We thank you for your confidence set into our firm and our product and request you a lot of joy while listening music with your new **ASR Collector**!

We as manufacturers, the company ASR Audio Systems Friedrich Schäfer, produced for you the Collector with great care exclusively with **highest quality** and **selected** components.

If you have questions that your dealer can't answer, please, call us during the normal business hours, Monday till Friday from 7.30 to 15.00 o'clock middle European time.

Table of contents :

!!! Please, read carefully this operating manual before you set up your ASR Collector and make yourself familiar with the qualities of the Collector !!!

That will help you to use optimally the diverse possibilities of the **ASR Collector** and to prevent damages, that may result of inappropriate operation.

Unpacking the ASR Collector :

After opening the carton, you take out the devices. Loosen the adhesive strips cautiously (please do not cut through) around the foam plastic foil and keep them for possible later use. Then you may test the scope of delivery for completeness :

1. preamplifier
2. power unit with 150 cm of power cable 3x 1,5 qmm
3. repair lot
   - Allen wrench 3 mm for case screw joints
   - Replacement screws
   - Replacement fuses
4. care set
   - Bottle of anti static plastic cleaner
   - Special cleaning cloth for cleaning of acrylic material

After unpacking, the amplifier must be allowed to accommodate to the room temperature for approximately two (2) hours. Dampness through cold and weather may have accumulated during transport. This dampness must be totally dried before turning ON the set.

The place of installation :

At the place of installation do not expose the **ASR-Collector** to moisture, very high or low temperatures. The temperature of the room where you use the **ASR Collector** should be between 15 to 25 degrees Celsius or 60 to 80 degrees Fahrenheit.

To avoid grumble please don't place the **ASR Collector** in the near of the power supply unit supplied with the Collector or any other power supply unit or other equipment with built in Transformer.

The connections of the ASR Collector :

To get best possible audio quality we recommend you to use short cables especially for the connection to your CD Unit.

After you found the right place for your **ASR Collector**, please study the connection field at the backside.

The input sockets are placed symmetrically around the socket for the power- supply connector. This had been made to obtain high channel separation.

Please make the connections to your equipment depending on the lettering at the backside.

Please use high quality cables.

The positions of the inputs are also be shown by the glimmering of LED's mounted beside the input depending on the position of the input switch. The input RCA sockets utilised for the right channel are equipped with a red insulator; the left ones with a black insulator.

The inputs of the **ASR Collector** have the same technically property, only their names are different.

!! Urgent !! To avoid damages of your loudspeakers, please switch OFF the ASR Collector (ON / OFF dial to the position " AUS ") before inserting or changing cable connections.

Connection of a tape recorder to the ASR Collector :

The "TAPE" input can be used by pushing the monitor button for monitoring the tape while recording. The tape- recorder LINE OUT sockets should be connected to the " TAPE " input at the Collector. The OUT 1 or 2 sockets of the Collector should be wired to the REC IN or LINE IN sockets at the tape recorder. A second tape recorder without the possibility of monitoring can be connected for example with the " DAT " input.

To make records please switch the input selector to the audio source, which you want to record from. This signal appears at the sockets OUT 1 and 2. By this way also tape- to-tape recordings can be made with less effort.

!! Urgent !! Never dial the source switch to Position "Tape" during recording. By doing this, you are connecting input and output of the tape recorder together, and the resulting very high frequency feedback may damage your loudspeakers.

Connections of main amplifiers to the ASR Collector :

At the sockets OUTPUT 1 and 2 you can connect two amps or two pairs of active loudspeakers.

The output has a very low internal resistance lower than 1 Ohm. Therefore you may also connect high efficient loudspeakers to this output. (Output is about 8 Watts at 8 Ohm).

The **ASR Collector** has a built-in short circuit protection. Nevertheless avoid short circuiting !

This allows you to use high capacity or unshielded cables as connectors to your main amplifier. This gives you many possibilities for your own experiences.

ASR- Collector power supply :

Please switch OFF the **ASR Collector** and close the volume range before connecting the **ASR Collector** to the power supply.

Please connect first the three pole Cannon- plug into the socket at the rear side of the **ASR Collector**. Make sure that the plug is locked correctly into the socket for safe performance.

For unlocking the plug please pull the clamp at the socket before you pull out the plug.

Please switch OFF the **ASR Collector** before unlocking any connection !

To attain best audio quality, four accumulators for the voltage- buffering are built-in the housing of the **ASR Collector**.

When the **ASR Collector** is switched ON, the accumulators are discharged.

