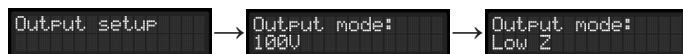
SYNC SETTINGS



The iAC 4x125 DSP Sync function allows you to link channels to control all of them at once and to copy settings from one channel to another.

Operation

OUTPUT SETUP



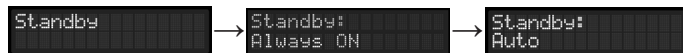
This menu allows you to set up the amplifier output to match the type of audio line: 100 V, 70 V, or Low-Z. The default setting is Low-Z. Change it to 100 V or 70 V if you are using the amplifier for a constant-voltage audio line. Incorrect settings affects amplifier performance.

INPUT-OUTPUT MATRIX

INPUT	1	2	3	4
OUTPUT 1	■	□	□	□

iAC 4x125 DSP amplifier has an option to route any input to any output. This matrix function allows to use the same audio input on more than one channel or swap inputs and outputs for individual channels.

STANDBY



Always ON: keeps the amplifier powered at all times, even when no audio is connected or the amplifier is not playing any sound.

Auto: amplifier goes to standby automatically if the main CPU detects no audio in amplifier inputs. Amplifier automaticity returns to the normal stage as soon as the CPU detects audio.

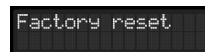
Activated standby mode is indicated by the red color LED on the power button.

LOCK



This function locks the front panel control to prevent unauthorized access to the amplifier control menu or volume adjusting. To disable the function press and hold the rotary encoder for 5 seconds. The lock function affects front panel controls only, serial control and reset functions are not free of locking. Lock mode can be also enabled or disabled by using the RS232 command.

FACTORY RESET



Resets all amplifier parameters to default values.

EXIT



Turns off the menu and returns the default volume control screen.

Operation

RS232 codes | Send Sequences

RS232 COMMANDS

The following table lists commands for IAC 4x125 DSP amplifier.

