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Advisor to purchase second-hand Emitter

ASR Emitter since 1982 are often offered on the Internet market places.

Because of the many customer requests we want to give you here a brief overview of the history, and give you some advice on buying second-hand Emitters

The ASR Emitter has been in production since 1982, and from 1985 the Emitters have the same design from outside.

But the inner structure has done a great deal of technical complexity of current models is absolutely incompatible with the previous comparable!

*Therefore, you should not by **the sound of a 10 or 20 years old device on the quality of a current Emitters** as of 2005. That is **another world!***

We observe, that the used Emitter generally traded at very high price there are often obtain for 20-year-old equipment then original price

*Especially the Emitter to **1990** correspond to the general of ASR amplifier of spread legend of the **very slow-amplifier** - from 1991, it was already dynamic!*

*Extraordinary important were the steps from **1997 and 2002** - since it was already faster.*

*The new models from 2005, are **very quickly** and become **powerful!***

*In principle, the **younger** the more **dynamic** and more **fun by game!***

*What we have do always maintained over the years is the round rather unaggressive character, **listening to long-invites**. Therefore we abandon of superficial effects!*

To make a long story short, if you want to buy an good used Emitter, buy models after 1997- what can be seen at the 30 pole Plugs at the PSU, the toshiba output transistors and the new PSU casing !

The current Emitters models from 2005 on have a much more complex structure than previous models !

As examples I will mention only the gold plates, the massive brass rods, the strong, heavy transformers, the extra stable power supply cases with the expensive industrial plugs, the high switching power supply capacitors, the complicated connection cable, the individually handmade Corian remote control, etc.

The material prices have partly tripled and quadrupled, the price of labour has gone up since 28 years – so it is not able today to offer the Emitter as of 10 or 20 years ago.

Therefore, we can no offer the Emitter so favorable as we used to!

*However, not everyone can afford a current model, so we want you here a **brief guide** to act for you to find out the **correct ASR Emitter for your budget!***

Further details, please refer to the history in our web-site / homepage. Please look also to the pdfs and pictures. Also in the tests listed under "Press" you will receive some information about Emitter earlier ages.

*Some more: **everything is reparable**, and we are look forward when you enjoy the music with some old "little sweety" – but for **older models of Emitters** can make the effort no longer in a **reasonable relation** to the residual value and utility!*

In the following only a short and key-point demolition:

There were essentially the following major steps:

from 1982 till 1985, from the mid of 1985 till 1990,

from 1991 till 1996, from 1997 till 2001

from 2002 till 2004 the Emitter Plus

and then the actually models from 2005 !

The Emitter HD as a precursor of the Exclusive existed in three basic versions :

from 1995 till 1996, 1997 till 2001, and from 2002 till 2004,

and after 2005 the Exclusive !

The export models of Emitter HD had been called Exclusive since 1999, and are different from the new Emitter Exclusive after 2005 !

Emitter from 1982 till 1985

The very first Emitter were mechanically quite different way than the models from 85

The emitter until mid 1985 had - as it is today for most amplifiers usual one amplifier board on the two sides, and the boards for control, Input selection level control and the capacitors in the middle.

The contacts of the cup capacitors of the earlier models were presented with brass rods, this looks beautiful, but an exchange of capacitors is a heath work!.

The first versions had even built in the transformers, the external power supply with toroidal trafos there was only from 1984. The then used Mos-Fet transistors Hitachi had been since 1986 no longer used design. These were with 2 screws on the side attached.

How does it sound:

Very complete calm - unagitated, as an old tube, not nerves, but has very little attack, low resolution and rather flat space-!

Good performance and control to difficult boxes, but by strong overload and short circuit destructible because of simple protection control

original price ca. 2.800, DM for Emitter 1 and 4.800,- DM. for Emitter II,-

Wear: certainly, the more than 24 years old capacitors significant capacity losses at the switches are likely to be worn contacts, the contacts in the relay in power supply, according to the many thousands of insertions ensure high transitional resistance and are partially offset by the sparks when switching burned . The standby transformers go places after 24 years of continuous operation broken. The relays of the speakers are usually rather un-problematic as free running load.

