

## UNIT DESCRIPTION

# ELECTR. COIN- AND BILL ACCEPTOR FOR NSM-PHONOGRAPHS

ES IV-CD TECHNOLOGY

to  
Technical Information, Assy

174 903	SILVER CITY
174 831	SILVER SKY
174 486	FASCINATION
175 274	SOUNDMASTER
175 040	FIRE BIRD/COUNTRY

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## 1 MECHANICAL COIN CHUTE

See also the circuit in the wiring diagram in the appendix of the "Technical Information".

The coins that come out of the "good" channels of the coin acceptor run through different optic barriers. The optic barriers are in the coin chute under the coin acceptor.

Two photo transistors, T III and T I as well as T IV and T II are illuminated by one IR diode each (LED I and LED II).

As long as a light barrier is not interrupted by a coin, all photo transistors, T I to T IV, are switched to logically "0". So all output lines.

1 = T IV,

2 = T III,

3 = T I,

4 = T II are at logically "0", i.e. their voltage level is 1,0 V.

If a coin passes through an optic beam, the respective photo transistor is darkened for that time. The output becomes log. "1" via the pull-up resistors in the control unit, i.e. their level is 10 V.

Since T I is also darkened, when T III is effected by a coin (T I is behind T III, both are illuminated by the same light diode), the output from T I over T V is kept at "0". This occurs via resistors R 72, R 70; they bring transistor T V in a satiated state when T III is open.

The same goes for T IV; it is kept at "0" by T VI when a coin falls through T II. The control for T VI occurs via R 73, R 69.

The addition button is switched in sequence to T IV so that Line 1 becomes log. "1" at service credit.

R 67 limits the current of the luminous diodes LED I and LED II.

The output signals of the four photo transistors are evaluated in the control unit whereby line.

1 = P 54,

2 = P 53,

3 = P 52,

4 = P 51 is assigned to the monetary value setting in the service program and is to be programmed according to the coin value; see "Statistics and Service Programs", Section 1.4.

## 2 BILL VALIDATION - DOLLAR BILL ACCEPTOR

See also the circuit in the wiring diagram in the appendix of the "Technical Information".

The bill validator, after the bill has passed through and been accepted, sends as many pulses to the control unit as correspond to the value of the bill.

The output of the bill validator is connected to the control unit via ST 9, Pins 1 and 2. 1 pulse is sent to the control unit with 1 dollar and 5 pulses with 5 dollars.

The input of the bill validator is assigned to program step P55 and is to be programmed accordingly; see "Statistics and Service Programs", Section 1.4.

### 3 MARS ELECTRONIC COIN VALIDATOR

4 or 5 different coins be checked depending on the type. The three sensors in the validator register each separately the width, material composition and pressure of each deposited coin. If a deposited coin passes the sensors, the prepared data are passed on to a register and compared with the contents of a memory (PROM). If validation criteria are identical with a data set of the PROM, an internal "valid" signal is produced. Depending on the coin value it goes as output signal A1 to A5 to the plug of the PCB adapter (depending on type of validator, 15 or 13 poled). From there the signal goes via the 6-pole plug to control unit CD for processing.

#### 3.1 Monetary Value Settings

The information in the "Operating Instructions" and the statistics and service program about monetary value settings refer to coin mechanisms with mechanical coin acceptors.

If a electronic validator has been installed, the monetary value settings in the individual program steps are assigned to corresponding output signals: P51 to signal A1 or A5, P52 to A3, P53 to A4, P54 to A2.

**Notice:** When inserting a coin during program steps 50-55, the program step (channel P51 to P55) assigned to the coin is automatically displayed in Display 1.

The monetary values are programmed in monetary value units: "001"  $\hat{=}$  0,10 DM, "010"  $\hat{=}$  1,- DM, "020"  $\hat{=}$  2,- DM, "050"  $\hat{=}$  5,- DM. No-used channels are programmed with "000".

#### 3.2 Price Tables

Set the number of credit per monetary value in program steps P41 to P45 as described in the "Statistics" and Service Program, 1.3.2 Price Tables".

#### 3.3 Other Settings/Information

When exchanging the control unit the programming has to be done in the new unit also.

**Attention!** When checking the monetary value settings in P54, the cabinet switch has to be pushed in; otherwise only one credit will be displayed instead of set coin value.

**Notice:** Non-used channels can be blocked. For this purpose the bridge of the corresponding channel (A1-A5 on the PCB) has to be disconnected or conductor A5 is not connected.