RS232 CODES ARE LISTED IN HEX COM Port Settings

Baud Rate: 9600
Parity: None
Data Bits: 8
Stop Bits: 1
Flow Control: No

Operation

RS232 COMMANDS

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Mute	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x02	0x01	0xA1	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x02	0x3F	0xAA
Unmute	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x02	0x01	0xA0	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x02	Volume range from 0x00 (max) to 0x2F (min) Byte: 0x00 = Volume 0dB Byte: 0x2F = Volume -47dB	0xAA
Volume+ Volume-	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x02	0x01	0x01:Volume+ 0x02:Volume-	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Volume+ Volume-	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x02	Volume range from 0x00 (max) to 0x2F (min) Byte: 0x00 = Volume 0dB Byte: 0x01 = Volume -1dB Byte: 0x02 = Volume -2dB Byte: 0x03 = Volume -3dB Byte: 0x04 = Volume -4dB Byte: 0x05 = Volume -5dB Byte: 0x06 = Volume -6dB Byte: 0x07 = Volume -7dB Byte: 0x08 = Volume -8dB Byte: 0x09 = Volume -9dB Byte: 0x0A = Volume -10dB Byte: 0x0B = Volume -11dB Byte: 0x0C = Volume -12dB Byte: 0x0D = Volume -13dB Byte: 0x0E = Volume -14dB Byte: 0x0F = Volume -15dB Byte: 0x10 = Volume -16dB Byte: 0x11 = Volume -17dB Byte: 0x12 = Volume -18dB Byte: 0x13 = Volume -19dB Byte: 0x14 = Volume -20dB Byte: 0x15 = Volume -21dB Byte: 0x16 = Volume -22dB Byte: 0x17 = Volume -23dB	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Volume+ Volume-	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x02	Byte: 0x18 = Volume -24dB Byte: 0x19 = Volume -25dB Byte: 0x1A = Volume -26dB Byte: 0x1B = Volume -27dB Byte: 0x1C = Volume -28dB Byte: 0x1D = Volume -29dB Byte: 0x1E = Volume -30dB Byte: 0x1F = Volume -31dB Byte: 0x20 = Volume -32dB Byte: 0x21 = Volume -33dB Byte: 0x22 = Volume -34dB Byte: 0x23 = Volume -35dB Byte: 0x24 = Volume -36dB Byte: 0x25 = Volume -37dB Byte: 0x26 = Volume -38dB Byte: 0x27 = Volume -39dB Byte: 0x28 = Volume -40dB Byte: 0x29 = Volume -41dB Byte: 0x2A = Volume -42dB Byte: 0x2B = Volume -43dB Byte: 0x2C = Volume -44dB Byte: 0x2D = Volume -45dB Byte: 0x2E = Volume -46dB Byte: 0x2F = Volume -47dB	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Input gain + Input gain -	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x05	0x01	0x01:Input gain+ 0x02:Input gain -	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x05	Input gain range from 0x01 (min) to 0x19 (max) Byte: 0x01 = Gain -12dB Byte: 0x02 = Gain -11dB Byte: 0x03 = Gain -10dB Byte: 0x04 = Gain -9dB Byte: 0x05 = Gain -8dB Byte: 0x06 = Gain -7dB Byte: 0x07 = Gain -6dB Byte: 0x08 = Gain -5dB Byte: 0x09 = Gain -4dB Byte: 0x0A = Gain -3dB Byte: 0x0B = Gain -2dB Byte: 0x0C = Gain -1dB Byte: 0x0D = Gain 0dB Byte: 0x0E = Gain +1dB Byte: 0x0F = Gain +2dB Byte: 0x10 = Gain +3dB Byte: 0x11 = Gain +4dB Byte: 0x12 = Gain +5dB Byte: 0x13 = Gain +6dB	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Input gain + Input gain -	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x05	Byte: 0x14 = Gain +7dB Byte: 0x15 = Gain +8dB Byte: 0x16 = Gain +9dB Byte: 0x17 = Gain +10dB Byte: 0x18 = Gain +11dB Byte: 0x19 = Gain +12dB	0xAA