Repairs: switches and relays and standby transformer no problem. The design at the time used cup capacitors is no longer available. Conversion to new forms possible, but required. Defective output-transistors will be difficult, then used to the designs are no longer available. A mechanical conversion to current types is possible. Because of the huge outlay for this conversion, is so expensive, which is usually little more calculating.

Update: Since completely different way than the successor, an update makes little sense.

Conclusion: Rather for music-lovers and collectors. if greater damage, these very burdensome and expensive to repair. As long as he plays that's OK....

Emitter from 1985 to 1990

The Emitter from the mid of 1985 very different constructed than its predecessor. The main board lies horizontally in the middle of the Emitter, the capacitors are under them fixed.

The board is one-sided, the traces are only on the bottom.
On the main board, the amplifier circuits of both channels,
the input selector relay, the level control in the middle and control,

Under the motherboard is the capacitor board and the mass of rail advantage:
shortest routes for the power supply, cables and connectors hardly necessary!
Therefore this sounds about this version is better than the predecessor.

From 1987, with power supply in 19-inch case, on request with the better-sounding
PM transformers instead of previously toroidal transformers.

How does it sound:

Something more direct than its predecessor but still rather calm, as an old tube,
little annoying but not attack, low resolution and rather flat space-!

Good performance and control difficult to boxes, but by strong overload and short circuit de-
stroyed because of simple circuit ..

The then used Mos-Fet transistors Hitachi stopped in 1996.

original price: ca. 3.000,- DM for Emitter 1 and 5.000,- DM for Emitter II
with PM transformers from 1988 for 3.500,- DM und 6.000,- DM for Emitter II.

Wear:

Surely, the more than 20 years old capacitors clear capacity loss in the switches, the contacts
should be worn.

The contacts in the relay in the power-supplies have over the many thousands of insertions with
sparks no longer the low transition resistor as the new ones.

The Standby-transformers could be broken after 20 years in standing continuous.

The relay of the speakers are usually more straightforward, because unencumbered switched.
The toroidal transformers are rarely broken, the PM transformers set up from 1987 as good as
never. From time to time, the rectifier can be easily broken, and cheap to repair!

Repairable:

Switches and relays, rectifiers, and standby transformers are no problem.

The capacitor board is difficult to remove. The axial electrolytic capacitors in Emitter I are still
available.

The time used cup capacitors in special design of the Emitter II are no longer available.

Conversion to new forms are possible, but expensive. When defective output transistors the rebuilding is very costly on new transistors, because then set type in 1996 were!

Update:

As completely differently than the followers, makes little sense to update.

Conclusion:

Still makes nice music, is still useful in practical applications. For larger damages is very difficult and expensive to repair. As long as he plays it well ...

Emitter from 1991 to 1996

The Emitter from **1991** are a completely new product development, with only the predecessors external appearance in common. The interior has been completely redeveloped.

This version is the basis of the Emitter manufactured today.

The main board is **double sided** (traces on the top and bottom).

The **circuit** has been completely **redeveloped**. It uses **MOS FETs** in all stages and **operational amplifiers** in the input stage.

In the version from **1991 to 1992**, the control was manually, the level is a potentiometer regulated, if desired, a manual step switch installed.

Since **1992**, there were the Emitter as an option with **microcontroller control** and an **LCD** display. This stage was a **relay switch** for the volume and the **remote** all functions realizable.

From **1993**, the Emitter is only with remote control available.

From **1993** received the Emitter a **energy-saving circuit** in the power supply. This allows for **low-power needed** switching to a lower (25%) output power at only **30%** of **energy consumption**.

The **Emitter II** plus since mid of 1993 received two **separate channel** power supplies.

From **1994**, an LED display is built in - which is not pulsed controlled - is practically interference-free.

From **1995** there was the HD with a larger buffering capacity, better driver IC and more complex power supply with Schottky diodes.

Due to the improved **protection circuit**, the **impedance measurement** of the speaker before the one-turn, and especially the rapid shutdown of the microcontroller are the emitter from 1992

much load stable, even with up to 1996 used Hitachi Transistors (up to 1998 in the Emitter 1 plus).

How does it sounds: much more direct than its predecessor, better resolution, more precision and localization of the music, especially in the HD Version.

Good performance and control even on difficult boxes, much better stability against severe overloads and short circuits.

