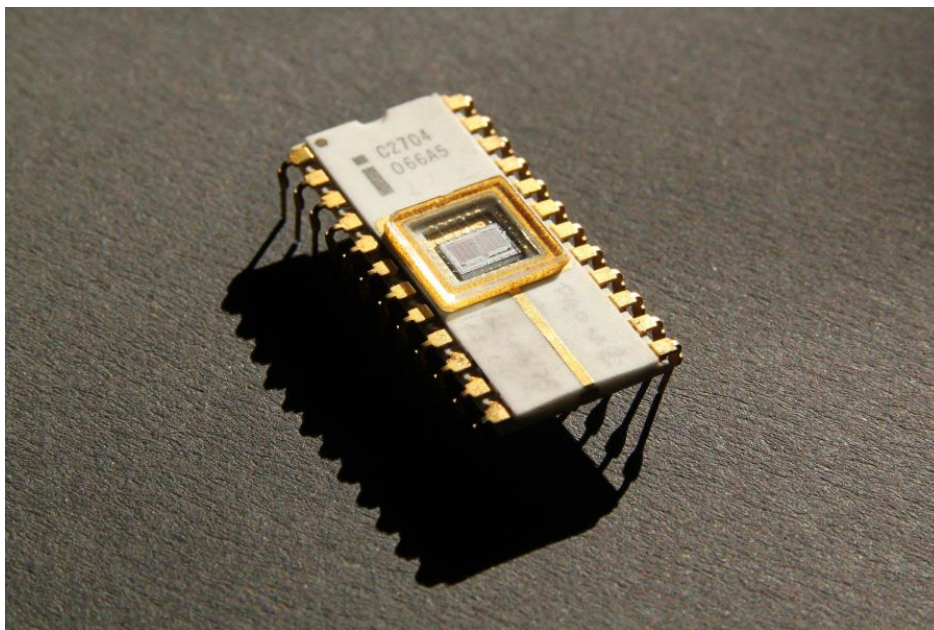


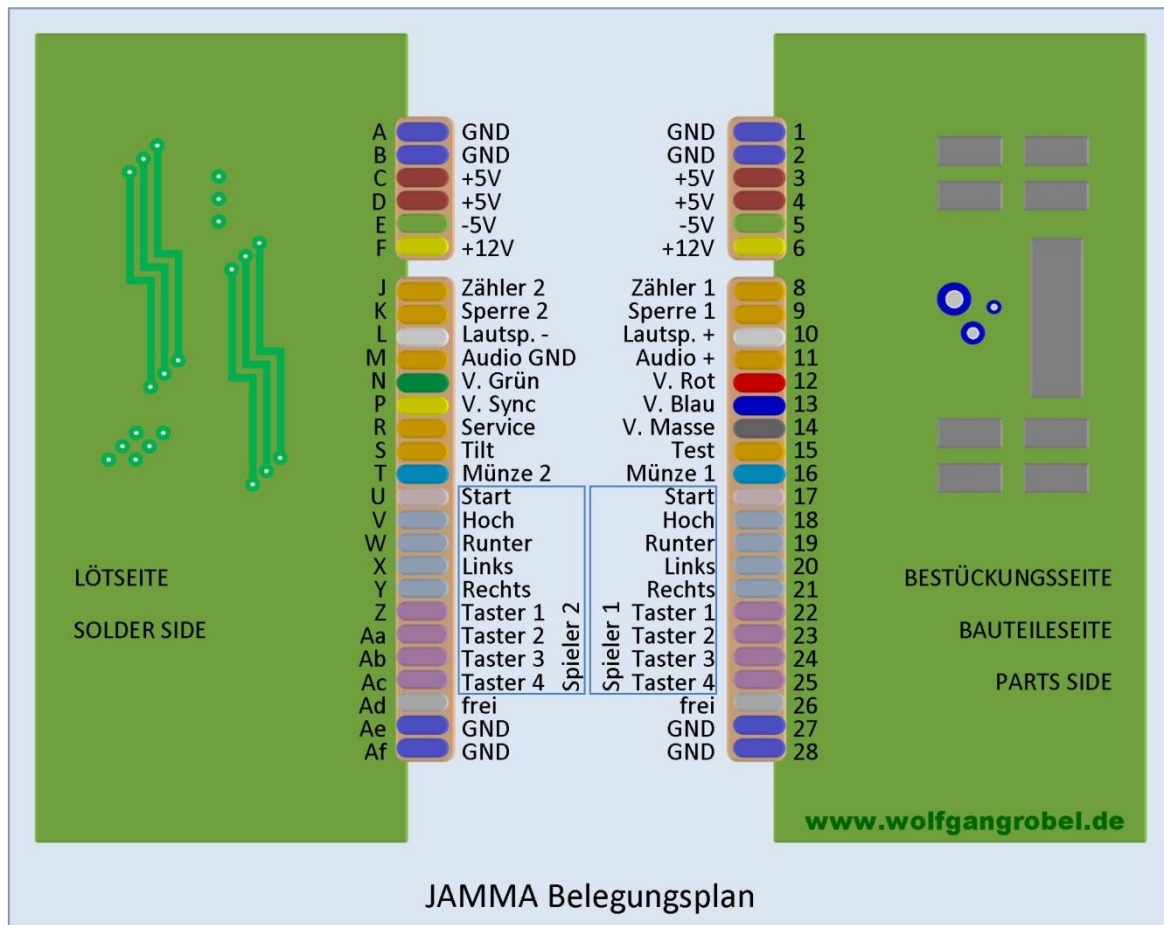


# Mike McBike's unglaubliche unvollständige unverzichtbare IC-Liste

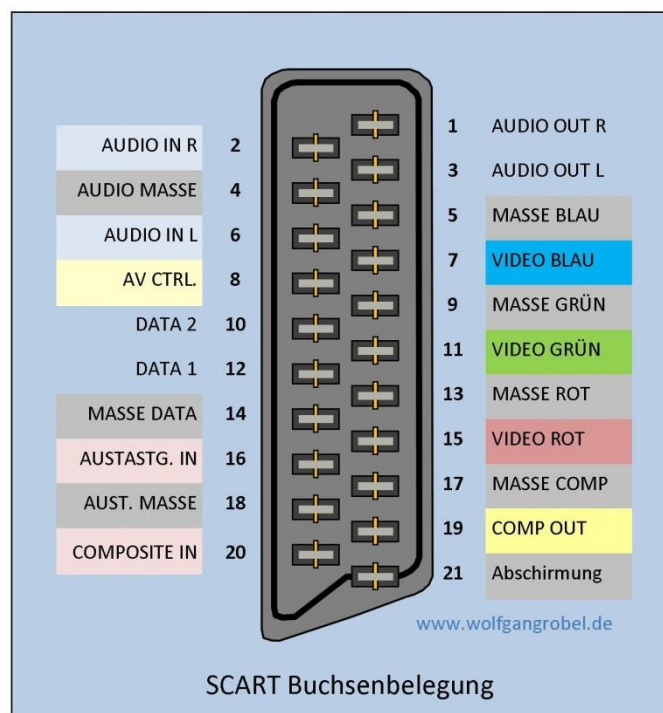




## JAMMA CONNECTOR



## SCART CONNECTOR





## AUTOMATEN - TAB

| Oberseite | Lötseite | Belegung            |
|-----------|----------|---------------------|
| 1         |          | GND                 |
|           | A        | GND                 |
| 2         |          | GND                 |
|           | B        | GND                 |
| 3         |          | GND                 |
|           | C        | GND                 |
| 4         |          | + 5V                |
|           | D        | + 5V                |
| 5         |          | +12V                |
|           | E        | +12V                |
| 6         |          | - 5V                |
|           | F        | - 5V                |
| 7         |          | -12V                |
|           | H        | -12V                |
| 8         |          | Zähler 1            |
|           | J        | Zähler + ???        |
| 9         |          | Zähler 2            |
|           | K        | Münzschalter 1      |
| 10        |          | Münzschalter 2      |
|           | L        | Tischumschaltung    |
| 11        |          | 1. Spieler Start    |
|           | M        | 1. Spieler Action-3 |
| 12        |          | 2. Spieler Start    |
|           | N        | 2. Spieler Action-3 |
| 13        |          | 1. Spieler Action-1 |
|           | P        | 1. Spieler Action-2 |
| 14        |          | 2. Spieler Action-1 |
|           | R        | 2. Spieler Action-2 |
| 15        |          | 1. Spieler rechts   |
|           | S        | 1. Spieler links    |
| 16        |          | 1. Spieler rauf     |
|           | T        | 1. Spieler runter   |
| 17        |          | 2. Spieler rechts   |
|           | U        | 2. Spieler links    |
| 18        |          | 2. Spieler rauf     |
|           | V        | 2. Spieler runter   |
| 19        |          | Video Rot           |
|           | W        | Video Grün          |
| 20        |          | Video Blau          |
|           | X        | Video Sync.         |
| 21        |          | Video GND           |
|           | Y        | Lautsprecher GND    |
| 22        |          | Lautsprecher +      |
|           | Z        | Testschalter        |

## HELLOMAT

### 5. Anschlußbelegung TV - Adapter

| 10-poliger Stecker      | 12-poliger Stecker              | 16-poliger Stecker                 |
|-------------------------|---------------------------------|------------------------------------|
| 1 + 5 V braun           | 1 Kredit weiß                   | 1 1.Spieler links rot-schwarz      |
| 2 + 5 V braun           | 2 Münze ein weiß-rosa           | 2 2.Spieler links grau             |
| 3 - 5 V grau-rot        | 3 Video-Rot rot                 | 3 1.Spieler rechts weiß-grau       |
| 4 + 12 V rot            | 4 Video-Grün grün               | 4 2.Spieler rechts weiß-rot        |
| 5 GND blau              | 5 Video-Blau blau               | 5 1.Spieler auf weiß-schwarz       |
| 6 GND blau              | 6 Video-Synchr. braun           | 6 2.Spieler auf gelb-braun         |
| 7 GND blau              | 7 + Lautspr. weiß-violett       | 7 1.Spieler ab braun-schwarz       |
| 8 GND-Video schwarz     | 8 1.Spieler-Taster 4 weiß-grün  | 8 2.Spieler ab grün-schwarz        |
| 9 GND-Lautspr. gelb-rot | 9 Lautspr. 2 weiß-blau          | 9 1.Spieler-Taster 1 gelb          |
| 10 Reset grau-blau      | 10 Lautspr. 2 gelb-blau         | 10 2.Spieler-Taster 1 weiß-braun   |
|                         | 11 2.Spieler-Taster 4 gelb-weiß | 11 1.Spieler-Taster 2 gelb-schwarz |
|                         | 12 - -                          | 12 2.Spieler-Taster 2 grün-rot     |
|                         |                                 | 13 1.Spieler-Taster 3 violett      |
|                         |                                 | 14 2.Spieler-Taster 3 rosa-rot     |
|                         |                                 | 15 1.Spieler Start rosa            |
|                         |                                 | 16 2.Spieler Start orange          |



