Coin Acceptor

NRI G-13.mft

Version /4

for use in Atronic gaming machines.

Rev. 2.1

January 2006
**INTRODUCTION**

The electronic coin acceptor NRI G-13.mft version /4 is based on the well known G-13.6000 series. The new multi-frequency technology (.mft) provides more flexibility for the measuring sensors and evaluation of 24 measuring parameters for reliable acceptance of genuine coins and rejection of false coins. The G-13.mft features 32 Coin Channels managed either in a single memory block or in two memory blocks of 2 x 16 Coin Channels.

G-13 acceptors for use in Atronic EGMs use a special programming. Do not use any other types or programings as this may lead to malfunctions.

**TECHNICAL DATA**

**Dimensions**
- Height: 102.0 mm
- Width: 89.0 mm
- Depth: 52.0 mm
- Installation tilt: ±2°

**Coinage**
- Diameter: 15.0 to 31.5 mm (optional max. 32.5 mm)
- Thickness: 1.5 to 2.6 mm (optional max. 3.3 mm)
- Coin acceptance: 32 coin channels
- 6 coin signal lines
- Acceptance speed: 2 coins/sec (Validation mode)
- 5-6 coins/sec (Casino mode)

**Electrical data**
- Voltage: 12 V DC (10-16 V)
- Standby: approx. 30 mA
- Measuring: approx. 100 mA

**Environment**
- Temperature range: -25 to 70 °C
- Temperature change: max. 0.2 °C/min
- Rel. humidity: 15 to 93 %
- Condensation: not permitted

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**Note:**
For simplification the short form "G-13" is used instead of "NRI G-13.mft version /4", within this manual.
NOMENCLATURE

Coin Channels
The G-13.mft /4 features 32 Coin Channels, data-managed in one (1 x 32 channels) or in two blocks (2 x 16 channels). Each Coin Channel acts like a storage space where following settings are stored:

- Coin Type
- Acceptance Band
- Assigned Coin Signal Line
- Number of pulses sent to the machine

Coin Type
This specifies the type of the coin. For example: 50 Euro cent

Acceptance Band
This defines the tolerance interval of coin acceptance. A small acceptance band will allow less tolerances in the measurement values. This will lead to an enhanced security against false coins. The drawback is that also genuine coins may be rejected, if they are worn or dirty.

Coin Signal Lines
Each Coin Channel is assigned to a particular Coin Signal Line. This is the (physical) line where coin signals are sent to the host machine. The G-13.mft uses 6 different Coin Signal Lines.

Number of pulses
It is possible to assign a particular number of pulses to a particular Coin Channel. Multi-pulses are not supported by Atronic EGMs.
The label at front of the acceptor provides information about acceptor version and Coin Channel assignment.

Information for each data block is listed in 6 columns.

**Column 1:** Coin Type

**Column 2:** Coin Channel with *standard* acceptance band assigned to this Coin Type.

**Column 3:** Coin Channel with *narrow* acceptance band assigned to this Coin Type.

**Column 4:** Coin Channel with *very narrow* acceptance band assigned to this Coin Type.

**Column 5:** Coin Signal Line assigned to this Coin Type.

**Column 6:** Number of pulses sent to host machine.

**Label Naming**

- **Device type**
  - 06 = top entry
  - V = Validator model
  - (C = Casino model)
  - /4 = Version 4

- **mft** = multi-frequency technology

- **Data block number and revision number**

**Atronic Part Number Nomenclatur**

**Top entry model**

- G-13.mft

**Value**

- V = Validator model
- C = Casino model

**Currency**

- NRI description
- Base software

**General**

**Note:**

If the acceptor has been re-programmed by means of an external programming device, it is mandatory to apply a new label with updated information.

**Note:**

Set DIL switch S1.10 to use *either* data block 0 *or* data block 1.

**Example 1**

(first row in data block 1)

Coin channel 01 is assigned to coin type "50 Euro Cent", uses standard acceptance band and will send one pulse on coin signal line 1.

**Example 2**

(second row in data block 1)

Coin channel 07 is assigned to coin type "1 Euro", uses narrow acceptance band and will send one pulse on coin signal line 2.
G-13 SETUP FOR USE IN ATRONIC EGM

Usually the acceptors are ex-work programmed to customer specification and no user configuration is required. Following description is intended for Service Personnel, if configuration may still be required.

Select Data Block

If the G-13.mft /4 acceptor comes in two data block configuration, it is necessary to define one data block for operation. This is done by means of DIL switch S1.10 on the validator rear side.

- Set switch S1.10 to OFF to select data block 0.
- Set switch S1.10 to ON to select data block 1.

Fast mode / Slow mode DIL switch

Depending on application, G-13 acceptor for use in Atronic gaming machines will come as Casino model (type "06C") or as Validator model (type "06V"). Mode selection via DIL switch S1.9 is disabled by default.

Teach Mode

G-13.mft acceptor for use in Atronic gaming machines have Teach Mode disabled by default.

Coin in geometries

Installation of a G-13 acceptor into a Cashline™ Upright (WBC) cabinet, a Slant Top (AST) cabinet or into an e-motion™ cabinet requires installation of special coin geometries for IDX/NRI acceptors. G-13 acceptors must not be operated with standard coin geometries, as this may lead to coin jams.
**Inhibit particular coins**

To prevent the acceptance of a particular Coin Type, all Coin Channels assigned to this Coin Type have to be disabled.

1. Remove the G-13.mft acceptor to get access to the DIL switches. Do **not** hot plug the acceptor!
2. Refer to the label at front of the acceptor to check which Coin Channels are assigned to the Coin Type(s) to be inhibited (see also page 5).
3. Set the referring DIL switch(es) to ON to inhibit this Coin Channel(s).