When the preamplifier is switched OFF, the accumulators are charged.

Therefore the power supply should be permanently supplied from the power- supply network.

To attain long term reliability, the built-in charging control circuit discharges the accumulators only down to 25 % of their capacity. Then the **ASR Collector** is charged again.

Therefore you are able to use the **ASR Collector** for unlimited time.

But after about ten hours the **ASR Collector** is not longer supplied from the accumulators, so it would be advised to switch OFF the **ASR Collector** after about 10 hours to save the strength of the accumulators.

Connection to the phono input:

The sockets for the phono input are arranged in the middle around the supply voltage connection (three-pole XLR connection). The output sockets for the connection to your amplifier are mounted further outside. Especially low channel crosstalk is achieved by this symmetrical order.

The sockets for the right channel are marked with a red colour ring, the sockets of the left channel with a black colour ring.

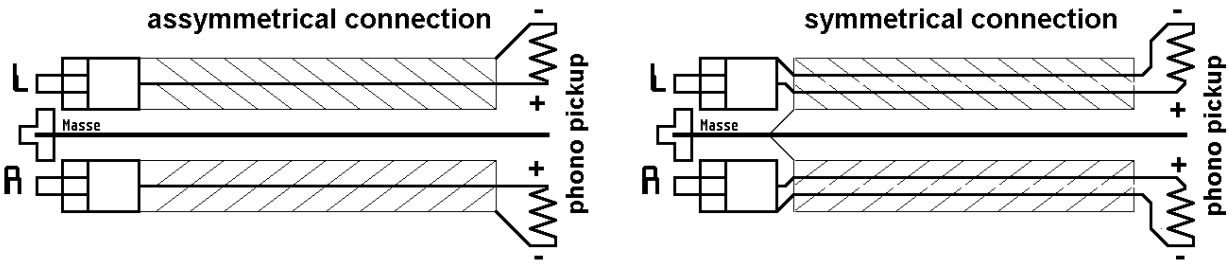
The **ASR- Collector** can be used for all usual MC- and MM- pickups and can be operated both in symmetrical and asymmetrical mode.

The symmetrical operation is possible with the normal RCA sockets. In the asymmetrical operation, the turntable is to be connected with the normal tone arm cables to the two RCA Phono input sockets.

The symmetrical operation is more save against magnetic and electrical fields. This results in a more precise, free of distortions operation especially at very low voltage pickups. Therefore, we recommend you to manufacture specific cables for the optimal use of the advantages of this operating mode.

Normally, the negative terminal of the pick-up is mostly connected with the shielding of the cord to the phonograph.

The shielding of both cords should only be done on the pole at the **Collector**.
The other side of the shielding on the tone arm remains free.



The ground wire of the phonograph should be connected at the pole terminal that is positioned in the middle of the backside of the Collector. To minimise hum it may be necessary to try out the optimal ground connection.

Adjustment of the phono input:

Before you adjust the phono input please switch OFF the **Collector** and take out the power cable from the wall socket. Then please unscrew the cover plate with the 3 mm allen wrench that is enclosed in the service package.

Every channel is equipped with two eight pole DIP switches which are designated with DIP 1 and DIP 2 for adjustments. This switches are placed in the middle of the motherboard.

The Dip switches of both channels are to be adjusted always both sides in the same way, except a channel disparity should be balanced.

DIP 1 is mounted in the middle of the motherboard. The input impedance can be adjusted with 8 switches of DIP 1.

DIP 2 is further mounted in front. The input capacitance can be adjusted to switch 1, switch 2 is used to switch the input into symmetrical mode. The switches 3 to 8 are used to adjust the amplification factor.

The Dip witches can be switched between the two positions "ON" and "OFF". Please, ensure that the Dip switches are positioned certainly into one of the two switching conditions.

Adjustment of the input impedance:

For optimal tonal adoption at the used pick-up system the input impedance can be adjusted with Dip 1 with its 8 switches from 10 Ω bis 1 KΩ.

At lower input impedance, the drawing of the acoustical room becomes more exact with lower dynamic. With higher input impedance, the sound picture becomes brighter and more dynamic with small losses of exactness and accuracy.

An input impedance should be about three times the internal resistance of the cartridge.