## HELLOMAT

"PULTANSCHLUß" Electronic Star

|    |                    |                 |       |
|----|--------------------|-----------------|-------|
| 1  | GND                | = blau          | 0,5²  |
| 2  | + 12V              | = rot           | 0,5²  |
| 3  | 1. Spieler         | = rosa          | 0,25² |
| 4  | 2. Spieler         | = grau-blau     |       |
| 5  | 1. Spieler auf     | = weiß-schwarz  |       |
| 6  | 1. Spieler ab      | = braun-schwarz |       |
| 7  | 1. Spieler links   | = rot-schwarz   |       |
| 8  | 1. Spieler rechts  | = weiß-grau     |       |
| 9  | 1. Taste Spieler 1 | = gelb          |       |
| 10 | 2. Taste Spieler 1 | = gelb-schwarz  |       |
| 11 | 3. Taste Spieler 1 | = violett       |       |
| 12 | 4. Taste Spieler 1 | = weiß-grün     |       |
| 1  | 2. Spieler links   | = grau          | 0,25² |
| 2  | 2. Spieler rechts  | = weiß-rot      |       |
| 3  | 2. Spieler auf     | = gelb-braun    |       |
| 4  | 2. Spieler ab      | = grün-schwarz  |       |
| 5  | 1. Taste Spieler 2 | = weiß-braun    |       |
| 6  | 2. Taste Spieler 2 | = grün-rot      |       |
| 7  | 3. Taste Spieler 2 | = rosa-rot      |       |
| 8  | 4. Taste Spieler 2 | = gelb-weiß     |       |
| 9  | SONDER 1           | = weiß-blau     |       |
| 10 | SONDER 2           | = gelb-blau     |       |

## Die HELLOMAT-Schnittstelle

### 10-pol Stecker

| Pin | Funktion         | Kabelfarbe |
|-----|------------------|------------|
| 1●  | +5V              | braun      |
| 2   | +5V              | braun      |
| 3   | -5V              | grau-rot   |
| 4   | +12V             | rot        |
| 5   | GND              | blau       |
| 6   | GND              | blau       |
| 7   | GND              | blau       |
| 8   | Video-GND        | schwarz    |
| 9   | Lautsprecher (-) | gelb-rot   |
| 10  | NC               | ---        |

### 12-pol Stecker

| Pin | Funktion             | Kabelfarbe   |
|-----|----------------------|--------------|
| 1●  | NC                   | ---          |
| 2   | Münze ein            | weiß-rosa    |
| 3   | Video-Rot            | rot          |
| 4   | Video-Grün           | grün         |
| 5   | Video-Blau           | blau         |
| 6   | Video-Sync           | braun        |
| 7   | Lautsprecher (+)     | weiß-violett |
| 8   | 1. Spieler – Taste 4 | weiß-grün    |
| 9   | NC                   | ---          |
| 10  | NC                   | ---          |
| 11  | 2. Spieler – Taste 4 | weiß-gelb    |
| 12  | NC                   | ----         |

### 16-pol Stecker

| Pin | Funktion             | Kabelfarbe    |
|-----|----------------------|---------------|
| 1●  | 1. Spieler – links   | rot-schwarz   |
| 2   | 2. Spieler – links   | grau          |
| 3   | 1. Spieler – rechts  | weiß-grau     |
| 4   | 2. Spieler – rechts  | weiß-rot      |
| 5   | 1. Spieler – auf     | weiß-schwarz  |
| 6   | 2. Spieler – auf     | gelb-braun    |
| 7   | 1. Spieler – ab      | braun-schwarz |
| 8   | 2. Spieler – ab      | grün-schwarz  |
| 9   | 1. Spieler – Taste 1 | gelb          |
| 10  | 2. Spieler – Taste 1 | weiß-braun    |
| 11  | 1. Spieler – Taste 2 | gelb-schwarz  |
| 12  | 2. Spieler – Taste 2 | grün-rot      |
| 13  | 1. Spieler – Taste 3 | violett       |
| 14  | 2. Spieler – Taste 3 | rosa-rot      |
| 15  | 1. Spieler – Start   | rosa          |
| 16  | 2. Spieler – Start   | orange        |





## Adp Gauselmann

| adp Gauselmann ADAPTER - SYSTEM |               |    |   |               |                |  |  |  |  |
|---------------------------------|---------------|----|---|---------------|----------------|--|--|--|--|
| schwarz                         | GND           | 1  | A | GND           | schwarz        |  |  |  |  |
| schwarz                         | GND           | 2  | B | GND           | schwarz        |  |  |  |  |
| rot (dick)                      | +5 V          | 3  | C | +5 V          | rot (dick)     |  |  |  |  |
| rot (dick)                      | +5 V          | 4  | D | +5 V          | rot (dick)     |  |  |  |  |
| violett (dick)                  | +12 V         | 5  | E | +12 V         | violett (dick) |  |  |  |  |
| grau-rot                        | -5 V          | 6  | F | -5 V          | grau-rot       |  |  |  |  |
| schwarz                         | GND           | 7  | H | GND           | schwarz        |  |  |  |  |
|                                 |               | 8  | J |               |                |  |  |  |  |
|                                 |               | 9  | K |               |                |  |  |  |  |
| gelb-rot                        | Lautspr.      | 10 | L |               |                |  |  |  |  |
| weiß-violett                    | Lautspr.      | 11 | M | 1-Sp. Taste 1 | gelb           |  |  |  |  |
| grau-blau                       | Reset/Tilt    | 12 | N | 2-Sp. Taste 1 | weiß-braun     |  |  |  |  |
| gelb-braun                      | 2-Sp. oben    | 13 | P | 1-Sp. oben    | weiß-schwarz   |  |  |  |  |
|                                 | 4-Sp. Taste 3 | 14 | R | 4-Sp. Taste 3 |                |  |  |  |  |
| weiß-rot                        | 2-Sp. rechts  | 15 | S | 1-Sp. rechts  | weiß-grau      |  |  |  |  |
|                                 |               | 16 | T |               |                |  |  |  |  |
| grün-schwarz                    | 2-Sp. unten   | 17 | U | 1-Sp. unten   | braun-schwarz  |  |  |  |  |
|                                 |               | 18 | V |               |                |  |  |  |  |
| grau                            | 2-Sp. links   | 19 | W | 1-Sp. links   | rot-schwarz    |  |  |  |  |
|                                 |               | 20 | X |               |                |  |  |  |  |
| orange                          | 2-Sp. Start   | 21 | Y | 1-Sp. Start   | rosa           |  |  |  |  |
| rot (dünn)                      | Video Rot     | 22 | Z | 1-Sp. Taste 2 | gelb-schwarz   |  |  |  |  |
| grün                            | Video Grün    | 23 | a | 2-Sp. Taste 2 | grün-rot       |  |  |  |  |
| blau                            | Video Blau    | 24 | b | Münzzähler    | weiß-blau      |  |  |  |  |
| braun                           | Video Sync    | 25 | c | Münzeingang   | weiß-rosa      |  |  |  |  |
| schwarz                         | GND           | 26 | d | GND           | schwarz        |  |  |  |  |
| schwarz                         | GND           | 27 | e | GND           | schwarz        |  |  |  |  |
|                                 |               | 28 | f |               |                |  |  |  |  |
|                                 |               | 29 | h |               |                |  |  |  |  |
|                                 |               | 30 | i |               |                |  |  |  |  |

— = Kodierstift

Wir garantieren für dieses Adaptersystem immer die gleichen Drahtfarben und eine elektronisch geprüfte Durchkontaktierung der + 5 V und der GND. Ansicht gegen die Stirnseite der Messerleiste.

**video klein**  
Südstraße 42 – 4132 Kamp-Lintfort – Telefon (02842) 6600 Q 65 85

## TV Ideal

## TV IDEAL

Norm-Steckerbelegung adp TV-Standgerät

|                          |                          | B  | A                          |
|--------------------------|--------------------------|----|----------------------------|
| schwarz                  | GND                      | 31 | 1 GND                      |
|                          | GND                      | 32 | 2 GND                      |
| rot                      | +5V                      | 33 | 3 +5V                      |
|                          | +5V                      | 34 | 4 +5V                      |
| gelb                     | +12V                     | 35 | 5 +12V                     |
|                          | -5V                      | 36 | 6 -5V                      |
| violett                  | GND                      | 37 | 7 GND                      |
| rosa                     | pos. einstellb. Spannung | 38 | 8 pos. einstellb. Spannung |
| grün                     | neg. einstellb. Spannung | 39 | 9 neg. einstellb. Spannung |
|                          | Reservfunktion           | 40 | 10 Lautsprecher -          |
|                          | 1 P Funktion I           | 41 | 11 Lautsprecher +          |
|                          | Zs. 9                    | 42 | 12 Reset / Tilt            |
| Steuerschalter 1         | hoch                     | 43 | 13 Zs. 14                  |
| (Zs. 4) Steuerschalter 2 | hoch                     | 44 | 14 Zs. 7 2 P Funktion III  |
| Steuerschalter 1         | rechts                   | 45 | 15 Zs. 13                  |
| (Zs. 3) Steuerschalter 2 | rechts                   | 46 | 16 Zs. 8 1 P Funktion III  |
| Steuerschalter 1         | runter                   | 47 | 17 Zs. 12                  |
| (Zs. 2) Steuerschalter 2 | runter                   | 48 | 18 Zs. 6 2 P Funktion I    |
| Steuerschalter 1         | links                    | 49 | 19 Zs. 11                  |
| (Zs. 1) Steuerschalter 2 | links                    | 50 | 20 Zs. 5 2 P Funktion II   |
|                          | 1 Spieler                | 51 | 21 2 Spieler               |
|                          | 1 P Funktion II          | 52 | 22 rot                     |
|                          | Zs. 10                   | 53 | 23 grün                    |
|                          | Spielezähler             | 54 | 24 blau                    |
|                          | Münzeingang              | 55 | 25 Sync.                   |
|                          | GND                      | 56 | 26 GND                     |
|                          | GND                      | 57 | 27 GND                     |
|                          | GND                      | 58 | 28 GND                     |
| Lautsprecher 2 -         |                          | 59 | 29 Lautsprecher 2 +        |
| 3 Spieler                |                          | 60 | 30 4 Spieler               |