Original price from about 4.000,- to 5000,- DM for EM 1 plus and from 6.000,- to 8000,- DM for EM II plus,
HD Versionen: from 7000,- DM for EM I HD, and 11.000,- DM for EM II HD

Wear:

The capacitors should usually still be good, because higher quality types in other designs were used. Switches, etc, should control for microcontroller remote and unlikely to be charged. After the relay in the power supply you can look, in versions with power saving circuit contacts were less burdened. Standby type transformers because of changed easily, and at times are the broken-rectifier It's easy to find and easy and cheap to repair!

Repairable:

All parts are still very well be available until the output transistors of the Hitachi in 1996 were. In the very rare case of a defect amplifier equips is best equal to the Toshiba to Neur. The buffering board are easy to expand, so you get very quickly a good access to the technology of the Emitter.

Update:

In theory, up to the 2004 version upgradeable. Only it is best to start a Emitter in 1997 to buy-it is certainly cheaper than an upgrade.

Conclusion:

A useful in the erstwhile Emitter class absolutely sensible and mostly favorable to buy and maintain, particularly since 1994 with LED display. But please do not serve as a basis for an upgrade to buy the best-Emitter can be as he is.

Emitter from 1997 to 2004

since 1997, when the emitter have changed again:

- **new output transistors from Toshiba with significantly greater impuls-rating**
- **fast and efficient capacitors**
- **Superfast power supply with a total of 56 ultra-fast Schottky diodes**
- **more stable case of the power supply with thicker sheet metal and structure lac**
- **Separate entry level directly from the power supply, so with**
- **30 pin plug for the supply cable to the Emitter (instead of 20 previously pole)**
- **shielded PM transformer for standby**

The Emitter **Plus** versions received in **1999** parts of the **V1.3 technology**, and also the fast diodes from the **HD-power supplies**, and are now a **small HD-Version**.

Since the **summer of 1997**, as a further option for the **Emitter HD** is an additional **battery power supply** for the input stages available.

Since the year **2000**, there is the **Blue Version** with a **blue display**, **blue LEDs** on the main board and **silver heatsink** and silver knobs.

Original price 2001 from about 6.000,- DM for EM I plus and 9.200,- DM for EM II plus, HD Versions from 8.200,- DM for EM I HD and 12.300,- DM for EM II HD HD with Akku from 10.600,- DM for EM I HD and 14.700,- DM for EM II HD

From **2002** there was a great changes by the Emitter again and there was a clear **appreciation** of the standard equipment:

1. New **ASR design remote control** from the **Corian** solid milled with mechanical switches with sensible **push of a button**, **stainless steel knobs** and a flat **lithium battery** for long life.
2. The **Emitter HD** delivered with the balanced input, standard - no extra charge.
3. New **board** for the **balanced input** with specially designed chip and dip switches with **adjustable input resistance**.
4. New ASR power cord "**ASR Magic Cord**" for greater dynamic due to increased cross-section, **double shielding**, transparent sheath (thereby **silver optics** instead of previously black). Because of the new, finer wires is the Magic Cord flexible to relocate.
5. New, **solid terminal** with rotary-knob for Emitter I just like Emitter II
6. New **encoders** for the volume control with smoothly run.
7. New **board** into the **ASR-power supplies**. The arrangement of the components has been **optimized**, two main transformers are separately and successively with 6 relay from **energy savings** in the full load mode. All **8 tensions** and the modes of operation are with **12 LEDs** directly behind a display window in the front panel.

On request, there was the power supply with a **built-in active filter**. It is also a **high-load fuse** with the transitional least resistance instead of the usual fine-mounted fuse.

From **2004** was built in a new **microcontroller** with internal memory and the heatsink individually high frequency removed.

Original price 2004 from about 4.400,- € for EM 1 plus and 6.500,- € for EM II plus, HD Versions from 6.000,- € for EM I HD and 9.000,- € for EM II HD HD with Akku from 8.000,- € for EM I HD and 11.000,- € for EM II HD

Wear:

Could anything still be OK. No typical problems. All transformers are going smoothly, according to the relay in the power supply, you can look. Uncommon times the rectifier diodes goes defective-that is easy to exchange. Only the batteries in battery power supply should be change after 8 years, the exchange does not cost much.