Adjustments at DIP 1

Nr.	47KΩ asym	47KΩ symm	1KΩ	470Ω	360Ω	220Ω	100Ω	64Ω	47Ω	22Ω	15Ω	10Ω	7Ω	5Ω
1	--	--	--	--	--	--	--	--	--	--	--	ON	ON	ON
2	--	--	--	--	--	--	--	--	--	ON	ON	--	ON	ON
3	--	--	--	--	--	--	--	--	ON	--	ON	--	--	ON
4	--	--	--	--	--	--	ON	ON	--	--	--	--	--	ON
5	--	--	--	--	--	ON	--	ON	--	--	--	--	--	ON
6	--	--	--	ON	ON	--	--	--	--	--	--	--	--	ON
7	--	--	ON	--	ON	--	--	--	--	--	--	--	--	--
8	--	ON	--	--	--	--	--	--	--	--	--	--	--	--

Nr.	47KΩ asym	47KΩ symm	1KΩ	470Ω	360Ω	220Ω	100Ω	64Ω	47Ω	22Ω	15Ω	10Ω	7Ω	5Ω

If no switch is put to ON at Dip 1, the input impedance is adjusted to 100 k Ohm in the symmetrical mode. Further intermediate values which are not noted here can be achieved by suitable combination of resistors.

Adjustment of the amplification factor:

The amplification of the phono input can be increased by tuning of switches 3-8 of DIP 2 to ON.
The maximum amplification is achieved if the switch No. 3 from DIP 2 is ON.
The following table indicates the values for amplification:

Adjustments at DIP 2

Switch	none ON	8 ON	7 ON	6 ON	5 ON	4 ON	3 ON
Amplification	0 dB	+ 4dB	+ 8dB	+ 12dB	+ 18dB	+ 24dB	+ 32dB

All switches usually ought to be adjusted left and right side of identical. By different adjustment you can adjust level differences of the pick-ups. For improvement of the signal-to-noise ratio the amplification ought to be adjusted as low as possible!

During maximum aperture of the volume control and activating the loudest possible amplification at the amplifier the highest volume desired for sound monitoring should be achieved.

Every further increase of amplification on the Collector only impairs unnecessarily the signal-to-noise ratio. This operates especially with MC pick-ups relatively near what is physically possible.

! Caution! While tuning the DIP- switch please turn down the volume control in order to prevent harm of your loudspeakers through noises that may result while changeover of the switches.

Adjustment of input capacitance:

The input capacitance can be set by switch 1 of Dip 2 to ON to 320 pF (100 pF in case of OFF).
Please subtract the necessary load capacity for your pick up from the cable capacity.
Then adjust the result at the Collector.

Default values for the adjustment of the Collector:

DIP 1								DIP 2								
1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	used pickups
--	--	--	--	--	--	--	--	--	ON	--	--	--	--	--	--	MM and High Output MC
--	--	--	ON	--	--	--	--	--	XX	--	--	--	ON	--	--	MC- low Output
--	ON	--	--	--	--	--	--	--	XX	--	ON	--	--	--	--	MC- very low Output

Operating the ASR Collector :

The **ASR Collector** is operated with the three big golden knobs and the black monitor button. The left knob switches ON / Off the amp, the middle one is the volume control, the right one chooses the inputs.

ON/OFF switch (Left control knob)

AUS - Switched OFF circuit, only two charging control LED's shine

STANDBY - The amplifier is still turned OFF in this position. However, the input relays are supplied with voltage to allow you to make records while the amplifier is OFF.

1 - First sensitivity position. The **ASR Collector** should be used in this position during normal action. With lower amplification in this position the amp has more feedback and as a result lower noise and grumble as well more precise sound. Also the sound is better, when the potentiometer more opened. In this position a yellow led at the left side is shining.

2 - Second sensitivity position. Switch only to Position 2 if the level of Position 1 is not sufficient. The switching between position 1 and 2 means a complete change of the gain.

After Positioning the ON / OFF switch at "1" the **ASR Collector** is switched ON and after some seconds the output relays will be switched ON. During the operation of the **ASR Collector**, inside the **ASR Collector** four red and four green activity control LED's glimmer.

Input selector (Right control knob) :

The input selector is provided with 6 positions in standard version. For each chosen input, you will recognise the concerning input-sockets on the backside through the glimmer of two LED's.

The inputs AUX and CD have yellow LED's, other inputs are shown by red LED's.

The selected input is connected at the same time with the Record OUT sockets. During recording never dial the input selector to the input, to which the tape recorder is connected to. By doing this, you are connecting input and output of the tape recorder together, and the resulting very high frequency feedback may damage your loudspeakers.

To avoid noises, please decrease the volume- control when dialling the input- selector.

Monitor- button :

For monitoring tape recorders which are connected at the tape input. When Monitor is switched ON, one green LED's in the middle between the inputs and under the monitor button.