AMP-EDGE 530 655-9



## LOGIK – TTL ÜBERSICHT – Teil 1

| Typ | Pins | Anzahl | Beschreibung                                                       |
|-----|------|--------|--------------------------------------------------------------------|
| 00  | 14   | 4      | 2 Input NAND                                                       |
| 01  | 14   | 4      | 2 Input NAND (OC=Open Collector)                                   |
| 02  | 14   | 4      | 2 Input NOR                                                        |
| 03  | 14   | 4      | 2 Input NAND (OC) Andere Belegung als 7401                         |
| 04  | 14   | 6      | Inverter                                                           |
| 05  | 14   | 6      | Inverter (OC)                                                      |
| 06  | 14   | 6      | Inverter Buffer/Treiber (OC)                                       |
| 07  | 14   | 6      | Buffer/Treiber (OC)                                                |
| 08  | 14   | 4      | 2 Input AND                                                        |
| 09  | 14   | 4      | 2 Input AND (OC)                                                   |
| 10  | 14   | 3      | 3 Input NAND                                                       |
| 11  | 14   | 3      | 3 Input AND                                                        |
| 12  | 14   | 3      | 3 Input NAND (OC)                                                  |
| 13  | 14   | 2      | 4 Input NAND Schmitt-Trigger                                       |
| 14  | 14   | 6      | Inverter Schmitt-Trigger                                           |
| 15  | 14   | 3      | 3 Input AND (OC)                                                   |
| 16  | 14   | 6      | Inverter Treiber (OC)                                              |
| 17  | 14   | 6      | Treiber (OC)                                                       |
| 18  | 14   | 2      | 4 Input NAND Schmitt-Trigger                                       |
| 19  | 14   | 6      | Inverter Schmitt-Trigger                                           |
| 20  | 14   | 2      | 4 Input NAND                                                       |
| 21  | 14   | 2      | 4 Input AND                                                        |
| 22  | 14   | 2      | 4 Input NAND (OC)                                                  |
| 24  | 14   | 4      | 2 Input NAND Schmitt-Trigger                                       |
| 25  | 14   | 2      | 4 Input NOR                                                        |
| 26  | 14   | 4      | 2 Input NAND (OC)                                                  |
| 27  | 14   | 3      | 3 Input NOR                                                        |
| 28  | 14   | 4      | 2 Input NOR                                                        |
| 30  | 14   | 1      | 8 Input NAND                                                       |
| 31  | 16   | -      | Verzögerungs-Element (je 2 Non-Inverting, Inverting, 2 Input NAND) |
| 32  | 14   | 4      | 2 Input OR                                                         |
| 33  | 14   | 4      | 2 Input NOR (OC)                                                   |
| 34  | 14   | 6      | Treiber                                                            |
| 35  | 14   | 6      | Treiber (OC)                                                       |
| 36  | 14   | 4      | 2 Input NOR                                                        |
| 37  | 14   | 4      | 2 Input NAND                                                       |
| 38  | 14   | 4      | 2 Input NAND (OC)                                                  |
| 39  | 14   | 4      | 2 Input NAND Treiber (OC)                                          |
| 40  | 14   | 2      | 4 Input NAND                                                       |
| 41  | 16   | -      | BCD -> Decimal Decoder (OC)                                        |
| 42  | 16   | -      | BCD -> Decimal Decoder                                             |


**LOGIK – TTL ÜBRERSICHT – Teil 2**

| Typ | Pins | Anzahl | Beschreibung                                                                 |
|-----|------|--------|------------------------------------------------------------------------------|
| 43  | 16   | -      | Excess-3 -> Decimal Decoder                                                  |
| 44  | 16   | -      | Excess-3-Gray -> Decimal Decoder                                             |
| 45  | 16   | -      | BCD -> Decimal Decoder (OC)                                                  |
| 46  | 16   | -      | BCD -> 7-Segment Decoder (OC)                                                |
| 47  | 16   | -      | BCD -> 7-Segment Decoder (OC)                                                |
| 48  | 16   | -      | BCD -> 7-Segment Decoder (OC)                                                |
| 49  | 14   | -      | BCD -> 7-Segment Decoder (OC)                                                |
| 50  | 14   | -      | Dual 2-Wide 2-Input AND-OR-INVERT (1 expandable)                             |
| 51  | 14   | 2      | AND-OR-INVERT                                                                |
| 52  | 14   | ?      | Expandable AND-OR                                                            |
| 53  | 14   | 1      | Expandable 4-Wide AND-OR-INVERT                                              |
| 54  | 14   | 1      | 3-2-2-3 Input AND-OR-INVERT                                                  |
| 55  | 14   | 1      | 2-Wide 4-Input AND-OR-INVERT                                                 |
| 72  | 14   | 1      | And-Gated-JK-MS Flipflop with preset & clear                                 |
| 73  | 14   | 2      | JK Flipflop with clear                                                       |
| 74  | 14   | 2      | D Flipflop with preset & clear                                               |
| 75  | 16   | -      | 4-Bit Bistable Latch                                                         |
| 76  | 16   | 2      | JK Flipflop with preset & clear                                              |
| 78  | 14   | 2      | JK Flipflop                                                                  |
| 86  | 14   | 4      | 2 Input XOR                                                                  |
| 90  | 14   | -      | Decade Counter                                                               |
| 92  | 14   | -      | Divide By-Twelve Couter                                                      |
| 93  | 14   | -      | 4-Bit Binary Counter                                                         |
| 95  | 14   | -      | 4 Bit Parallel Access Shift Register                                         |
| 107 | 14   | 2      | JK Flipflop with clear                                                       |
| 112 | 16   | 2      | JK Flipflop with preset & clear                                              |
| 121 | 14   | -      | Monostable Multivibrator With Schmitt-Trigger                                |
| 122 | 14   | -      | Retriggerable Monostable Multivibrator                                       |
| 123 | 16   | 2      | Retriggerable Monostable Multivibrator                                       |
| 125 | 14   | 4      | Tri-State Buffer                                                             |
| 126 | 14   | 4      | Tri-State Buffer                                                             |
| 132 | 14   | 4      | 2 Input NAND Schmitt-Trigger                                                 |
| 133 | 16   | 1      | 13 Input NAND                                                                |
| 136 | 14   | 4      | 2 Input XOR                                                                  |
| 137 | 16   | 1      | 3-to-8 line decoder / demultiplexer with address latches, low-active outputs |
| 138 | 16   | 1      | 3-to-8 line decoder / demultiplexer , low-active outputs                     |
| 139 | 16   | 2      | 2-to-4 line decoder / demultiplexer , low-active outputs                     |
| 146 | 16   | -      | BCD -> Decimal Decoder (OC)                                                  |
| 147 | 16   | -      | 10-Line -> 4-Line BCD Priority Encoder                                       |
| 148 | 16   | -      | 8-Line -> 3-Line Priority Encoder                                            |
| 151 | 16   | 1      | 8:1 Multiplexer                                                              |


**LOGIK – TTL ÜBRERSICHT – Teil 3**

| Typ | Pins | Anzahl | Beschreibung                                                                              |
|-----|------|--------|-------------------------------------------------------------------------------------------|
| 154 | 24   | 1      | 4-Line -> 16-Line Decoder/Demultiplexer                                                   |
| 155 | 16   | 2      | 2-Line -> 4-Line Decoder/Demultiplexer                                                    |
| 156 | 16   | 2      | 2-Line -> 4-Line Decoder/Demultiplexer (OC)                                               |
| 157 | 16   | 4      | 2:1 Multiplexer                                                                           |
| 158 | 16   | 4      | 2:1 Multiplexer , inverted outputs                                                        |
| 160 | 16   | -      | Sync 4 Bit Binary Counter Async Reset                                                     |
| 161 | 16   | -      | Sync 4 Bit Binary Counter Async Reset                                                     |
| 162 | 16   | -      | Sync 4 Bit Binary Counter Async Reset                                                     |
| 163 | 16   | -      | Sync 4 Bit Binary Counter Async Reset                                                     |
| 164 | 14   | -      | 8 Bit Serial Shift Register                                                               |
| 165 | 16   | -      | 8-Bit Parallel -> Serial (PISO) Shift Register0                                           |
| 166 | 16   | -      | 4 bit shift register                                                                      |
| 173 | 16   | 4      | D-Type Register                                                                           |
| 174 | 16   | 6      | Hex-D-FF                                                                                  |
| 175 | 16   | 4      | Quad D-Flip-Flop                                                                          |
| 177 | 14   | -      | Presetable Binary Counter/Latch                                                           |
| 190 | 16   | -      | Decimal Up/Down Counter                                                                   |
| 191 | 16   | -      | 4-Bit Up/Down Binary Converter                                                            |
| 192 | 16   | -      | Decimal Up/Down Counter mit Clear                                                         |
| 193 | 16   | -      | 4-Bit Up/Down Binary Counter mit Clear                                                    |
| 194 | 16   | -      | 4-Bit Bidirectional Universal Shift Register                                              |
| 221 | 16   | 2      | Monostable Multivibrator with Reset                                                       |
| 238 | 16   | 1      | 3-to-8 line decoder / demultiplexer , high-active outputs                                 |
| 239 | 16   | 2      | 2-to-4 line decoder / demultiplexer , high-active outputs                                 |
| 240 | 20   | -      | 8-Bit Tri-State Buffer/Line Driver (invertierend)                                         |
| 241 | 20   | -      | 8-Bit Tri-State Buffer/Line Driver                                                        |
| 242 | 14   | -      | 4-Bit Bus Transceiver (invertierend)                                                      |
| 243 | 14   | -      | 4-Bit Bus Transceiver (nicht invertierend)                                                |
| 244 | 20   | -      | 8-Bit Tri-State Buffer/Line Driver (nicht invertierend) - Variante: 16244: 16-Bit-Version |
| 245 | 20   | -      | 8-Bit Bus Transceiver - Variante: 16T245: 16-Bit-Version                                  |
| 251 | 16   | -      | 8-Bit Input Multiplexer; 3-State                                                          |
| 259 | 16   | -      | 8-Bit Adressable Latch                                                                    |
| 260 | 14   | 2      | 5 Input NOR                                                                               |
| 266 | 14   | 4      | 2 Input Exclusive NOR (OC)                                                                |
| 273 | 20   | -      | 8-fach D-FlipFlop mit Clear                                                               |
| 283 | 16   | -      | 4-Bit Volladdierer                                                                        |
| 288 | 16   | -      | 256-bit PROM                                                                              |
| 299 | 20   | -      | 8-Bit Universal Shift Register, Common IO-Pins, 3-State                                   |
| 366 | 16   | 6      | Tri-State Inverting Buffer                                                                |
| 367 | 16   | 6      | Tri-State Buffer                                                                          |
| 373 | 20   | -      | 8-Bit Transparent Latch                                                                   |





|     |    |   |                                       |
|-----|----|---|---------------------------------------|
| 374 | 20 | - | 8-Bit Positiv Edge Triggered Register |
|-----|----|---|---------------------------------------|

## LOGIK – TTL ÜBRERSICHT – Teil 4

| Typ | Pins | Anzahl | Beschreibung                                   |
|-----|------|--------|------------------------------------------------|
| 393 | 14   | 2      | 4-Bit Binary Counter                           |
| 541 | 20   | -      | 8-Bit Tri-State Buffer/Line Driver             |
| 573 | 20   | -      | 8-Bit Tri-State D-Type Latch                   |
| 574 | 20   | 8      | Tri-State Flipflop                             |
| 590 | 16   | -      | 8-Bit binary counter, 3-state output register  |
| 595 | 16   | -      | 8-Bit Serial -> Parallel (SIPO) Shift Register |
| 669 | 16   | -      | Synchronous 4 bit up/down counter              |