When exchanging please observe the following:

The validators of series B1 may have different mounting studs; compare the following text to Fig. 2.

- The lower stud can be set on Pos. 1 or Pos. 2 needed. To loosen the stud position unscrew the cover (3) and pull down, (4) unlatch the stud, pull out and push it in at the desired position until it locks in.
- If former validator was fastened with 2 screws, then exchange validator has to be fastened with plug-in studs as follows:  
Drill a hole below into the plate with a diameter of 5,1 mm. Stick the stud positioned to the validator through the hole and secure it with clip 4,5 (712 011). Then screw on by upper fastening screw.

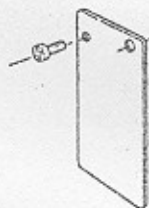


Fig. 1

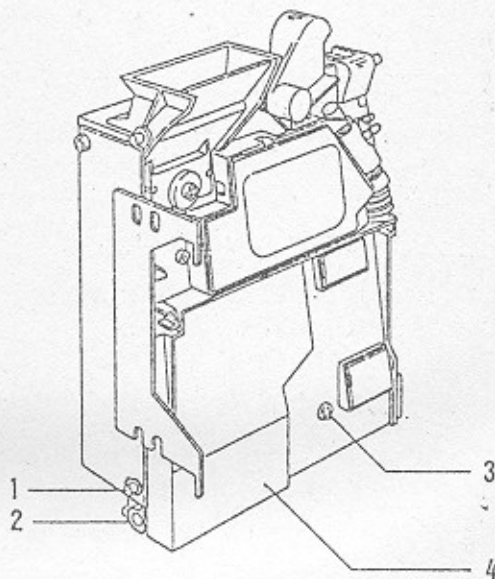
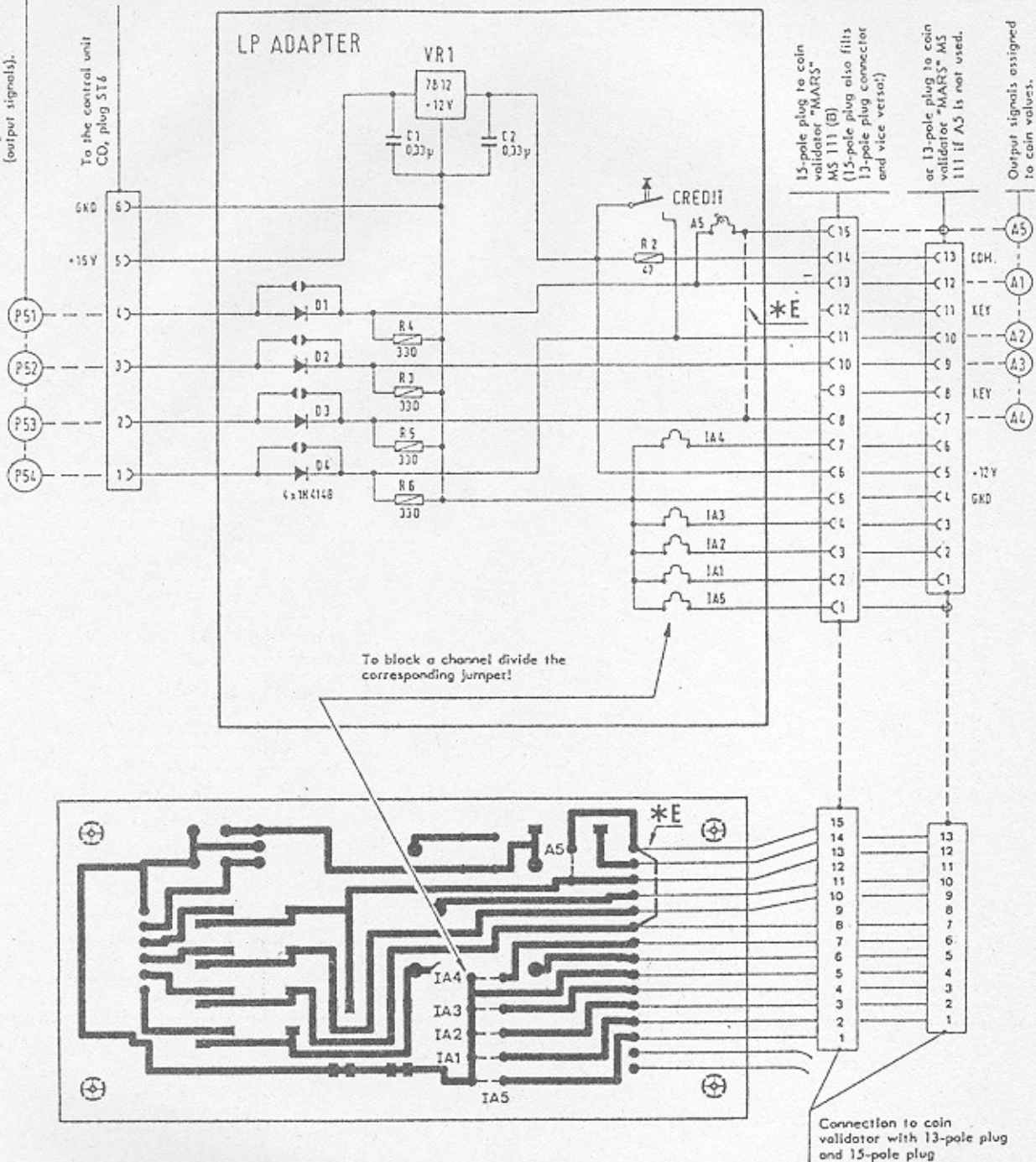