Headphone Connection (only mounted by request) :

The headphone can normally be left in its' socket. If you wish to listen only to the headphone; without listening to the main amp, please rotate the ON/OFF bottom in clockwise rotation over the position "2". Then the outputs are switched OFF.

Malfunction :

After switching ON no led is illuminated :

Please check, when the Collector is switched OFF, if the green charging control LED's are glimmering. (see drawing page 9). If this LED's are not illuminated, please check at first, if the power supply unit is connected correct to the power network plug.

Next you may check the fuse located in the fuse holder at the backside of the power supply unit.

Before checking these please disconnect the power supply unit from the power network and switch OFF the **ASR Collector**. A defective fuse must be exchanged with a new 5 x 20 mm 250 mA slow fuse. (for 115 Volt 630 mA are used) Inside the **ASR Collector** no fuse is mounted.

Grumble :

The use of accumulator DC power supply at the **ASR Collector** means that there should be no grumble inside the **ASR Collector**. Grumble is always caused by a magnetic field from outwards. If you notice that there is grumble mixed with the signal, control the grounding and please don't place the pre- amplifier near a transformer or a magnetic stray field.

Hissing:

If hissing occurs, amplification should be lowered. Too high adjusted amplification factors only cause tonal disadvantages. The hiss at the internal system resistance at low output MC- pickups can already be higher than the hiss of the input amplifier stage that is built-in in the Basis !

One channel switches OFF :

In this case the security circuit has detected a too high offset at the output. To avoid damages at the main amp or the loudspeakers this channel has been switched OFF.

The **ASR Collector** is completely direct current coupled. There are no condensers built in the signal path, condensers are only used only in the phono amp for equalisation of the phono- signal.

Whenever DC- voltages is at the input, it will be amplified in the same way as the music signal.

Offset regulation circuits in the line stages regulate down nearly to zero voltage. The safety circuit, which also makes the switch ON time delay, switches OFF the output relay when detecting DC voltages. If the Output relays has been switched OFF, the selected input may have too high DC voltage and should be checked for this.

Please exchange the cables of the input- and the output channels and check if the fault also changes the channel.

Repair :

If the set is damaged, please send it in the original packaging to your dealer or import agent. Service by unauthorised persons will result in loosing your dealers' guarantee.

Please use a plastic foil before packing the amp into the carton.

Instructions to be used with the maintenance and repair set can be read under the product description among the last pages.

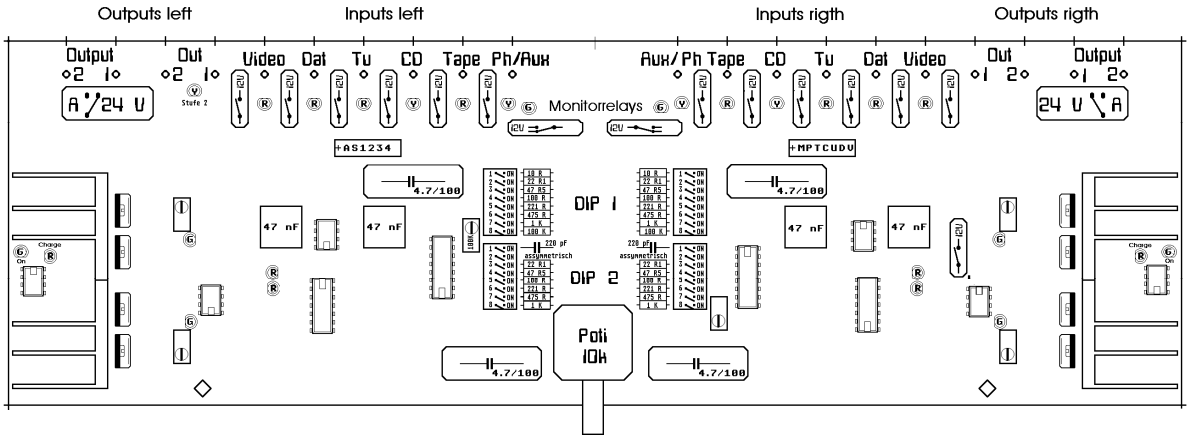
We hope, that these information may help you for best use of your **ASR Collector**.

The only thing that remains for us to do is, to wish you to have a good time with the

A S R - C O L L E C T O R !

Best regards, Your ASR - Team

Drawing of the main PCB board



The phono input signal is at first amplified linear at the symmetrical input circuit.
Then the signal passes trough a passive filter, and is then equalised further in the second IC.
The output signal is then given onto the phono input relays.