## LOGIK – TTL – Teil 1

|                                           |                                            |                                          |                                              |                                               |
|-------------------------------------------|--------------------------------------------|------------------------------------------|----------------------------------------------|-----------------------------------------------|
| <b>74xx00 / 01</b><br><b>4x NAND2</b><br> | <b>74xx02</b><br><b>4x NOR2</b><br>        | <b>74xx03</b><br><b>4x NAND2 OC</b><br>  | <b>74xx04 / 05 / 06</b><br><b>6x INV</b><br> | <b>74xx07</b><br><b>6x BUFFER</b><br>         |
| <b>74xx08 / 09</b><br><b>4x AND</b><br>   | <b>74xx10</b><br><b>3x NAND3</b><br>       | <b>74xx11 / 12</b><br><b>3x AND3</b><br> | <b>74xx13</b><br><b>2x NAND4 ST</b><br>      | <b>74xx14</b><br><b>6x INV ST</b><br>         |
| <b>74xx20</b><br><b>2x NAND4</b><br>      | <b>74LS26</b><br><b>2 Inp. NAND OC</b><br> | <b>74LS30</b><br><b>8 Input NAND</b><br> | <b>74xx32</b><br><b>4x OR</b><br>            | <b>74xx42/43/44</b><br><b>BCD-Dezimal</b><br> |
| <b>74xx47</b><br><b>BCD-7-Segment</b><br> | <b>74xx73</b><br><b>FF</b><br>             | <b>74xx74</b><br><b>FF</b><br>           | <b>74xx86</b><br><b>4x XOR2</b><br>          | <b>74xx90</b><br><b>4-Bit Zähler 0..9</b><br> |



## LOGIK – TTL – Teil 2

|                                                        |                                                     |                                                |                                                 |                                                                  |
|--------------------------------------------------------|-----------------------------------------------------|------------------------------------------------|-------------------------------------------------|------------------------------------------------------------------|
| <b>74xx92</b><br><b>4-Bit Zähler 0..11</b><br>         | <b>74xx93</b><br><b>4-Bit Zähler 0..15</b><br>      | <b>74xx122</b><br><b>Single Monoflop</b><br>   | <b>74xx123</b><br><b>Dual Monoflop</b><br>      | <b>74xx125</b><br><b>4x tristate buffer</b><br>                  |
| <b>74xx132</b><br><b>4x NAND2 ST</b><br>               | <b>74xx138</b><br><b>3-to-8 line decoder</b><br>    | <b>74xx139</b><br><b>2x 2-to-4 decoder</b><br> | <b>74xx157</b><br><b>4x Multiplexer 2:1</b><br> | <b>74xx160 / 161 / 162 / 163</b><br><b>4-bit Binärzähler</b><br> |
| <b>74xx166</b><br><b>4Bit Shift Reg.</b><br>           | <b>74xx173</b><br><b>4 Bit D-Register</b><br>       | <b>74xx174</b><br><b>Hex D-Flip-Flop</b><br>   | <b>74xx175</b><br><b>Quad D-FF</b><br>          | <b>74xx190 / 191</b><br>                                         |
| <b>74xx192 / 193</b><br><b>presettable counter</b><br> | <b>74xx194</b><br><b>4 Bit unid. Shift Reg.</b><br> | <b>74xx240</b><br><b>8x Bustreiber</b><br>     | <b>74xx241</b><br><b>8x Bustreiber</b><br>      | <b>74xx244</b><br><b>8x Bustreiber</b><br>                       |

|                                                   |                                                   |                                                  |                                                   |                                                 |
|---------------------------------------------------|---------------------------------------------------|--------------------------------------------------|---------------------------------------------------|-------------------------------------------------|
| <b>74xx245</b><br><b>8x Bustreiber Bidir.</b><br> | <b>74LS253</b><br><b>4 Inp. Mux</b><br>           | <b>74xx257</b><br><b>Quad 2-Data-Mux</b><br>     | <b>74xx258</b><br><b>Quad 2-Data-Mux</b><br>      | <b>74xx273</b><br><b>8x D-FF m. Clear</b><br>   |
| <b>74xx283</b><br><b>4 Bit Addierer</b><br>       | <b>74xx299</b><br><b>8-Bit-Shift Register</b><br> | <b>74xx365</b><br><b>6x tristate buffer</b><br>  | <b>74xx366</b><br><b>6x tristate inverter</b><br> | <b>74xx367</b><br><b>6x tristate buffer</b><br> |
| <b>74xx368</b><br><b>6x tristate inverter</b><br> | <b>74xx373</b><br><b>8 Bit transp. Latch</b><br>  | <b>74xx374</b><br><b>8 Bit transp. Latch</b><br> | <b>74xx377</b><br><b>8x FF</b><br>                | <b>74xx378</b><br><b>6x FF</b><br>              |



## LOGIK – TTL – Teil 4

| 74xx379 | 74xx669           |  |  | 8216       |
|---------|-------------------|--|--|------------|
| 4x FF   | 4 Bit u/d Counter |  |  | Bus-Driver |
|         |                   |  |  |            |





## LOGIK – CMOS – ÜBERSICHT TEIL 1

|      |                                                                                   |
|------|-----------------------------------------------------------------------------------|
| 4000 | Dual 3-input NOR gate + 1 Inverter                                                |
| 4001 | Quad 2-input NOR gate                                                             |
| 4002 | Dual 4-input NOR gate                                                             |
| 4006 | 18 stage Shift register                                                           |
| 4007 | Dual Complementary Pair Plus Inverter                                             |
| 4008 | 4 bit adder                                                                       |
| 4009 | Hex inverting buffer                                                              |
| 4010 | Hex non-inverting buffer                                                          |
| 4011 | Buffered Quad 2-Input NAND gate                                                   |
| 4012 | Dual 4-input NAND gate                                                            |
| 4013 | Dual D-type flip-flop                                                             |
| 4014 | 8-stage shift register                                                            |
| 4015 | Dual 4-stage shift register                                                       |
| 4016 | Quad bilateral switch                                                             |
| 4017 | Divide-by-10 counter (5-stage Johnson counter)                                    |
| 4018 | Presettable divide-by-n counter                                                   |
| 4019 | Quad AND-OR Select Gate                                                           |
| 4020 | 14-stage binary counter                                                           |
| 4021 | 8-bit static shift register                                                       |
| 4022 | Divide-by-8 counter (4-stage Johnson counter)                                     |
| 4023 | Triple 3-input NAND gate                                                          |
| 4024 | 7-Stage Binary Ripple Counter                                                     |
| 4025 | Triple 3-input NOR gate                                                           |
| 4026 | BCD counter with decoded 7-segment output                                         |
| 4027 | Dual JK flip-flop                                                                 |
| 4028 | BCD to decimal (1-of-10) decoder                                                  |
| 4029 | Presettable up/down counter, binary or BCD-decade                                 |
| 4030 | Quad XOR gate (replaced by 4070)                                                  |
| 4031 | 64-Bit Static Shift Register                                                      |
| 4032 | Triple serial adder                                                               |
| 4033 | BCD counter + 7-segment decoder w/ripple blank                                    |
| 4034 | 8-stage bidirectional parallel or serial input/parallel output                    |
| 4035 | 4-stage parallel-in/parallel-out (PIPO) with J-K input and true/complement output |
| 4038 | Triple serial adder                                                               |
| 4040 | 12-stage binary ripple counter                                                    |
| 4041 | Quad true/complement buffer                                                       |
| 4042 | Quad D-type latch                                                                 |
| 4043 | Quad NOR R/S latch                                                                |
| 4044 | Quad NAND R/S latch (tristate output)                                             |
| 4045 | 21-Stage Counter                                                                  |
| 4046 | PLL with VCO                                                                      |
| 4047 | Monostable/Astable Multivibrator                                                  |
| 4048 | Multifunctional expandable 8-input (tristate output)                              |
| 4049 | Hex inverter/buffer (NOT gate)                                                    |
| 4050 | Hex buffer/converter (non-inverting)                                              |
| 4051 | Analogue multiplexer/demultiplexer (1-of-8 switch)                                |
| 4052 | Analogue multiplexer/demultiplexer (Dual 1-of-4 switch)                           |
| 4053 | Analogue multiplexer/demultiplexer (Triple 1-of-2 switch)                         |
| 4054 | 7-segment decoder/LCD driver                                                      |
| 4055 | BCD-to-7-segment decoder/driver with "display-frequency" output                   |
| 4056 | BCD-to-7-segment decoder/driver with strobed latch function                       |
| 4059 | Programmable divide-by-N counter                                                  |
| 4060 | 14-stage binary ripple counter and oscillator                                     |
| 4062 | Logic dual 3 majority gate                                                        |
| 4063 | 4-bit Digital comparator                                                          |
| 4066 | Quad Analog switch (Low "ON" Resistance)                                          |
| 4067 | 16-channel analogue multiplexer/demultiplexer (1-of-16 switch)                    |
| 4068 | 8-input NAND gate                                                                 |
| 4069 | Hex inverter                                                                      |
| 4070 | Quad XOR gate                                                                     |
| 4071 | Quad 2-input OR gate                                                              |
| 4072 | Dual 4-input OR gate                                                              |
| 4073 | Triple 3-input AND gate                                                           |
| 4075 | Triple 3-input OR gate                                                            |
| 4076 | Quad D-type register with tristate outputs                                        |
| 4077 | Quad 2-input XNOR gate                                                            |
| 4078 | 8-input NOR gate                                                                  |
| 4081 | Quad 2-input AND gate                                                             |
| 4082 | Dual 4-input AND gate                                                             |
| 4085 | Dual 2-wide, 2-input AND/OR invert (AOI)                                          |
| 4086 | Expandable 4-wide, 2-input AND/OR invert (AOI)                                    |
| 4089 | Binary rate multiplier                                                            |
| 4093 | Quad 2-input Schmitt trigger NAND gate                                            |