Fig. 2

Program steps to set monetary values according to coin values (output signals).



MONETARY VALUE SETTINGS SEE BACK PAGE

Currency	Monetary Values P51 (A1/A5)	Coin Value P52 (A3)	P53 (A4)	P54 (A2)	Discon. Jumpers	Coin Validator - Type
Germany	050 $\underline{\quad}$ 5,- DM	010 $\underline{\quad}$ 1,- DM	000 $\underline{\quad}$ 00	020 $\underline{\quad}$ 2,- DM	IA4/IA5	GDE58 L00C/B1/GDE55L00C/B1
Great Britain	100 $\underline{\quad}$ 1 £ 100 $\underline{\quad}$ 1 £	020 $\underline{\quad}$ 20p 020 $\underline{\quad}$ 20p	010 $\underline{\quad}$ 10p 010 $\underline{\quad}$ 10p (new) 10p (old)	050 $\underline{\quad}$ 50p 050 $\underline{\quad}$ 50p	IA5 A 5	GDB 31 L00C/GGB81 L00C/ B1 GGBG3 L00C/02 * E
USA	100 $\underline{\quad}$ 1 \$	025 $\underline{\quad}$ 25 c	000 $\underline{\quad}$ 00	050 $\underline{\quad}$ 50 c	IA4	GUS 20 L00C
Australia	000 $\underline{\quad}$ 00 200 $\underline{\quad}$ 2 \$	100 $\underline{\quad}$ 1 \$ 000 $\underline{\quad}$ (50c)	020 $\underline{\quad}$ 20c 020 $\underline{\quad}$ 20c	200 $\underline{\quad}$ 2 \$ 100 $\underline{\quad}$ 1 \$	IA3	GAS XX L00C B1/ GAS 1A L00C GAS 28 L00C
France	100 $\underline{\quad}$ 10 F 100 $\underline{\quad}$ 10 F (old) 10 F (new)	020 $\underline{\quad}$ 2 F 020 $\underline{\quad}$ 2 F	010 $\underline{\quad}$ 1 F 010 $\underline{\quad}$ 1 F	050 $\underline{\quad}$ 5 F 050 $\underline{\quad}$ 5 F		GFR 19 L00C GFR 96 L00C / B1 * F
Denmark	000 $\underline{\quad}$ 00 100 $\underline{\quad}$ 10 dkr 100 $\underline{\quad}$ 10 dkr (new) 200 $\underline{\quad}$ 20 dkr	050 $\underline{\quad}$ 5 dkr 010 $\underline{\quad}$ 1 dkr 050 $\underline{\quad}$ 5 dkr 050 $\underline{\quad}$ 5 dkr	010 $\underline{\quad}$ 1 dkr 000 $\underline{\quad}$ 0,25 dkr 010 $\underline{\quad}$ 1 dkr 010 $\underline{\quad}$ 1 dkr	100 $\underline{\quad}$ 10 dkr 050 $\underline{\quad}$ 5 dkr 100 $\underline{\quad}$ 10 dkr (old) 100 $\underline{\quad}$ 10 dkr	IA4	by 3-Canal GDK xx L00C by 4-Canal GDK 02 L00C by 4-Canal GDK 1A L00C GDK 1D L00C / GDK 1N L00C
Finland	000 $\underline{\quad}$ 00	050 $\underline{\quad}$ 5 MK	010 $\underline{\quad}$ 1 MK	000 $\underline{\quad}$ 00		GSF 1A L00C
Austria	200 $\underline{\quad}$ 20 S	050 $\underline{\quad}$ 5 S	010 $\underline{\quad}$ 1 S	100 $\underline{\quad}$ 10 S	A5/IA5	GAU 03 L00C
Neth.Antillen	000	000	100 $\underline{\quad}$ 1 NAF	000	A5/IA5	GNA 1 AL 00G / B1