Repairable:

Everything is O.K., virtually all the parts very well available.

Update:

Until the 2004 version easily upgradeable. See separate information.

Conclusion:

My advice-buy a Emitter built from 1997 - since most agree the relationship between quality and price - albeit often after 8 years of half-original-price are demanded!

Emitter since 2005 :

Once again a big step - read more in the News from 2005 to 2007.

If you are using a Emitter conveniently offered from 2005-necessarily get access!

Summary and Recommendation:

My absolutely clear recommendation is Emitter from 1997 - even better since 2002

Clearly recognize to the new, much more stable power supply case with new lack (blow of the hammer) with the countersunk screws and the 30 pin connector on the power supply.

Why:

The emitter from 1997 are still useful upgradeable to 2004 - when the previously models manufactured until 1996 is much more expensive and is therefore not cheap.

The used prices of the newer versions from 1997 are, in our view not significantly higher than that of older models -

and it makes much more sense to buy an Emitter from 1998 for 1.600, -

instead an Emitter from 1986 for 1.200,- € or an Emitter from 1992 for 1.300 - €?

Furthermore the output transistors assembled until 1996 are no longer available -

A repair by conversion to the newer models or other types is possible, but because of the necessary modifications very expensive and thus expensive.

What you have should to be set in relation to the residual value

For more information, please refer to the history of development on our website

How do you recognize the age of Emitters:

The best on the power supply, because the changes are most easily visible!

How much pins has the plug at the rear side of the power supply:

16 pin Siemens connector Emitter I from 1983 to 1984

20 pin Binder connector Emitter I from 1985 to 1996

16 pin Hirschmann massive industrial connector Emitter II with Aluminium psu 1983 to 1987

30 pin Binder connector Emitter II from 1988 to 1993 with one power supply for both channels

20 pin Binder connector Emitter II from 1994 to 1996 and Emitter I from 1985 to 1996

30 pin Binder connector Emitter I and Emitter II with two power supply from 1997 to 2005

24 pin Harting massive industrial connector for Emitter I and Emitter II since 2005

optical of the power supply case:

from 1983 aluminum case 30x20x10/15 cm, silver until 1985, black to 1987,

from 1987 to 1996 19-inch case, smooth lack finish, thin sheet metal.

from 1997 made on stable sheet, with new lack (blow of the hammer) and countersunk screws.

from 2005, significantly larger and more stable, with ASR Logo and Harting industrial connector

Transformers :

1982 to 1988 toroidal transformers (round), Isolation windings, oversized transformer.

since 1987 PM transformers (square),with much higher pulse power

since 1997 PM transformers with better core and less losses

since 1997 PM Standby transformers separately mounted – before it was on the PCB

PCB in the Power Supply :

1982 to 1987 PCB in aluminium case laterally mounted, 2 relays, 12 VA standby-transformer

1987 to 1990 PCB with rectifier in the middle between the both transformer, 2 relays, 12 VA standby-transformer (grey, square behind the front) on the PCB

1991 to 1993 PM transformers (square), 2 Relays, 30 VA standby-transformer with plus minus 12 Volts

1993 to 1996 with energy saving circuit and 3 Relays, 30 VA standby-transformer

1997 to 2001 energy saving circuit with 5 relays, separate shielded PM transformer 50 VA rectifier in the middle of the PCB, behind the electrolytic capacitors near to the rear panel

2001 to 2004: 6 Relays switching both transformers separately, electrolytic capacitors in the middle, rectifiers left and right from the capacitors

2005 to 2006 6 Relays, separate fuse, active filter in all devices, PM standby-transformer horizontal mounted

Since 2007 new, bigger gold plated PCB with better filters and bigger ground connections

Rectifier :

Until 1996 separate mounted rectifiers with 4 terminals

Since 1995 in the HD Version and since 1997 in all devices single Schottky diodes for the output-stage

Since 1997 quad Schottky-diodes in the HD device, since 1998 one Schottky-diode in the Plus device.

power cable connect :

1982 to 1993 standard power cable 3x 1,5 qmm fixed build on the case

since 1994 with integrated fuse in the IEC plug

since 2004 with big IEC plug connect 21 Ampere

power cable :