Set input gain	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x06	0x01	Input gain:0x01~0x19 0x01:-12dB 0x0D:0dB 0x19:+12dB	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x05	Input gain range from 0x01 (min) to 0x19 (max) Byte: 0x01 = Gain -12dB Byte: 0x02 = Gain -11dB Byte: 0x03 = Gain -10dB Byte: 0x04 = Gain -9dB Byte: 0x05 = Gain -8dB Byte: 0x06 = Gain -7dB Byte: 0x07 = Gain -6dB Byte: 0x08 = Gain -5dB Byte: 0x09 = Gain -4dB Byte: 0x0A = Gain -3dB Byte: 0x0B = Gain -2dB Byte: 0x0C = Gain -1dB	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Set input gain	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x05	Byte: 0x0D = Gain 0dB Byte: 0x0E = Gain +1dB Byte: 0x0F = Gain +2dB Byte: 0x10 = Gain +3dB Byte: 0x11 = Gain +4dB Byte: 0x12 = Gain +5dB Byte: 0x13 = Gain +6dB Byte: 0x14 = Gain +7dB Byte: 0x15 = Gain +8dB Byte: 0x16 = Gain +9dB Byte: 0x17 = Gain +10dB Byte: 0x18 = Gain +11dB Byte: 0x19 = Gain +12dB	0xAA
Low pass freq+ Low pass freq-	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x07	0x01	0x01:Low pass freq+ 0x02:Low pass freq-	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x07	LPF filter range from 0x00 (20Hz) to 0x0A (OFF) Byte: 0x00 = LPF set to 20Hz Byte: 0x01 = LPF set to 40Hz Byte: 0x02 = LPF set to 60Hz Byte: 0x03 = LPF set to 80Hz Byte: 0x04 = LPF set to 100Hz	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Low pass freq+ Low pass freq-	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x07	Byte: 0x04 = LPF set to 100Hz Byte: 0x05 = LPF set to 120Hz Byte: 0x06 = LPF set to 140Hz Byte: 0x07 = LPF set to 160Hz Byte: 0x08 = LPF set to 180Hz Byte: 0x09 = LPF set to 200Hz Byte: 0x0A = LPF is Off	0xAA
Set low pass freq	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x08	0x01	Freq:0x00~0x0A 0x00:20Hz 0x09:200Hz 0x0A:Off	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x07	LPF filter range from 0x00 (20Hz) to 0x0A (OFF) Byte: 0x00 = LPF set to 20Hz Byte: 0x01 = LPF set to 40Hz Byte: 0x02 = LPF set to 60Hz Byte: 0x03 = LPF set to 80Hz Byte: 0x04 = LPF set to 100Hz Byte: 0x05 = LPF set to 120Hz Byte: 0x06 = LPF set to 140Hz Byte: 0x07 = LPF set to 160Hz Byte: 0x08 = LPF set to 180Hz Byte: 0x09 = LPF set to 200Hz Byte: 0x0A = LPF is Off	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
High pass freq+ High pass freq-	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x09	0x01	0x01:High pass freq- 0x02:High pass freq-	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x09	HPF filter range from 0x00 (20Hz) to 0x26 (400Hz) Byte: 0x00 = HPF set to 20Hz Byte: 0x01 = HPF set to 30Hz Byte: 0x02 = HPF set to 40Hz Byte: 0x03 = HPF set to 50Hz Byte: 0x04 = HPF set to 60Hz Byte: 0x05 = HPF set to 70Hz Byte: 0x06 = HPF set to 80Hz Byte: 0x07 = HPF set to 90Hz Byte: 0x08 = HPF set to 100Hz Byte: 0x09 = HPF set to 110Hz Byte: 0x0A = HPF set to 120Hz Byte: 0x0B = HPF set to 130Hz Byte: 0x0C = HPF set to 140Hz Byte: 0x0D = HPF set to 150Hz Byte: 0x0E = HPF set to 160Hz Byte: 0x0F = HPF set to 170Hz Byte: 0x10 = HPF set to 180Hz Byte: 0x11 = HPF set to 190Hz Byte: 0x12 = HPF set to 200Hz	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
High pass freq+ High pass freq-	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x09	Byte: 0x12 = HPF set to 200Hz Byte: 0x13 = HPF set to 210Hz Byte: 0x14 = HPF set to 220Hz Byte: 0x15 = HPF set to 230Hz Byte: 0x16 = HPF set to 240Hz Byte: 0x17 = HPF set to 250Hz Byte: 0x18 = HPF set to 260Hz Byte: 0x19 = HPF set to 270Hz Byte: 0x1A = HPF set to 280Hz Byte: 0x1B = HPF set to 290Hz Byte: 0x1C = HPF set to 300Hz Byte: 0x1D = HPF set to 310Hz Byte: 0x1E = HPF set to 320Hz Byte: 0x1F = HPF set to 330Hz Byte: 0x20 = HPF set to 340Hz Byte: 0x21 = HPF set to 350Hz Byte: 0x22 = HPF set to 360Hz Byte: 0x23 = HPF set to 370Hz Byte: 0x24 = HPF set to 380Hz Byte: 0x25 = HPF set to 390Hz Byte: 0x26 = HPF set to 400Hz	0xAA
Set high pass freq	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x0A	0x01	Freq:0x00~0x26 0x00:20Hz 0x12:200Hz 0x26:400Hz	0xAA