Switzerland	050 $\underline{\quad}$ 5 Fr	010 $\underline{\quad}$ 1 Fr	000 $\underline{\quad}$ 1/2 Fr	020 $\underline{\quad}$ 2 Fr	IA4/IA5	GCH 31 L00C / B1
Belgium	050 $\underline{\quad}$ 50 Fr 050 $\underline{\quad}$ 50 F 1 F (new)	000 $\underline{\quad}$ 5 F (new) 005 $\underline{\quad}$ 5 F (new)	000 $\underline{\quad}$ 1 F 000 $\underline{\quad}$ 1 F (old)	020 $\underline{\quad}$ 20 F 020 $\underline{\quad}$ 20 F	IA3/IA4 (A3/A4) IA4/IA5	GBE 19 L00C / B1 GBE 25 L00C / B1 GBE 19 L00C / B1
Netherland	025 $\underline{\quad}$ 25 c	250 $\underline{\quad}$ 2 1/2 hfl	500 $\underline{\quad}$ 5 hfl	100 $\underline{\quad}$ 1 hfl		GNL 37 L00C / B1
Italy	050 $\underline{\quad}$ 500 L 050 $\underline{\quad}$ 500 L	000 (100 L) 010 $\underline{\quad}$ 100 L	000 (50 L) 000 (50 L)	020 $\underline{\quad}$ 200 L 020 $\underline{\quad}$ 200 L	IA3/IA4 IA4/IA5	GIT 06 L00C GIT 26 L00C / B1
USA	010 $\underline{\quad}$ (10c)	050 $\underline{\quad}$ (50c)	025 $\underline{\quad}$ 25c	100 $\underline{\quad}$ (1 \$)	IA5	GUS 1B L00C / B1
New Zealand	050 $\underline{\quad}$ 50 c	010 $\underline{\quad}$ 10 c 1 SHILLING	005 $\underline{\quad}$ 5 c	020 $\underline{\quad}$ 20		GNZ 03 L00C
Canada	010 $\underline{\quad}$ 10 c	100 $\underline{\quad}$ 1 \$	025 $\underline{\quad}$ 25 c	000		GCN 1A L00C
Spain	200 $\underline{\quad}$ 200 Pst	050 $\underline{\quad}$ 50 Pst	025 $\underline{\quad}$ 25 Pst	100 $\underline{\quad}$ 100 Pst		GES 1J L00C
Norway	100 $\underline{\quad}$ 10 Kr	010 $\underline{\quad}$ 1 Kr	(000 $\underline{\quad}$ 1/2 Kr)	050 $\underline{\quad}$ 5 Kr	IA4	GN 008 L00C
Sweden	050 $\underline{\quad}$ 5 Kr	010 $\underline{\quad}$ 1 Kr	000 $\underline{\quad}$ (50 örn)	010 $\underline{\quad}$ 1 Kr	IA4	GSW 09 L00C
Greece	(010) MP drad	050 $\underline{\quad}$ 50 Dr	020 $\underline{\quad}$ 20 Dr	000		GGR 1C L00C
Korea	000	010 $\underline{\quad}$ 10 NTS	005 $\underline{\quad}$ 5 NTS	000		GTW 1A L00C
Mexico	000	000	010 $\underline{\quad}$ 1000 P	000		GME 1A L00C
Hong Kong	050 $\underline{\quad}$ 5 \$	010 $\underline{\quad}$ 1 \$	000	020 $\underline{\quad}$ 2 \$		GHK 1A L00C / B1
Hungaria	020 $\underline{\quad}$ 20 F	005 $\underline{\quad}$ 5 F	000	010 $\underline{\quad}$ 10 F	IA4/IA5	GHU 1B L00C./ B1
Thailand	000	000	005 $\underline{\quad}$ 5 Baht	000		GTH 1A L00C / 02

\* F A5 and IA 5 closed

\* E additional jumper from  
pin 15 to 8  
(A5) (A4)