*1982 to 1994 sStandard power cable 3x 1,5 qmm black, 8 mm diameter
since 1995 on the HD model Ferrit power cable 3x 2,5 qmm with blue cover
since 1997 for all model Ferrit power cable 3x 2,5 qmm with black cover
since 2002 Magic Cord in silver, expensive construction with 6x 1,5 qmm, double shielded
since 2006 improved Magic Cord with added 2,5 qmm ground cable*

Characteristics on the Emitter main unit:

summary of the inputs, RCA Sockets :

*till 1990 the Emitter had have 5 RCA-inputs,
since 1991 with new circuit bord, 6 RCA-inputs and 2 Tape-Outs,
since 1997 for the EM I 1 Tape-Out, for the EM II 2 Tape-Outs.
since 1997 the Emitter are seriell equiped with direct input.
since 1997 there was an XLR input as option, since 2002 for the HD in series.
till 1989 had been built simple RCA sockets of sheet
since 1990 massive sockets of rotated brass with teflon isolation.*

Frontplate graved or printed :

*since 1982 to 1990 hand-graved with small script,
since 1991 printed on the frontplate.
since 1993 machine-graved with big script,
since 2000 almost without a ring round about the volume knob.*

heat sinks and mounting bars :

*anodizes heatsinks expect 1990- 1991, because they were coated with plastic
since 1996 the mounting bars are changes from 40 to 40 cm hight for the output transistors.
since 2005 mounting bars made from massive brass instead aluminium. heatsinks are more mas-
sive since 2005.*

output transistors :

since 1983 Hitachi Mosfet with larger grounding clip and 2 grounding screw

since 1986 Hitachi Mosfet without grounding clip and 1 grounding screw

since 1997 Toshiba Mosfet Spezial Typ for Audio, higher loadable, mechanic bigger

mainboard :

since 1982 separately boards for both channels, left and right vertikal mounted on the heatsinks,

since 1985 unilaterally big horizontal board till 1990,

since 1991 double-sided board with surface in silvery,

since 1994 without conductor line for the input signal, interface board for Led Display.

since 1997 without voltage regulator for the input step (recognizably to 8 small heatsinks).

since 2007 the board was gold-plated.

connecting cable to the power supply :

16 pin Siemens connector Emitter I from 1983 to 1984

20 pin Binder connector Emitter I from 1985 to 1996

16 pin Hirschmann massive industrial connector Emitter II with Aluminium psu 1983 to 1987

30 pin Binder connector Emitter II from 1988 to 1993 with one power supply for both channels

20 pin Binder connector Emitter II from 1994 to 1996 and Emitter I from 1985 to 1996

30 pin Binder connector Emitter I and Emitter II with two power supply from 1997 to 2005

24 pin Harting massive industrial connector for Emitter I and Emitter II since 2005

since 2004 with strain relief for the cable connecting of the Emitter

remote control of the Emitters

Over the years, the Emitter used different remotes:

1992 to 1996 and short time in 1999: *programmable universal-control URC108 with a sliding switch on the left for 8 positions for 8 devices.*

There were the commands to control programmed by us. When empty batteries or prolonged removal of batteries from the remote - the programming is cleared.

The later used remotes to keep the code even with an empty battery.

1996 Telegenius combination remote of Lapeschi with pre-programmed codes

since **1997 to 2001** several remotes of **Philips** with pre-programmed codes
Used were of the time available types RC 8503, RU 460, RU 660th
since **2002** the **ASR remote control** manufactured from Corian was delivered serially.

We use for the control of the Emitter the Philips **RC5 code**.

The **RC5 code** is a widely used standard code, which also controls devices from Philips, Marantz, Grundig and many other european manufacturers.

Because of the **standard codes** used are the Emitter into your basic functions also compatible with most commercially available pre-programmed to operate donors.

Read more in the pdf to our homepage !

how to buy an Emitter :

The best of course, the dealer you trust!

He grant you 1 years warranty - that is so prescribed by law. If you buy online from a dealer you can also back within 2-4 weeks from the purchase contract.

The most used devices are offered today on the Internet at e-bay, audio market and highend market, etc.