Operation

Function	Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Set high pass freq	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x09	HPF filter range from 0x00 (20Hz) to 0x26 (400Hz) Byte: 0x00 = HPF set to 20Hz Byte: 0x01 = HPF set to 30Hz Byte: 0x02 = HPF set to 40Hz Byte: 0x03 = HPF set to 50Hz Byte: 0x04 = HPF set to 60Hz Byte: 0x05 = HPF set to 70Hz Byte: 0x06 = HPF set to 80Hz Byte: 0x07 = HPF set to 90Hz Byte: 0x08 = HPF set to 100Hz Byte: 0x09 = HPF set to 110Hz Byte: 0x0A = HPF set to 120Hz Byte: 0x0B = HPF set to 130Hz Byte: 0x0C = HPF set to 140Hz Byte: 0x0D = HPF set to 150Hz Byte: 0x0E = HPF set to 160Hz Byte: 0x0F = HPF set to 170Hz Byte: 0x10 = HPF set to 180Hz Byte: 0x11 = HPF set to 190Hz Byte: 0x12 = HPF set to 200Hz Byte: 0x13 = HPF set to 210Hz Byte: 0x14 = HPF set to 220Hz Byte: 0x15 = HPF set to 230Hz Byte: 0x16 = HPF set to 240Hz
									0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Set high pass freq	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x09	Byte: 0x17 = HPF set to 250Hz Byte: 0x18 = HPF set to 260Hz Byte: 0x19 = HPF set to 270Hz Byte: 0x1A = HPF set to 280Hz Byte: 0x1B = HPF set to 290Hz Byte: 0x1C = HPF set to 300Hz Byte: 0x1D = HPF set to 310Hz Byte: 0x1E = HPF set to 320Hz Byte: 0x1F = HPF set to 330Hz Byte: 0x20 = HPF set to 340Hz Byte: 0x21 = HPF set to 350Hz Byte: 0x22 = HPF set to 360Hz Byte: 0x23 = HPF set to 370Hz Byte: 0x24 = HPF set to 380Hz Byte: 0x25 = HPF set to 390Hz Byte: 0x26 = HPF set to 400Hz	0xAA
Limiter threshold+ Limiter threshold-	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x0B	0x01	0x01:Limiter threshold+ 0x02:Limiter threshold-	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x0B	Threshold: from 0x00 to 0x1E Byte: 0x00 = Limiter set to 0dBu Byte: 0x01 = Limiter set to -1dBu Byte: 0x02 = Limiter set to -2dBu	0xAA

Operation

Function	Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Limiter threshold+ Limiter threshold-	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x0B	Byte: 0x03 = Limiter set to -3dBu Byte: 0x04 = Limiter set to -4dBu Byte: 0x05 = Limiter set to -5dBu Byte: 0x06 = Limiter set to -6dBu Byte: 0x07 = Limiter set to -7dBu Byte: 0x08 = Limiter set to -8dBu Byte: 0x09 = Limiter set to -9dBu Byte: 0x0A = Limiter set to -10dBu Byte: 0x0B = Limiter set to -11dBu Byte: 0x0C = Limiter set to -12dBu Byte: 0x0D = Limiter set to -13dBu Byte: 0x0E = Limiter set to -14dBu Byte: 0x0F = Limiter set to -15dBu Byte: 0x10 = Limiter set to -16dBu Byte: 0x11 = Limiter set to -17dBu Byte: 0x12 = Limiter set to -18dBu Byte: 0x13 = Limiter set to -19dBu Byte: 0x14 = Limiter set to -20dBu Byte: 0x15 = Limiter set to -21dBu Byte: 0x16 = Limiter set to -22dBu Byte: 0x17 = Limiter set to -23dBu Byte: 0x18 = Limiter set to -24dBu Byte: 0x19 = Limiter set to -25dBu Byte: 0x1A = Limiter set to -26dBu Byte: 0x1B = Limiter set to -27dBu
									0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Limiter threshold+	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x0B	Byte: 0x1C = Limiter set to -28dBu Byte: 0x1D = Limiter set to -29dBu Byte: 0x1E = Limiter set to -30dBu	0xAA
Set limiter threshold	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x0C	0x01	Threshold:0x00~0x1E 0x00:0dB 0x1E:-30dB	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x0B	Threshold: from 0x00 to 0x1E Byte: 0x00 = Limiter set to 0dBu Byte: 0x01 = Limiter set to -1dBu Byte: 0x02 = Limiter set to -2dBu Byte: 0x03 = Limiter set to -3dBu Byte: 0x04 = Limiter set to -4dBu Byte: 0x05 = Limiter set to -5dBu Byte: 0x06 = Limiter set to -6dBu Byte: 0x07 = Limiter set to -7dBu Byte: 0x08 = Limiter set to -8dBu Byte: 0x09 = Limiter set to -9dBu Byte: 0x0A = Limiter set to -10dBu Byte: 0x0B = Limiter set to -11dBu Byte: 0x0C = Limiter set to -12dBu Byte: 0x0D = Limiter set to -13dBu Byte: 0x0E = Limiter set to -14dBu	0xAA