The input signal is selected with the input- and monitor relays. Then the signal passes the volume control and is then lead to the line- stages.

The output- amplifier driver is made with an Fet- operational amplifier, that drives the high current Class A Mos- Fet output stage.

The offset voltage of the DC- line- amplifier is regulated with the TL 84 to minimal voltage.

When the DC output voltage is higher than 1.2 Volts, the output relays open to avoid damages of connected main amplifier.

The supply voltage from the Power supply unit is regulated to the correct voltage to charge the accumulators. The supply voltage for the **ASR Collector** is switched with Mos- Fets.

In Position " Aus " two green LED's in the cooling attachment is showing the charging process,

In Position " Standby " only the input relays are supplied with voltage.

In the Positions " 1 " and " 2 " two red LED's in the cooling attachment at every side shows that the amplifier is switched ON. Two red and two green LED's per channel show that the **ASR Collector** is supplied with $\pm$ 12 Volts.

Technical Data ASR Collector I plus revision January 1, 1998

ASR Collector I plus : Preamplifier with switchable input sensitivity, with 5 high level inputs switched with relays, one with the possibility of monitoring.

The phono part can be used for Moving Magnet and Moving Coil pick-up systems.

The phono amplifier is built with a symmetrical, switchable to assymmetrical, linear input amplifier. The input can be regulated in the amplification, the input resistance and capacity. This stage is followed by a passive correction circuit and a active equalisation amplifier.

Linear Input stage with Fet- inputs, output stage with high internal feedback.

Temperature depending controlling of the quiescent current of 40 mA, high operation in Class A, DC amplification and Offset regulation.

Accumulator- power- supply with automatic charger and separate transformer unit.

Non- magnetic casing made of acrylic-glass in standard size.

Signal-to-noise ratios:

at 5 mV in, 1 Volt out Phono MM, better 77 dB (depending on adjustment)
at 0.5 mV in, 1 Volt of Phono MC, better 68 dB (depending on adjustment)
Weighted signal to noise ratio (position 1) : at 1 Volt output line amp better 96 dB

Frequency response: - 3dB from 3 Hz to 200.000 Hertz

Distortions: phono section :from 5 mV to 8 V AC at a load of 100 Ohms at 1 kHz is lower than 0.01%, from 20 - 20.000 Hz <0.05 %
Line part : from 5 mV to 8 V at 100 R at 1 kHz lower 0.02%, from 20- 20.000 Hz lower 0.1 %.

Input impedance: Phono MM: 47 K Ohm, Phono MC: 5 to 1.000 Ohms, Line 10 kΩ

Input capacitance: Phono is adjustable between 100 and 320 pF, Line 50 pF

Amplification factor: Phono universally adaptable

Amplification position 1 : 12 dB, position 2 : 24 dB

Dimensions and weight (W x D x H) :

Collector preamplifier part :	430 x 370 x 80 mm, weight 17 kg
Separate transformer unit :	160 x 90 x 70 mm, weight 2 kg

Technical improvements reserved.

Cleaning :

For cleaning our sets we recommend that you use the Anti-Static Plastic Cleaner and the Cleaning Cloth contained in the cleaning set.

For thorough cleaning and erasing scratches, we also recommend our Intensive Plastic Cleaner and Polish Paste.

These cleaners have been used with excellent results. Instructions for use are in this page. Use of unfit materials may damage the surface of the plastic material.

The cleaning-cloths are washable, do not fade and do not cause surface damage.

The knobs are made from massive, coated brass. A cleaning solution is not required; only a soft cleaning cloth.

If the plastic material or the knobs are damaged, replacements can be obtained from your local dealer.

One more tip: When the amplifier is not in use, cover it with a soft cloth to avoid dust.

Cleaning Advice of Plastic Material :

A special problem occurs when dust is left on the plastic materials for longer periods of time. The dust becomes film-like and is very difficult to remove. Regular cleaning is necessary.

Plastic material is also electro- static and dust causes the unit to look very unattractive. When cleaning, insure that additional static is not produced; this will cause more dust accumulation than before.

Some of the regular cleaners are very aggressive and may damage the plastic material. Furthermore, most normal cloths are not worthy of use with sensitive, plastic materials.

You will not damage your set when you specifically use our specially- equipped Anti-Static Cleaning Liquid and the Cleaning Cloth.

Put some liquid directly on the set and distribute it over the plate, clean it and rub it until it is dry. You may also put the liquid onto the cloth and clean it with a wet cloth.

As a result, you will be able to enjoy the beautiful appearance of your ASR-Collector for a very long time.