## LOGIK – CMOS – ÜBERSICHT TEIL 2

|       |                                                                             |
|-------|-----------------------------------------------------------------------------|
| 4094  | 8-stage shift-and-store bus                                                 |
| 4095  | Gated "J-K" (non-inverting)                                                 |
| 4096  | Gated "J-K" (inverting and non-inverting)                                   |
| 4097  | Differential 8-channel analog multiplexer/demultiplexer                     |
| 4098  | Dual one-shot monostable                                                    |
| 4099  | 8-bit addressable latch                                                     |
| 4104  | Quad Low-to-High Voltage Translator with tristate outputs                   |
| 4502  | Hex inverting buffer (tristate)                                             |
| 4503  | Hex non-inverting buffer with tristate outputs                              |
| 4504  | Hex voltage level shifter for TTL-to-CMOS or CMOS-to-CMOS operation         |
| 4508  | Dual 4-bit latch with tristate outputs                                      |
| 4510  | Presettable 4-bit BCD up/down counter                                       |
| 4511  | BCD to 7-segment latch/decoder/driver                                       |
| 4512  | 8-input multiplexer (data selector) with tristate output                    |
| 4513  | BCD to 7-segment latch/decoder/driver (4511 plus ripple blanking)           |
| 4514  | 1-of-16 decoder/demultiplexer active HIGH output                            |
| 4515  | 1-of-16 decoder/demultiplexer active LOW output                             |
| 4516  | Presettable 4-bit binary up/down counter                                    |
| 4517  | Dual 64-Bit Static Shift Register                                           |
| 4518  | Dual BCD up counter                                                         |
| 4519  | Quad 2-input multiplexer (data selector)                                    |
| 4520  | Dual 4-bit binary up counter                                                |
| 4521  | 24-stage frequency divider                                                  |
| 4522  | Programmable BCD divide-by-N counter                                        |
| 4526  | Programmable 4-bit binary down counter                                      |
| 4527  | BCD rate multiplier                                                         |
| 4528  | Dual Retriggerable Monostable Multivibrator with Reset                      |
| 4529  | Dual 4-channel analog                                                       |
| 4532  | 8-bit priority encoder                                                      |
| 4536  | Programmable Timer                                                          |
| 4538  | Dual Retriggerable Precision Monostable Multivibrator                       |
| 4539  | Dual 4-input multiplexer                                                    |
| 4541  | Programmable Timer                                                          |
| 4543  | BCD to 7-Segment Latch/Decoder/Driver with Phase Input                      |
| 4553  | 3-digit BCD counter                                                         |
| 4555  | Dual 1-of-4 decoder/demultiplexer active HIGH output                        |
| 4556  | Dual 1-of-4 decoder/demultiplexer active LOW output                         |
| 4557  | 1-to-64 Bit Variable Length Shift Register                                  |
| 4560  | NBCD adder                                                                  |
| 4566  | Industrial time-base generator                                              |
| 4572  | Hex gate : quad NOT, single NAND, single NOR                                |
| 4584  | Hex schmitt trigger                                                         |
| 4585  | 4-bit Digital comparator                                                    |
| 4724  | 8-bit addressable latch                                                     |
| 4750  | Frequency synthesizer                                                       |
| 4751  | Universal divider                                                           |
| 4794  | 8-Stage Shift-and-Store Register LED Driver                                 |
| 4894  | 12-Stage Shift-and-Store Register LED Driver                                |
| 4938  | Dual Retriggerable Precision Monostable Multivibrator with Reset            |
| 4952  | 8-channel analog multiplexer/demultiplexer                                  |
| 40098 | 3-state hex inverting buffer                                                |
| 40100 | 32-bit left/right Shift Register                                            |
| 40101 | 9-bit Parity Generator/Checker                                              |
| 40102 | Presettable 2-decade BCD down counter                                       |
| 40103 | Presettable 8-bit binary down counter                                       |
| 40104 | 4 bit bidirectional Parallel-in/Parallel-out PIPO Shift Register (tristate) |
| 40105 | 4-bit x 16 word Register                                                    |
| 40106 | Hex Inverting Schmitt-Trigger-(NOT gates)                                   |
| 40107 | dual 2-input NAND buffer/driver                                             |
| 40108 | 4x4-bit (tristate) synchronous triple-port register file                    |
| 40109 | Quad level shifter                                                          |
| 40110 | Up/Down Counter-Latch-Decoder-Driver                                        |
| 40116 | 8-bit bidirectional CMOS-to-TTL level converter                             |
| 40117 | Programmable dual 4-bit terminator                                          |
| 40147 | 10-line to 4-line [BCD] priority encoder                                    |
| 40160 | Decade counter/asynchronous clear                                           |
| 40161 | Binary counter/asynchronous clear                                           |
| 40162 | 4-bit synchronous decade counter with load, reset, and ripple carry output  |
| 40163 | 4-bit synchronous binary counter with load, reset, and ripple carry output  |
| 40174 | Hex D-type flip-flop with reset; positive-edge trigger                      |
| 40175 | Quad D-type flip-flop with reset; positive-edge trigger                     |
| 40181 | 4-bit 16-function arithmetic logic unit (ALU)                               |
| 40192 | Presettable 4-bit BCD up/down counter                                       |



## LOGIK – CMOS – ÜBERSICHT TEIL 3

- 40193 Presettable 4-bit binary up/down counter
- 40194 4-bit universal bidirectional with asynchronous master reset
- 40195 4-bit universal shift register
- 40208  $4 \times 4$ -bit (tristate) synchronous triple-port register file
- 40240 Buffer/Line driver; Inverting (tristate)
- 40244 Buffer/Line Driver; Non-Inverting (tristate)
- 40245 Octuple bus transceiver; (tristate) outputs,
- 40257 Quad 2-Line-to-1-Line Data Selector/Multiplexer (tristate)
- 40373 Octal D-Type Transparent latch (tristate)
- 40374 Octal D-type flip-flop; positive-edge trigger (tristate)

## LOGIK - CMOS

| 4000             | 4001                      | 4002             |
|------------------|---------------------------|------------------|
| <p>CD4000BMS</p> | <p>CD4001BMS</p>          | <p>CD4002BMS</p> |
| 4025             | 4066                      |                  |
| <p>CD4025BMS</p> | <p>Quad Analog Switch</p> |                  |



## SPEICHER – EPROM 8 BIT – Teil 1

| <div>1702</div> <div>256 x 8</div> <div></div> <div>TOP VIEW</div>                                                                                                                                                                                                                                                                                                                                                                                 | <div>2704</div> <div>512 x 8 (+5 / -5 / 12V)</div> <div></div> <div>*2708 = A<sub>9</sub><br/>2704 = V<sub>SS</sub></div>                                                                                                                                                                                                                                                                                                                                                                  | <div>2708</div> <div>EPROM 1k x 8 (+5 / -5 / 12V)</div> <div></div> <div>*2708 = A<sub>9</sub><br/>2704 = V<sub>SS</sub></div> |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------|----------------|----------------|--------------------|-------------|--------------|--------------------|-------------------|-----------------|--------------------|-------------------|-----------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------|-------|----------------|--------|--------------------|--------|--------------------|-----------------|-------------------|-----------------|--------------------|-----------------|--------------------|-----------------|------------|
| <div>2716</div> <div>EPROM 2k x 8</div> <div></div> <div>M2716</div>                                                                                                                                                                                                                                                                                                                                                                               | <div>TMS2516</div> <div>EPROM 2k x 8</div> <div></div> <div><table><tr><th colspan="2">PIN NOMENCLATURE</th></tr><tr><td>A(N)</td><td>Address inputs</td></tr><tr><td>CS</td><td>Chip Select</td></tr><tr><td>PD/PGM</td><td>Power Down/Program</td></tr><tr><td>Q(N)</td><td>Input/Output</td></tr><tr><td>V<sub>CC</sub></td><td>+5 V Power Supply</td></tr><tr><td>V<sub>pp</sub></td><td>+25 V Power Supply</td></tr><tr><td>V<sub>SS</sub></td><td>0 V Ground</td></tr></table></div> | PIN NOMENCLATURE                                                                                                               |      | A(N)           | Address inputs | CS                 | Chip Select | PD/PGM       | Power Down/Program | Q(N)              | Input/Output    | V <sub>CC</sub>    | +5 V Power Supply | V <sub>pp</sub> | +25 V Power Supply                                                    | V <sub>SS</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0 V Ground       | <div>TMS2716</div> <div>EPROM 2k x 8 (+5 / -5 / 12V)</div> <div></div> <div><table><tr><th colspan="2">PIN NOMENCLATURE</th></tr><tr><td>A(N)</td><td>Address inputs</td></tr><tr><td>CS</td><td>Chip Select</td></tr><tr><td>PD/PGM</td><td>Power Down/Program</td></tr><tr><td>Q(N)</td><td>Input/Output</td></tr><tr><td>V<sub>CC</sub></td><td>+5 V Power Supply</td></tr><tr><td>V<sub>pp</sub></td><td>+25 V Power Supply</td></tr><tr><td>V<sub>SS</sub></td><td>0 V Ground</td></tr></table></div> | PIN NOMENCLATURE |                | A(N)  | Address inputs | CS     | Chip Select        | PD/PGM | Power Down/Program | Q(N)            | Input/Output      | V <sub>CC</sub> | +5 V Power Supply  | V <sub>pp</sub> | +25 V Power Supply | V <sub>SS</sub> | 0 V Ground |
| PIN NOMENCLATURE                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| A(N)                                                                                                                                                                                                                                                                                                                                                                                                                                               | Address inputs                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| CS                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Chip Select                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| PD/PGM                                                                                                                                                                                                                                                                                                                                                                                                                                             | Power Down/Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| Q(N)                                                                                                                                                                                                                                                                                                                                                                                                                                               | Input/Output                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>CC</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | +5 V Power Supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>pp</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | +25 V Power Supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>SS</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0 V Ground                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| PIN NOMENCLATURE                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| A(N)                                                                                                                                                                                                                                                                                                                                                                                                                                               | Address inputs                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| CS                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Chip Select                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| PD/PGM                                                                                                                                                                                                                                                                                                                                                                                                                                             | Power Down/Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| Q(N)                                                                                                                                                                                                                                                                                                                                                                                                                                               | Input/Output                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>CC</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | +5 V Power Supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>pp</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | +25 V Power Supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>SS</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0 V Ground                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| <div>TMS2532</div> <div>EPROM 4k x 8</div> <div></div> <div><table><tr><th colspan="2">PIN NOMENCLATURE</th></tr><tr><td>A(N)</td><td>Address inputs</td></tr><tr><td>PD/PGM</td><td>Power Down/Program</td></tr><tr><td>Q(N)</td><td>Input/Output</td></tr><tr><td>V<sub>CC</sub></td><td>+5 V Power Supply</td></tr><tr><td>V<sub>pp</sub></td><td>+25 V Power Supply</td></tr><tr><td>V<sub>SS</sub></td><td>0 V Ground</td></tr></table></div> | PIN NOMENCLATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                | A(N) | Address inputs | PD/PGM         | Power Down/Program | Q(N)        | Input/Output | V <sub>CC</sub>    | +5 V Power Supply | V <sub>pp</sub> | +25 V Power Supply | V <sub>SS</sub>   | 0 V Ground      | <div>2732</div> <div>EPROM 4k x 8</div> <div></div> <div>M2732A</div> | <div>TMS2564</div> <div>EPROM 8k x 8</div> <div></div> <div><sup>1</sup>V<sub>CC</sub> may be connected to pin 26 for 24-pin ROM compatibility.</div> <div><table><tr><th colspan="2">PIN NOMENCLATURE</th></tr><tr><td>A(N)</td><td>Address inputs</td></tr><tr><td>CS(N)</td><td>Chip Selects</td></tr><tr><td>PD/PGM</td><td>Power Down/Program</td></tr><tr><td>Q(N)</td><td>Input/Output</td></tr><tr><td>V<sub>CC</sub></td><td>+5 V Power Supply</td></tr><tr><td>V<sub>pp</sub></td><td>+25 V Power Supply</td></tr><tr><td>V<sub>SS</sub></td><td>0 V Ground</td></tr></table></div> | PIN NOMENCLATURE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | A(N)             | Address inputs | CS(N) | Chip Selects   | PD/PGM | Power Down/Program | Q(N)   | Input/Output       | V <sub>CC</sub> | +5 V Power Supply | V <sub>pp</sub> | +25 V Power Supply | V <sub>SS</sub> | 0 V Ground         |                 |            |
| PIN NOMENCLATURE                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| A(N)                                                                                                                                                                                                                                                                                                                                                                                                                                               | Address inputs                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| PD/PGM                                                                                                                                                                                                                                                                                                                                                                                                                                             | Power Down/Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| Q(N)                                                                                                                                                                                                                                                                                                                                                                                                                                               | Input/Output                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>CC</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | +5 V Power Supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>pp</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | +25 V Power Supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>SS</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0 V Ground                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| PIN NOMENCLATURE                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| A(N)                                                                                                                                                                                                                                                                                                                                                                                                                                               | Address inputs                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| CS(N)                                                                                                                                                                                                                                                                                                                                                                                                                                              | Chip Selects                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| PD/PGM                                                                                                                                                                                                                                                                                                                                                                                                                                             | Power Down/Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| Q(N)                                                                                                                                                                                                                                                                                                                                                                                                                                               | Input/Output                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>CC</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | +5 V Power Supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>pp</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | +25 V Power Supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |
| V <sub>SS</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0 V Ground                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                |      |                |                |                    |             |              |                    |                   |                 |                    |                   |                 |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  |                |       |                |        |                    |        |                    |                 |                   |                 |                    |                 |                    |                 |            |