Operation

Function	Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Set limiter threshold	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x0B	Byte: 0x0F = Limiter set to -15dBu Byte: 0x10 = Limiter set to -16dBu Byte: 0x11 = Limiter set to -17dBu Byte: 0x12 = Limiter set to -18dBu Byte: 0x13 = Limiter set to -19dBu Byte: 0x14 = Limiter set to -20dBu Byte: 0x15 = Limiter set to -21dBu Byte: 0x16 = Limiter set to -22dBu Byte: 0x17 = Limiter set to -23dBu Byte: 0x18 = Limiter set to -24dBu Byte: 0x19 = Limiter set to -25dBu Byte: 0x1A = Limiter set to -26dBu Byte: 0x1B = Limiter set to -27dBu Byte: 0x1C = Limiter set to -28dBu Byte: 0x1D = Limiter set to -29dBu Byte: 0x1E = Limiter set to -30dBu

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
Delay time+ Delay time-	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x0D	0x01	0x01:Delay time+ 0x02:Delay time-	0xAA	
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x0D	Delay range from 0x00(off) to 0x12C (max.) Byte7&Byte8: 0x00 & 0x00 = Delay 0ms. ... Byte7&Byte8: 0x00 & 0x64 = Delay 100ms. ... Byte7&byte8: 00x01 & 0x00 = Delay 256ms. ... Byte7&Byte8: 0x00 & 0x12C = Delay 300ms.		0xAA
Set delay time	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x0E	0x01	"Delay:0x00~0x12C 0x00:0ms 0x12C:300ms		0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x0D	Delay range from 0x00(off) to 0x12C (max.) Byte7&Byte8: 0x00 & 0x00 = Delay 0ms. ... Byte7&Byte8: 0x00 & 0x64 = Delay 100ms. ... Byte7&byte8: 00x01 & 0x00 = Delay 256ms. ... Byte7&Byte8: 0x00 & 0x12C = Delay 300ms.		0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
Set output mode	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x0F	0x01	output mode: 0x00:Low Z 0x01:70V 0x02:100V	0xAA	
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x0F	output mode: Byte: 0x00 = Low Z Byte: 0x01 = 70V Byte: 0x02 = 100V	0xAA	
EQ freq+ EQ freq-	Send	0x69	0x41	0x43	"0x55:umsync 0x54:sync"	"0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4"	0x21	0x01	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	0x01:EQ freq+ 0x02:EQ freq-	0xAA
	Feedback	0x69	0x41	0x43	"0x55:umsync 0x54:sync"	"0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4"	0x5D	0x21	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	EQ point frequency range from 0x00 (20Hz) to 0x24 (20kHz) Byte: 0x00 = 20Hz Byte: 0x01 = 30Hz Byte: 0x02 = 40Hz Byte: 0x03 = 50Hz Byte: 0x04 = 60Hz Byte: 0x05 = 70Hz	0xAA