If a standard band and a narrow band are programmed for one Coin Type, both referring Coin Channels have to be deactivated to inhibit this Coin Type.

**Accept only one coin type**

If the acceptor programming allows to accept several coins but only one type of coin should be accepted, all other coins have to be disabled. This is the standard setup for single-coin applications.

In the example all Coin Channels except Coin Channel 01 and Coin Channel 06 are disabled. Validator will now accept only 50 Euro Cent coins.

**Set Acceptance Band**

To set the Acceptance Band for a particular coin to narrow mode, the Coin Channel assigned to the standard Acceptance Band has to be disabled.

In the example additionally switch S1.1 has to be set to ON, in order to disable the standard Acceptance Band on Coin Channel 01. The acceptor will now use narrow mode (Coin Channel 06) instead.
MACHINE SETUP FOR G-13 ACCEPTORS

Handling for Cashline™ machines

Carry out basic machine setup as usual. The host machine will initialize the according G-13 mode automatically when the first coin is fed into the validator after RAM Reset (or Soft Reset).

Coin signal lines 1, 2 and 3 are assigned to G-13 Fast mode, while lines 4, 5 and 6 are assigned for G-13 Slow mode.

Fast mode for G-13 06C (casino mode) models

• If the first coin sends an impulse on Coin Signal Line 1, 2 or 3 the host machine will initialize G-13 Fast mode. Only coin signals sent on Coin Signal Lines 1, 2 or 3 will add credits to the credit meter. Acceptance speed is 5-6 coins per second.

Slow mode for G-13 06V (validator mode) models

• If the first coin sends an impulse on Coin Signal Line 4, 5 or 6 the host machine will initialize G-13 Slow mode. Only coin signals sent on Coin Signal Lines 4, 5 or 6 will add credits to the credit meter. Acceptance speed is max. 2 coins per second.

Always check the acceptors DIP switch settings. Only Coin Channels of the Coin Type that shall be accepted, must be enabled! All other Coin Channels have to be disabled to avoid malfunction.
MACHINE SETUP FOR G-13 ACCEPTORS

Handling for e-motion™ EGMs / single-coin mode

It is assumed that only one type of coin shall be accepted and that all other coin types are disabled by means of the acceptor DIP switches.

Carry out a RAM Reset. If the G-13 has been detected, there are two additional Initial Setup pages, that define the coin handling.

NRI-G13 TYPE

G-13 acceptors are available in two versions (see label):
  • "06C" = (Casino version / FAST programmed)
  • "06V" = (Validator version / SLOW programmed)

Set the NRI-G13 TYPE setting as described below.

For A- and B1.1 level game software
  • Select SLOW (multichannel) mode. FAST mode is not supported. Use acceptors of type "06V" only.

For B1.2.1 level game software and higher
  • For G-13 acceptors of version 06C, select FAST (singlechannel) mode.
  • For G-13 acceptors of version 06V, select SLOW (multichannel) mode.

G13 CHANNELS (for SLOW mode only)

Set Multiplier
Set all multipliers to 1 (standard setting if only one type of coin is accepted).

Set Hopper Channel
Enter the Coin Signal Line number of the accepted Coin Type. See acceptor label to check which Coin Type relates to which Coin Signal Line.

Example: 50 Euro Cent coin shall be accepted. All other coins are disabled. Hopper Channel has to be set to 4, because this is the Coin Signal Line that refers to the 50 Euro Cent coin.

Important:
G-13 acceptors in Atronic EGMs use a special programming. Do not use acceptors with other programmings as this may lead to malfunction.

Always check the acceptors DIP switch settings. Only Coin Channels of the Coin Type that shall be accepted, must be enabled! All other Coin Channels have to be disabled to avoid malfunction.
MACHINE SETUP FOR G-13 ACCEPTORS

Handling for e-motion™ EGMs / multi-coin mode

It is assumed that different types of coins shall be accepted.

Carry out a RAM Reset. If the G-13 has been detected, there are two additional Initial Setup pages that define the coin handling. One Coin Type can be configured as Hopper Coin. Other accepted coins are separated to the drop box. For multi-coin/hopper separation mode a special coin unit is mandatory. Use G-13 06V (Validator version/SLOW programmed) only.

COIN VALUE

Set the COIN VALUE to a common divider of all coin values that shall be accepted. Set final coin values by adding a multiplier with setting G-13 CHANNELS.

NRI-G13 TYPE

For A- and B1.1 level game software

• Multi-coin/Hopper separation is not supported.

For B1.2.1 level game software and higher

• For G-13 acceptors of version 06V, select SLOW (multichannel) mode.

G13 CHANNELS

Set Multiplier

• If only Coin Types of the same coin value are used, set all multipliers to 1.
• If the acceptor accepts Coin Types with different coin values, an additional multiplier can be set for each Coin Signal Line (named “Channel 1 - 6” within the menu page). See label on front of the G13 acceptor to check which Coin Type relates to which Coin Signal Line and set corresponding multipliers.

Set Hopper Channel

Enter the Coin Signal Line number of the Coin Type that shall be separated to the hopper. See acceptor label to check which Coin Type relates to which Coin Signal Line. Other accepted coins are separated to the drop box.

Important:
G-13 acceptors in Atronic EGMs use a special programming. Do not use acceptors with other programmings as this will lead to malfunction.

Example: Coin types 50 Cent, 1 Euro and 2 Euro are accepted. 50 Cent coin shall be separated to the hopper. Hopper Channel has to be set to 4, because this is the Coin Signal Line that refers to the 50 Euro Cent coin. (Basic) coin value has been set to 50 Cent and multipliers for 1 Euro and 2 Euro coins are set.