## SPEICHER – EPROM 8 BIT – Teil 2

| 27x64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 27x128                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 27x256                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EPROM 8k x 8</b><br><p>Pinout for 27x64 EPROM (M2764A):<br/> V<sub>PP</sub> 1, A<sub>12</sub> 2, A<sub>7</sub> 3, A<sub>6</sub> 4, A<sub>5</sub> 5, A<sub>4</sub> 6, A<sub>3</sub> 7, A<sub>2</sub> 8, A<sub>1</sub> 9, A<sub>0</sub> 10, Q<sub>0</sub> 11, Q<sub>1</sub> 12, Q<sub>2</sub> 13, V<sub>SS</sub> 14, V<sub>CC</sub> 28, <math>\overline{P}</math> 27, NC 26, A<sub>8</sub> 25, A<sub>9</sub> 24, A<sub>11</sub> 23, <math>\overline{G}</math> 22, A<sub>10</sub> 21, <math>\overline{E}</math> 20, Q<sub>7</sub> 19, Q<sub>6</sub> 18, Q<sub>5</sub> 17, Q<sub>4</sub> 16, Q<sub>3</sub> 15.</p>                                                                                                        | <b>EPROM 16k x 8</b><br><p>Pinout for 27x128 EPROM:<br/> V<sub>PP</sub> 1, A<sub>12</sub> 2, A<sub>7</sub> 3, A<sub>6</sub> 4, A<sub>5</sub> 5, A<sub>4</sub> 6, A<sub>3</sub> 7, A<sub>2</sub> 8, A<sub>1</sub> 9, A<sub>0</sub> 10, Q<sub>0</sub> 11, Q<sub>1</sub> 12, Q<sub>2</sub> 13, V<sub>SS</sub> 14, V<sub>CC</sub> 28, <math>\overline{P}</math> 27, A<sub>13</sub> 26, A<sub>8</sub> 25, A<sub>9</sub> 24, A<sub>11</sub> 23, <math>\overline{G}</math> 22, A<sub>10</sub> 21, <math>\overline{E}</math> 20, Q<sub>7</sub> 19, Q<sub>6</sub> 18, Q<sub>5</sub> 17, Q<sub>4</sub> 16, Q<sub>3</sub> 15.</p>                                                                               | <b>EPROM 32k x 8</b><br><p>Pinout for 27x256 EPROM:<br/> V<sub>PP</sub> 1, A<sub>12</sub> 2, A<sub>7</sub> 3, A<sub>6</sub> 4, A<sub>5</sub> 5, A<sub>4</sub> 6, A<sub>3</sub> 7, A<sub>2</sub> 8, A<sub>1</sub> 9, A<sub>0</sub> 10, Q<sub>0</sub> 11, Q<sub>1</sub> 12, Q<sub>2</sub> 13, V<sub>SS</sub> 14, V<sub>CC</sub> 28, A<sub>14</sub> 27, A<sub>13</sub> 26, A<sub>8</sub> 25, A<sub>9</sub> 24, A<sub>11</sub> 23, <math>\overline{G}</math> 22, A<sub>10</sub> 21, <math>\overline{E}</math> 20, Q<sub>7</sub> 19, Q<sub>6</sub> 18, Q<sub>5</sub> 17, Q<sub>4</sub> 16, Q<sub>3</sub> 15.</p>                                                                              |
| 27x512                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 27x010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 27C301 / 27C1000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>EPROM 64k x 8</b><br><p>Pinout for 27x512 EPROM (M27C512):<br/> A<sub>15</sub> 1, A<sub>12</sub> 2, A<sub>7</sub> 3, A<sub>6</sub> 4, A<sub>5</sub> 5, A<sub>4</sub> 6, A<sub>3</sub> 7, A<sub>2</sub> 8, A<sub>1</sub> 9, A<sub>0</sub> 10, Q<sub>0</sub> 11, Q<sub>1</sub> 12, Q<sub>2</sub> 13, V<sub>SS</sub> 14, V<sub>CC</sub> 28, A<sub>14</sub> 27, A<sub>13</sub> 26, A<sub>8</sub> 25, A<sub>9</sub> 24, A<sub>11</sub> 23, <math>\overline{G}</math> 22, V<sub>PP</sub> 21, A<sub>10</sub> 20, <math>\overline{E}</math> 19, Q<sub>7</sub> 18, Q<sub>6</sub> 17, Q<sub>5</sub> 16, Q<sub>4</sub> 15, Q<sub>3</sub> 14.</p>                                                                                 | <b>EPROM 128k x 8</b><br><p>Pinout for 27x010 EPROM (M27C1001):<br/> V<sub>PP</sub> 1, A<sub>16</sub> 2, A<sub>15</sub> 3, A<sub>12</sub> 4, A<sub>7</sub> 5, A<sub>6</sub> 6, A<sub>5</sub> 7, A<sub>4</sub> 8, A<sub>3</sub> 9, A<sub>2</sub> 10, A<sub>1</sub> 11, A<sub>0</sub> 12, Q<sub>0</sub> 13, Q<sub>1</sub> 14, Q<sub>2</sub> 15, V<sub>SS</sub> 16, V<sub>CC</sub> 32, <math>\overline{P}</math> 31, NC 30, A<sub>14</sub> 29, A<sub>13</sub> 28, A<sub>8</sub> 27, A<sub>9</sub> 26, A<sub>11</sub> 25, <math>\overline{G}</math> 24, A<sub>10</sub> 23, <math>\overline{E}</math> 22, Q<sub>7</sub> 21, Q<sub>6</sub> 20, Q<sub>5</sub> 19, Q<sub>4</sub> 18, Q<sub>3</sub> 17.</p>   | <b>EPROM 128k x 8 non JEDEC</b><br><p>Pinout for 27C301 / 27C1000 EPROM:<br/> V<sub>PP</sub> 1, <math>\overline{OE}</math> 2, A<sub>15</sub> 3, A<sub>12</sub> 4, A<sub>7</sub> 5, A<sub>6</sub> 6, A<sub>5</sub> 7, A<sub>4</sub> 8, A<sub>3</sub> 9, A<sub>2</sub> 10, A<sub>1</sub> 11, A<sub>0</sub> 12, Q<sub>0</sub> 13, Q<sub>1</sub> 14, Q<sub>2</sub> 15, GND 16, V<sub>CC</sub> 32, PGM 31, NC 30, A<sub>14</sub> 29, A<sub>13</sub> 28, A<sub>8</sub> 27, A<sub>9</sub> 26, A<sub>11</sub> 25, A<sub>16</sub> 24, A<sub>10</sub> 23, <math>\overline{CE}</math> 22, Q<sub>7</sub> 21, Q<sub>6</sub> 20, Q<sub>5</sub> 19, Q<sub>4</sub> 18, Q<sub>3</sub> 17.</p>             |
| 27x020 / 27C2001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 27C040 / 27C4001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 27C080                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>EPROM 256k x 8</b><br><p>Pinout for 27x020 / 27C2001 EPROM (M27C2001):<br/> V<sub>PP</sub> 1, A<sub>16</sub> 2, A<sub>15</sub> 3, A<sub>12</sub> 4, A<sub>7</sub> 5, A<sub>6</sub> 6, A<sub>5</sub> 7, A<sub>4</sub> 8, A<sub>3</sub> 9, A<sub>2</sub> 10, A<sub>1</sub> 11, A<sub>0</sub> 12, Q<sub>0</sub> 13, Q<sub>1</sub> 14, Q<sub>2</sub> 15, V<sub>SS</sub> 16, V<sub>CC</sub> 32, <math>\overline{P}</math> 31, A<sub>17</sub> 30, A<sub>14</sub> 29, A<sub>13</sub> 28, A<sub>8</sub> 27, A<sub>9</sub> 26, A<sub>11</sub> 25, <math>\overline{G}</math> 24, A<sub>10</sub> 23, <math>\overline{E}</math> 22, Q<sub>7</sub> 21, Q<sub>6</sub> 20, Q<sub>5</sub> 19, Q<sub>4</sub> 18, Q<sub>3</sub> 17.</p> | <b>EPROM 512k x 8</b><br><p>Pinout for 27C040 / 27C4001 EPROM:<br/> V<sub>PP</sub> 1, A<sub>16</sub> 2, A<sub>15</sub> 3, A<sub>12</sub> 4, A<sub>7</sub> 5, A<sub>6</sub> 6, A<sub>5</sub> 7, A<sub>4</sub> 8, A<sub>3</sub> 9, A<sub>2</sub> 10, A<sub>1</sub> 11, A<sub>0</sub> 12, Q<sub>0</sub> 13, Q<sub>1</sub> 14, Q<sub>2</sub> 15, GND 16, V<sub>CC</sub> 32, A<sub>18</sub> 31, A<sub>17</sub> 30, A<sub>14</sub> 29, A<sub>13</sub> 28, A<sub>8</sub> 27, A<sub>9</sub> 26, A<sub>11</sub> 25, <math>\overline{OE}</math> 24, A<sub>10</sub> 23, <math>\overline{CE}/\text{PGM}</math> 22, Q<sub>7</sub> 21, Q<sub>6</sub> 20, Q<sub>5</sub> 19, Q<sub>4</sub> 18, Q<sub>3</sub> 17.</p> | <b>EPROM 1M x 8</b><br><p>Pinout for 27C080 EPROM:<br/> A<sub>19</sub> 1, A<sub>16</sub> 2, A<sub>15</sub> 3, A<sub>12</sub> 4, A<sub>7</sub> 5, A<sub>6</sub> 6, A<sub>5</sub> 7, A<sub>4</sub> 8, A<sub>3</sub> 9, A<sub>2</sub> 10, A<sub>1</sub> 11, A<sub>0</sub> 12, Q<sub>0</sub> 13, Q<sub>1</sub> 14, Q<sub>2</sub> 15, GND 16, V<sub>CC</sub> 32, A<sub>18</sub> 31, A<sub>17</sub> 30, A<sub>14</sub> 29, A<sub>13</sub> 28, A<sub>8</sub> 27, A<sub>9</sub> 26, A<sub>11</sub> 25, <math>\overline{OE}/\text{VPP}</math> 24, A<sub>10</sub> 23, <math>\overline{CE}</math> 22, Q<sub>7</sub> 21, Q<sub>6</sub> 20, Q<sub>5</sub> 19, Q<sub>4</sub> 18, Q<sub>3</sub> 17.</p> |