Operation

Function	Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
EQ freq+ EQ freq-	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x21	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6 Byte: 0x06 = 80Hz Byte: 0x07 = 90Hz Byte: 0x08 = 100Hz Byte: 0x09 = 200Hz Byte: 0x0A = 300Hz Byte: 0x0B = 400Hz Byte: 0x0C = 500Hz Byte: 0x0D = 600Hz Byte: 0x0E = 700Hz Byte: 0x0F = 800Hz Byte: 0x10 = 900Hz Byte: 0x11 = 1kHz Byte: 0x12 = 2kHz Byte: 0x13 = 3kHz Byte: 0x14 = 4kHz Byte: 0x15 = 5kHz Byte: 0x16 = 6kHz Byte: 0x17 = 7kHz Byte: 0x18 = 8kHz Byte: 0x19 = 9kHz Byte: 0x1A = 10kHz Byte: 0x1B = 11kHz Byte: 0x1C = 12kHz Byte: 0x1D = 13kHz Byte: 0x1E = 14kHz	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
EQ freq+ EQ freq-	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x21	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	Byte: 0x1F = 15kHz Byte: 0x20 = 16kHz Byte: 0x21 = 17kHz Byte: 0x22 = 18kHz Byte: 0x23 = 19kHz Byte: 0x24 = 20kHz	0xAA
Set EQ freq	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x22	0x01	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	freq:0x00~0x24	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x21	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	EQ point frequency range from 0x00 (20Hz) to 0x24 (20kHz) Byte: 0x00 = 20Hz Byte: 0x01 = 30Hz Byte: 0x02 = 40Hz Byte: 0x03 = 50Hz Byte: 0x04 = 60Hz Byte: 0x05 = 70Hz Byte: 0x06 = 80Hz Byte: 0x07 = 90Hz	0xAA

Operation

Function	Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
Set EQ freq	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x21	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6 Byte: 0x08 = 100Hz Byte: 0x09 = 200Hz Byte: 0x0A = 300Hz Byte: 0x0B = 400Hz Byte: 0x0C = 500Hz Byte: 0x0D = 600Hz Byte: 0x0E = 700Hz Byte: 0x0F = 800Hz Byte: 0x10 = 900Hz Byte: 0x11 = 1kHz Byte: 0x12 = 2kHz Byte: 0x13 = 3kHz Byte: 0x14 = 4kHz Byte: 0x15 = 5kHz Byte: 0x16 = 6kHz Byte: 0x17 = 7kHz Byte: 0x18 = 8kHz Byte: 0x19 = 9kHz Byte: 0x1A = 10kHz Byte: 0x1B = 11kHz Byte: 0x1C = 12kHz Byte: 0x1D = 13kHz Byte: 0x1E = 14kHz Byte: 0x1F = 15kHz Byte: 0x20 = 16kHz	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
Set EQ freq	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x21	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	Byte: 0x21 = 17kHz Byte: 0x22 = 18kHz Byte: 0x23 = 19kHz Byte: 0x24 = 20kHz	0xAA
EQ gain+ EQ gain-	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x23	0x01	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	0x01:EQ gain+ 0x02:EQ gain-	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x23	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	EQ point gain range: negative values from 0x00 (-14dB) to 0x06 (-2dB), positive values from 0x0E (+2dB) to 0x08 (+14dB) Byte: 0x00 = Gain -14dB Byte: 0x01 = Gain -12dB Byte: 0x02 = Gain -10dB Byte: 0x03 = Gain -8dB Byte: 0x04 = Gain -6dB Byte: 0x05 = Gain -4dB	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
EQ gain+ EQ gain-	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x23	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	Byte: 0x06 = Gain -2dB Byte: 0x07 = Gain 0dB Byte: 0x08 = Gain +14dB Byte: 0x09 = Gain +12dB Byte: 0x0A = Gain +10dB Byte: 0x0B = Gain +8dB Byte: 0x0C = Gain +6dB Byte: 0x0D = Gain +4dB Byte: 0x0E = Gain +2dB	0xAA
Set EQ gain	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x24	0x01	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	gain: 0x00~0x0E	0xAA
	Feed back	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x23	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	EQ point gain range: negative values from 0x00 (-14dB) to 0x06 (-2dB), positive values from 0x0E (+2dB) to 0x08 (+14dB) Byte: 0x00 = Gain -14dB Byte: 0x01 = Gain -12dB Byte: 0x02 = Gain -10dB	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
Set EQ gain	Feed back	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x23	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	Byte: 0x03 = Gain -8dB Byte: 0x04 = Gain -6dB Byte: 0x05 = Gain -4dB Byte: 0x06 = Gain -2dB Byte: 0x07 = Gain 0dB Byte: 0x08 = Gain +14dB Byte: 0x09 = Gain +12dB Byte: 0x0A = Gain +10dB Byte: 0x0B = Gain +8dB Byte: 0x0C = Gain +6dB Byte: 0x0D = Gain +4dB Byte: 0x0E = Gain +2dB	0xAA
EQ Q+ EQ Q-	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x25	0x01	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	0x01:EQ Q+ 0x02:EQ Q-	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x25	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	Q factor range: from 0x00 (0.5 widest bandwidth) to 0x17 (0.5 narrow bandwidth) Byte: 0x00 = Q factor 0.5 Byte: 0x01 = Q factor 1.0	0xAA