There can be purchase some units what good and cheap, but be careful:

are the informationa about the age correct ? - compare with the pictures of the former emitter on our website can vote? Are the other information plausible?

The prices quoted in the tenders are often to the new models oriented the earlier models were simpler constructed and therefore cheaper.

And be careful - there were already super-cheap offers - but the people was somewhere far away, on island with is not available with car or near at the polish border - often than a three-day-offer with images and texts that are already from other auctions knew - and very often by sellers without hifi acknowledge

And if you have auction – pick up is not available of course - only send money, etc.

If we **get such information** from our customers - we inform e-bay and in most cases was a short time after the **offer deleted!**

Transportation of the purchased Emitter :

the best is of course you are pick up the device at yourselves – then you can even convince about condition and function of the Emitter! and in your own car your "new emitter" is driving safely.

Securing the parts well in your trunk and cushion with blankets, etc..

If the seller is far away from your lives, and you trust him, you can also dispatch the Emitter. this should not be a problem, because we ship our emitter even to South America and Asia!

For transport, you should pack the Emitter (leave) healing in for arriving carefully, because the freight forwarder do not often handle soft.

To use the Emitter flawlessly achieved it must be very well packed! Particularly important is that the Emitter to the heatsink is well-supported by damage to the acrylic to be avoided. Is up to the back plate is easy to change everything, but when it arrives healing is better!

Best method: the original boxes with matching inlets, if not longer exists - you could order empty boxes by ASR at cost price.

The used up to 1994 cartons (with foam with a gray film separated foam) holder might have lost their rigidity, please first check for stability.

Otherwise, if no alternative, please pack yourselfe: Take a sturdy box witch is on each side more than least 8 cm larger than the emitter and the power supply.

Fill the empty space on the sides with styrofoam or foam plates in order to packaged part is sitting there tight, and not moving in the carton.

If you fill in the cavities with foam-flakes please pack the emitter and the power supply into a foil bag – to avoid scratches at the acrylic and heatsink surface and it's a big effort to pick up the flakes out of the heatsinks.

*An info upgrade for Emitter 1997 to 2004
to the Exclusive new version from 2005 / or 2007.*

The differences to the predecessor models are:

In the main unit:

- Mainboard in gold since 2007
- Capacitor-board in two layer gold since 2007
- Transistor mounting bars in massive brass
- New, stout heat sinks
- Massive metal strain relief for the cables
- New improved cable between Emitter and the power supplies

In the power supply:

- Bigger sturdy power supply housing with 3mm steel
- Torsion free construction with less parts
- With ASR logo on the top plate
- Completely new developed gold power-supply PCB
- Massive Harting industrial connector
- The horizontal mounted standby-transformer has a less
- Massenanregung Friedrich fragen
- High power fuse with ceramic base
- Reinforced Magic-Cord mains-cable with additional 2,5 qmm ground cable
- Bigger firmer IEC 320 plug for 21 Ampere

In the batterie power-supply:

- Bigger sturdy power supply housing with 3mm steel
- Torsion free construction with less parts
- With ASR logo on the top plate
- The whole construction was rotatet and the batteries now are on the rear side
- Completely new developed gold PCB for the control circuit
- Massive Harting industrial connector
- The horizontal mounted standby-transformer has a less
- Massenanregung Friedrich fragen
- Reinforced Magic-Cord mains-cable with additional 2,5 qmm ground cable

Please read more in our News 2005 to 2008, download by Info/ Kataloge !

For retrofitting a Emitter to 2004 it's the simplest to exchange the complete power supplies - they are totally different, from the transformer on the board on the chassis and connectors.

Also the battery power supply is in his inner life completely different than its predecessor, except the battery fits no longer part – its also should be completely exchanged.

From the main unit must be the cable and connectors, mounting bars, possibly output transistors, including capacitors and circuit boards completely exchanged, and on the motherboard to change some parts. And for the current version in gold to exchange the complete board.

To view the new cable and install the relief to be able to have the back plate and swapped the Emitter will be completely dismantled, this is very much work and very expensive.

To upgrade an Emitter by 2004 to the current version from 2005 is in recognition of cost hourly rates does not make sense economically feasible!

A current Emitter since 2005 is cheaper than a complete rebuild of a previous model.

Further information can be found on our website under history and news.