## SPEICHER – EPROM 16 BIT JEDEC

| 27C1024  | 27C2048 / 27C202 | 27C4096 / 27C4002 /<br>27C240 / 27C402 |
|----------|------------------|----------------------------------------|
| 64k x 16 | 128k x 16        | 256k x 16                              |
|          |                  |                                        |

## SPEICHER – FLASH PROM 8 BIT

| 29F010         | 29F020/002     | 29F040                                    |
|----------------|----------------|-------------------------------------------|
| Flash 128k x 8 | Flash 256k x 8 | Flash 512k x 8<br>Nicht EPROM kompatibel! |
|                |                |                                           |





## SPEICHER – EPROM 16 BIT MASK-PROM kompatibel

| MX27C1100                      | MX27C2100                       | MX27C4100 / HN27C4000           |
|--------------------------------|---------------------------------|---------------------------------|
| <b>64k x 16 / 128k x 8</b><br> | <b>128k x 16 / 256k x 8</b><br> | <b>256k x 16 / 512k x 8</b><br> |
| 27C800                         | 27C160                          | 27C322                          |
| <b>512k x 16 / 1M x 8</b><br>  | <b>1M x 16 / 2M x 8</b><br>     | <b>2M x 16</b><br>              |





## SPEICHER – MASK PROM

| MB831000                 |  | MB832000         |  | MB834000         |  |
|--------------------------|--|------------------|--|------------------|--|
| 128k x 8                 |  | 256k x 8         |  | 512k x 8         |  |
|                          |  |                  |  |                  |  |
| TC538200                 |  | TC5316200        |  | TC5332202        |  |
| 512k x 16 / 1M x 8       |  | 1M x 16 / 2M x 8 |  | 2M x 16 / 4M x 8 |  |
|                          |  |                  |  |                  |  |
| TC538200P                |  | TC5316200AP      |  | TC5332202AP      |  |
| HY23C64100 64 Mbit MPROM |  |                  |  |                  |  |
| 4M X 16                  |  |                  |  |                  |  |
|                          |  |                  |  |                  |  |

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09.10.2018

28.07.2014

v. 1.0

EPROM PINBELEGUNGSÜBERSICHT 16 Bit Typen

28.07.2014



## SPEICHER – Statisches RAM (SRAM)

|                                        |                                      |                                       |
|----------------------------------------|--------------------------------------|---------------------------------------|
| <p><b>μPD5101</b><br/>256 x 4 SRAM</p> | <p><b>2114</b><br/>1024 x 4 SRAM</p> | <p><b>6116</b><br/>2k x 8 SRAM</p>    |
| <p><b>6164</b><br/>8k x 8 SRAM</p>     | <p><b>61256</b><br/>32k x 8 SRAM</p> | <p><b>61512</b><br/>64k x 8 SRAM</p>  |
| <p><b>93410</b><br/>256 x 1 SRAM</p>   | <p><b>UM6114</b><br/>1k x 4 SRAM</p> | <p><b>NTE2102</b><br/>1k x 1 SRAM</p> |



## SPEICHER – Statisches RAM (SRAM) Teil 2

| 2147        | 2148                      | 2149        |
|-------------|---------------------------|-------------|
| 4k x 1 SRAM | 1k x 4 SRAM w. Power Down | 1k x 4 SRAM |
|             |                           |             |
|             |                           |             |
|             |                           |             |



## SPEICHER – Dynamisches RAM (DRAM)

| MB8116 TMS4116                                                 | MB8118                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4164               |
|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| <p>16kx1 DRAM<br/>Triple supply</p>                            | <p>16kx1 DRAM<br/>Single supply</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <p>64kx1 DRAM</p>  |
| μPD41256                                                       | M5M4464AL                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |
| <p>256kx1 DRAM</p>                                             | <p>64kx4 DRAM</p> <p>DATA IN/ DATA OUT { DQ3 ↔ 1, DQ4 ↔ 3, DQ1 ↔ 6, DQ2 ↔ 7 }<br/>         OUTPUT ENABLE INPUT OE → 5<br/>         DATA IN/ DATA OUT { DQ3 ↔ 1, DQ4 ↔ 3, DQ1 ↔ 6, DQ2 ↔ 7 }<br/>         ROW ADDRESS STROBE INPUT RAS → 9<br/>         ADDRESS INPUT A5 → 13<br/>         ADDRESS INPUTS { A3 → 17, A1 → 19 }<br/>         ADDRESS INPUTS { A6 → 12, A4 → 14, A7 → 16, A0 → 20 }<br/>         NC: NO CONNECTION<br/>         NP: NO PIN</p> <p>Outline 20P5L-A(ZIP)</p> |                    |
| 61464                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | TMS4060            |
| <p>64k x 4 DRAM</p> <p>• KM41464AP • KM41464AJ • KM41464AZ</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>4k x 1 DRAM</p> |





## SPEICHER – PROM BIPOLAR – Teil 1

|                                                     |                                                         |                                                                   |
|-----------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------|
| <b>N82S123 / MMI 6331 / IM5610</b><br>32 x 8 TS<br> | <b>N82S126 / 7610</b><br>256 x 4 OC<br>                 | <b>N82S129 / MMI 6301 / MMI 63s141 / IM5623</b><br>256 x 4 TS<br> |
| <b>N82S131 / AM27S13 / 93466</b><br>512 x 4 TS<br>  | <b>N82S137 / 63S441 / HM1-7643-5</b><br>1024 x 4 TS<br> | <b>N82S141 / MMI-6341-1J</b><br>512 x 8 TS<br>                    |
| <b>N82s153 / PLS153</b><br>PLA 80x42x10<br>         | <b>N82S181 / HM1-7631-5</b><br>1024 x 8 TS<br>          | <b>N82S185 / HM1-7685-5</b><br>2048 x 4 TS<br>                    |


**SPEICHER – PROM BIPOLAR – Teil 2**

| N82S191 / AM27S191                                                                                                                                                                                                                                                                                                                                                                                                             | N82S195 / HM1-76165-5                                                                                                                                                                                                                                                                                                                                  | N82S23                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2048 x 8                                                                                                                                                                                                                                                                                                                                                                                                                       | 4096 x 4                                                                                                                                                                                                                                                                                                                                               | 32 x 8 OC                                                                                                                                                                                                                                                       |
| <p> A<sub>7</sub> 1, A<sub>6</sub> 2, A<sub>5</sub> 3, A<sub>4</sub> 4, A<sub>3</sub> 5, A<sub>2</sub> 6, A<sub>1</sub> 7, A<sub>0</sub> 8, D<sub>7</sub> 9, D<sub>6</sub> 10, D<sub>5</sub> 11, GND 12, VCC 24, A<sub>9</sub> 23, A<sub>8</sub> 22, A<sub>10</sub> 21, CE<sub>1</sub> 20, CE<sub>2</sub> 19, CE<sub>3</sub> 18, Q<sub>9</sub> 17, Q<sub>7</sub> 16, Q<sub>6</sub> 15, Q<sub>5</sub> 14, Q<sub>4</sub> 13 </p> | <p> A<sub>9</sub> 1, A<sub>7</sub> 2, A<sub>6</sub> 3, A<sub>5</sub> 4, A<sub>4</sub> 5, A<sub>3</sub> 6, A<sub>2</sub> 7, A<sub>1</sub> 8, A<sub>0</sub> 9, GND 10, VCC 20, A<sub>8</sub> 19, A<sub>10</sub> 18, A<sub>11</sub> 17, CE<sub>1</sub> 16, CE<sub>2</sub> 15, Q<sub>1</sub> 14, Q<sub>2</sub> 13, Q<sub>3</sub> 12, Q<sub>4</sub> 11 </p> | <p> O<sub>7</sub> 1, O<sub>6</sub> 2, O<sub>5</sub> 3, O<sub>4</sub> 4, O<sub>3</sub> 5, O<sub>2</sub> 6, O<sub>1</sub> 7, GND 8, VCC 16, CE 15, A<sub>4</sub> 14, A<sub>3</sub> 13, A<sub>2</sub> 12, A<sub>1</sub> 11, A<sub>0</sub> 10, O<sub>8</sub> 9 </p> |