Operation

Function	Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
EQ Q+ EQ Q-	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x25	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6 Byte: 0x02 = Q factor 1.5 Byte: 0x03 = Q factor 2.0 Byte: 0x04 = Q factor 2.5 Byte: 0x05 = Q factor 3.0 Byte: 0x06 = Q factor 3.5 Byte: 0x07 = Q factor 4.0 Byte: 0x08 = Q factor 4.5 Byte: 0x09 = Q factor 5.0 Byte: 0x0A = Q factor 5.5 Byte: 0x0B = Q factor 6.0 Byte: 0x0C = Q factor 6.5 Byte: 0x0D = Q factor 7.0 Byte: 0x0E = Q factor 7.5 Byte: 0x0F = Q factor 8.0 Byte: 0x10 = Q factor 8.5 Byte: 0x11 = Q factor 9.0 Byte: 0x12 = Q factor 9.5 Byte: 0x13 = Q factor 10.0 Byte: 0x14 = Q factor 10.5 Byte: 0x15 = Q factor 11.0 Byte: 0x16 = Q factor 11.5 Byte: 0x17 = Q factor 12.0	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
Set EQ Q	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x26	0x01	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	Q:0x00~0x17	0xAA
	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x25	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	"Q factor range is from 0x00 (0.5 widest bandwidth) to 0x17 (0.5 narrow bandwidth) Byte: 0x00 = Q factor 0.5 Byte: 0x01 = Q factor 1.0 Byte: 0x02 = Q factor 1.5 Byte: 0x03 = Q factor 2.0 Byte: 0x04 = Q factor 2.5 Byte: 0x05 = Q factor 3.0 Byte: 0x06 = Q factor 3.5 Byte: 0x07 = Q factor 4.0 Byte: 0x08 = Q factor 4.5 Byte: 0x09 = Q factor 5.0 Byte: 0x0A = Q factor 5.5 Byte: 0x0B = Q factor 6.0 Byte: 0x0C = Q factor 6.5 Byte: 0x0D = Q factor 7.0 Byte: 0x0E = Q factor 7.5	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
Set EQ Q	Feedback	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x25	Byte: 0x00 = EQ1 Byte: 0x01 = EQ2 Byte: 0x02 = EQ3 Byte: 0x03 = EQ4 Byte: 0x04 = EQ5 Byte: 0x05 = EQ6	Byte: 0x0F = Q factor 8.0 Byte: 0x10 = Q factor 8.5 Byte: 0x11 = Q factor 9.0 Byte: 0x12 = Q factor 9.5 Byte: 0x13 = Q factor 10.0 Byte: 0x14 = Q factor 10.5 Byte: 0x15 = Q factor 11.0 Byte: 0x16 = Q factor 11.5 Byte: 0x17 = Q factor 12.0	0xAA

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Set input gate	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x15	0x01	0x00:off 0x01:on	0xAA
	Feed back	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x15	0x00:off 0x01:on	0xAA
Set input setup	Send	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x14	0x01	"input setup:(0~0x0F) "	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Set input setup	Feed back	0x69	0x41	0x43	0x55:unsync 0x54:sync	0x01:CH1 0x02:CH2 0x03:CH3 0x04:CH4	0x5D	0x14	"Byte: 0x00 = No input is linked Byte: 0x01 = Input 1 is linked Byte: 0x02 = Input 2 is linked Byte: 0x03 = Input 1 and 2 are linked Byte: 0x04 = Input 3 is linked Byte: 0x05 = Input 1 and 3 are linked Byte: 0x06 = Input 2 and 3 are linked Byte: 0x07 = Input 1 and 2 and 3 are linked Byte: 0x08 = Input 4 is linked Byte: 0x09 = Input 1 and 4 are linked Byte: 0x0A = Input 2 and 4 are linked Byte: 0x0B = Input 1 and 2 and 4 are linked Byte: 0x0C = Input 3 and 4 are linked Byte: 0x0D = Input 1 and 3 and 4 are linked Byte: 0x0E = Input 2 and 3 and 4 are linked Byte: 0x0F = All inputs are linked"	0xAA

Operation

Function		Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8
Factory reset	Send	0x69	0x41	0x43	0x55	0x0D	0x12	0x01	0x01	0xAA
	Feed back	0x69	0x41	0x43	0x55	0x0D	0x5D	0x12	0x01	0xAA
Lock & Unlock	Send	0x69	0x41	0x43	0x55	0x0D	0x11	0x01	0x00:unlock 0x01:lock	0xAA
	Feed back	0x69	0x41	0x43	0x55	0x0D	0x5D	0x11	0x00:unlock 0x01:lock	0xAA
Standby on Standby off	Send	0x69	0x41	0x43	0x55	0x0D	0x10	0x01	0x00:off 0x01:on	0xAA
	Feed back	0x69	0x41	0x43	0x55	0x0D	0x5D	0x10	0x00:off 0x01:on	0xAA
Read version	Send	0x69	0x41	0x43	0x55	0x01	0xFF	0x01	0x00	0xAA
	Feed back	0x69	0x41	0x43	0x55	0x01	0x5D	0xFF	0x32	0xAA
Read status	Send	0x69	0x41	0x43	0x55	0x01	0xFA	0x01	0x00	0xAA

USER MANUAL | iAC 4X125 DSP Installation Power Amplifier

General Specifications

iAC Installation Power Amplifier

Technical Specifications	iAC 4X125 DSP
Output power	4 x 125 W
Max power consumption	655 VA
Idle power consumption	80 VA
Stand by power consumption	3.8 VA
Power supply	~ 230 V, 50 Hz
Outputs	4 x Phoenix power output, 4 x Phoenix audio link
Inputs	4 x Balanced Phoenix, 4 x Stereo RCA RJ45 digital audio input (optional)
Frequency Response	30 Hz - 20 kHz
THD @ rated power	0,07 %
S/N ratio	88 dB
Input sensitivity	1 dBu
Input impedance	Balanced: 11 kΩ, unbalanced 11 kΩ
Remote control	RS-232
Tone control	6-band parametric EQ
Cooling	Forced air cooling
Dimensions (H x W x D)	88 mm x 340 mm x 430 mm
Weight	7 kg

The specifications are correct at the time of printing this manual. For improvement purposes, all specifications for this unit, including design and appearance, are subject to change without prior notice.

[illegible]