| 8080                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                           | 8085                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INTEL 8 Bit CPU                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                           | 8 Bit CPU                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                     |
| (GND)                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>A<sub>10</sub> 1</p> <p>V<sub>SS</sub> 2</p> <p>D<sub>4</sub> 3</p> <p>D<sub>5</sub> 4</p> <p>D<sub>6</sub> 5</p> <p>D<sub>7</sub> 6</p> <p>D<sub>3</sub> 7</p> <p>D<sub>2</sub> 8</p> <p>D<sub>1</sub> 9</p> <p>D<sub>0</sub> 10</p> <p>(-5V) V<sub>BB</sub> 11</p> <p>Reset 12</p> <p>Hold 13</p> <p>INT 14</p> <p>Phase<sub>2</sub> 15</p> <p>INTE 16</p> <p>DBIN 17</p> <p>WR 18</p> <p>Sync 19</p> <p>(+5V) V<sub>CC</sub> 20</p> | <p>40 A<sub>11</sub></p> <p>39 A<sub>14</sub></p> <p>38 A<sub>13</sub></p> <p>37 A<sub>12</sub></p> <p>36 A<sub>15</sub></p> <p>35 A<sub>9</sub></p> <p>34 A<sub>8</sub></p> <p>33 A<sub>7</sub></p> <p>32 A<sub>6</sub></p> <p>31 A<sub>5</sub></p> <p>30 A<sub>4</sub></p> <p>29 A<sub>3</sub></p> <p>28 V<sub>DD</sub> (+12V)</p> <p>27 A<sub>2</sub></p> <p>26 A<sub>1</sub></p> <p>25 A<sub>0</sub></p> <p>24 Wait</p> <p>23 Ready</p> <p>22 Phase<sub>1</sub></p> <p>21 HLDA</p> |                                                                                                                                                                                                                                                                                                                                                                                     |
| Z80                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                           | 8088                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                     |
| ZILOG 8 Bit CPU                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                           | Intel 8/16-Bit CPU                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>A<sub>11</sub> 1</p> <p>A<sub>12</sub> 2</p> <p>A<sub>13</sub> 3</p> <p>A<sub>14</sub> 4</p> <p>A<sub>15</sub> 5</p> <p>CLK 6</p> <p>D<sub>4</sub> 7</p> <p>D<sub>3</sub> 8</p> <p>D<sub>5</sub> 9</p> <p>D<sub>6</sub> 10</p> <p>+5V 11</p> <p>D<sub>2</sub> 12</p> <p>D<sub>7</sub> 13</p> <p>D<sub>0</sub> 14</p> <p>D<sub>1</sub> 15</p> <p>INT 16</p> <p>NMI 17</p> <p>Halt 18</p> <p>MREQ 19</p> <p>I/OREQ 20</p> | <p>40 A<sub>10</sub></p> <p>39 A<sub>9</sub></p> <p>38 A<sub>8</sub></p> <p>37 A<sub>7</sub></p> <p>36 A<sub>6</sub></p> <p>35 A<sub>5</sub></p> <p>34 A<sub>4</sub></p> <p>33 A<sub>3</sub></p> <p>32 A<sub>2</sub></p> <p>31 A<sub>1</sub></p> <p>30 A<sub>0</sub></p> <p>29 GND</p> <p>28 RFSH</p> <p>27 M1</p> <p>26 Reset</p> <p>25 BUSREQ</p> <p>24 Wait</p> <p>23 BUSACK</p> <p>22 WR</p> <p>21 RD</p>                             | <p>GND 1</p> <p>A14 2</p> <p>A13 3</p> <p>A12 4</p> <p>A11 5</p> <p>A10 6</p> <p>A9 7</p> <p>A8 8</p> <p>AD7 9</p> <p>AD6 10</p> <p>AD5 11</p> <p>AD4 12</p> <p>AD3 13</p> <p>AD2 14</p> <p>AD1 15</p> <p>AD0 16</p> <p>NMI 17</p> <p>INTR 18</p> <p>CLK 19</p> <p>GND 20</p>                                                                                                                                                                                                          | <p>40 V<sub>CC</sub></p> <p>39 A15</p> <p>38 A16/S3</p> <p>37 A17/S4</p> <p>36 A18/S5</p> <p>35 A19/S6</p> <p>34 SS0 (HIGH)</p> <p>33 MN/MX</p> <p>32 RD</p> <p>31 HOLD (RQ/GT0)</p> <p>30 HLDA (RQ/GT1)</p> <p>29 WR (LOCK)</p> <p>28 IO/M (S2)</p> <p>27 DT/R (S1)</p> <p>26 DEN (S0)</p> <p>25 ALE (QS0)</p> <p>24 INTA (QS1)</p> <p>23 TEST</p> <p>22 READY</p> <p>21 RESET</p> |



## PROZESSOREN 8 BIT – Teil 2

| 6502                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6510                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MOS 8 Bit CPU                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                           | MOS 8 Bit CPU                                                                                                                                                                                                               |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                                                                                                                                                                         |
| V <sub>SS</sub> 1<br>RDY 2<br>Phase <sub>1</sub> (Out) 3<br>$\overline{\text{IRQ}}$ 4<br>Not connected 5<br>$\overline{\text{NMI}}$ 6<br>Sync 7<br>V <sub>CC</sub> 8<br>AB <sub>0</sub> 9<br>AB <sub>1</sub> 10<br>AB <sub>2</sub> 11<br>AB <sub>3</sub> 12<br>AB <sub>4</sub> 13<br>AB <sub>5</sub> 14<br>AB <sub>6</sub> 15<br>AB <sub>7</sub> 16<br>AB <sub>8</sub> 17<br>AB <sub>9</sub> 18<br>AB <sub>10</sub> 19<br>AB <sub>11</sub> 20 | 40 $\overline{\text{RES}}$<br>39 Phase <sub>2</sub><br>38 SO<br>37 Phase <sub>0</sub><br>36 Not connected<br>35 Not connected<br>34 R/W<br>33 DB <sub>0</sub><br>32 DB <sub>1</sub><br>31 DB <sub>2</sub><br>30 DB <sub>3</sub><br>29 DB <sub>4</sub><br>28 DB <sub>5</sub><br>27 DB <sub>6</sub><br>26 DB <sub>7</sub><br>25 AB <sub>15</sub><br>24 AB <sub>14</sub><br>23 AB <sub>13</sub><br>22 AB <sub>12</sub><br>21 V <sub>SS</sub> | 1 $\phi$ 0 in<br>2 RDY<br>3 $\overline{\text{IRQ}}$<br>4 NMI<br>5 AEC<br>6 UCC<br>7 A 0<br>8 A 1<br>9 A 2<br>10 A 3<br>11 A 4<br>12 A 5<br>13 A 6<br>14 A 7<br>15 A 8<br>16 A 9<br>17 A 10<br>18 A 11<br>19 A 12<br>20 A 13 | 40 $\overline{\text{RES}}$<br>39 $\phi$ 2 out<br>38 R/W<br>37 D 0<br>36 D 1<br>35 D 2<br>34 D 3<br>33 D 4<br>32 D 5<br>31 D 6<br>30 D 7<br>29 P 0<br>28 P 1<br>27 P 2<br>26 P 3<br>25 P 4<br>24 P 5<br>23 A 15<br>22 A 14<br>21 GND     |
| 6522                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6532                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |
| VIA – Versatile Interface Adapter                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                           | RIOT – RAM-IO-Timer                                                                                                                                                                                                         |                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                                                                                                                                                                         |
| V <sub>SS</sub> 1<br>PA0 2<br>PA1 3<br>PA2 4<br>PA3 5<br>PA4 6<br>PA5 7<br>PA6 8<br>PA7 9<br>PB0 10<br>PB1 11<br>PB2 12<br>PB3 13<br>PB4 14<br>PB5 15<br>PB6 16<br>PB7 17<br>CB1 18<br>CB2 19<br>V <sub>CC</sub> 20                                                                                                                                                                                                                           | 40 CA1<br>39 CA2<br>38 RS0<br>37 RS1<br>36 RS2<br>35 RS3<br>34 $\overline{\text{RES}}$<br>33 D0<br>32 D1<br>31 D2<br>30 D3<br>29 D4<br>28 D5<br>27 D6<br>26 D7<br>25 $\phi$ 2<br>24 CS1<br>23 CS2<br>22 R/W<br>21 $\overline{\text{IRQ}}$                                                                                                                                                                                                 | 1 V <sub>SS</sub><br>2 A5<br>3 A4<br>4 A3<br>5 A2<br>6 A1<br>7 A0<br>8 PA0<br>9 PA1<br>10 PA2<br>11 PA3<br>12 PA4<br>13 PA5<br>14 PA6<br>15 PA7<br>16 PB7<br>17 PB6<br>18 PB5<br>19 PB4<br>20 V <sub>CC</sub>               | 40 A6<br>39 $\phi$ 2<br>38 CS1<br>37 CS2<br>36 RS<br>35 R/W<br>34 $\overline{\text{RES}}$<br>33 D0<br>32 D1<br>31 D2<br>30 D3<br>29 D4<br>28 D5<br>27 D6<br>26 D7<br>25 $\overline{\text{IRQ}}$<br>24 PB0<br>23 PB1<br>22 PB2<br>21 PB3 |
| R6522 Pin Configuration                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                             |                                                                                                                                                                                                                                         |

[illegible]



## PROZESSOREN 16 BIT

**MOTOROLA 68000**

| Pin | Signal          | Pin | Signal          |
|-----|-----------------|-----|-----------------|
| 1   | D <sub>4</sub>  | 64  | D <sub>5</sub>  |
| 2   | D <sub>3</sub>  | 63  | D <sub>6</sub>  |
| 3   | D <sub>2</sub>  | 62  | D <sub>7</sub>  |
| 4   | D <sub>1</sub>  | 61  | D <sub>8</sub>  |
| 5   | D <sub>0</sub>  | 60  | D <sub>9</sub>  |
| 6   | AS              | 59  | D <sub>10</sub> |
| 7   | UDS             | 58  | D <sub>11</sub> |
| 8   | LDS             | 57  | D <sub>12</sub> |
| 9   | R/W             | 56  | D <sub>13</sub> |
| 10  | DTACK           | 55  | D <sub>14</sub> |
| 11  | BG              | 54  | D <sub>15</sub> |
| 12  | BGACK           | 53  | GND             |
| 13  | BR              | 52  | A <sub>23</sub> |
| 14  | V <sub>CC</sub> | 51  | A <sub>22</sub> |
| 15  | CLK             | 50  | A <sub>21</sub> |
| 16  | GND             | 49  | V <sub>CC</sub> |
| 17  | HALT            | 48  | A <sub>20</sub> |
| 18  | Reset           | 47  | A <sub>19</sub> |
| 19  | VMA             | 46  | A <sub>18</sub> |
| 20  | E               | 45  | A <sub>17</sub> |
| 21  | VPA             | 44  | A <sub>16</sub> |
| 22  | BERR            | 43  | A <sub>15</sub> |
| 23  | IPL2            | 42  | A <sub>14</sub> |
| 24  | IPL1            | 41  | A <sub>13</sub> |
| 25  | IPL0            | 40  | A <sub>12</sub> |
| 26  | FC2             | 39  | A <sub>11</sub> |
| 27  | FC1             | 38  | A <sub>10</sub> |
| 28  | FC0             | 37  | A <sub>9</sub>  |
| 29  | A <sub>1</sub>  | 36  | A <sub>8</sub>  |
| 30  | A <sub>2</sub>  | 35  | A <sub>7</sub>  |
| 31  | A <sub>3</sub>  | 34  | A <sub>6</sub>  |
| 32  | A <sub>4</sub>  | 33  | A <sub>5</sub>  |

**TI 16 Bit CPU**

| Pin | Signal          | Pin | Signal          |
|-----|-----------------|-----|-----------------|
| 1   | V <sub>BB</sub> | 64  | Hold            |
| 2   | V <sub>CC</sub> | 63  | MEMEN           |
| 3   | Wait            | 62  | Ready           |
| 4   | Load            | 61  | WE              |
| 5   | HOLDA           | 60  | CRUCLK          |
| 6   | Reset           | 59  | V <sub>CC</sub> |
| 7   | IAQ             | 58  | Not connected   |
| 8   | Phase 1         | 57  | Not connected   |
| 9   | Phase 2         | 56  | D <sub>15</sub> |
| 10  | A <sub>14</sub> | 55  | D <sub>14</sub> |
| 11  | A <sub>13</sub> | 54  | D <sub>13</sub> |
| 12  | A <sub>12</sub> | 53  | D <sub>12</sub> |
| 13  | A <sub>11</sub> | 52  | D <sub>11</sub> |
| 14  | A <sub>10</sub> | 51  | D <sub>10</sub> |
| 15  | A <sub>9</sub>  | 50  | D <sub>9</sub>  |
| 16  | A <sub>8</sub>  | 49  | D <sub>8</sub>  |
| 17  | A <sub>7</sub>  | 48  | D <sub>7</sub>  |
| 18  | A <sub>6</sub>  | 47  | D <sub>6</sub>  |
| 19  | A <sub>5</sub>  | 46  | D <sub>5</sub>  |
| 20  | A <sub>4</sub>  | 45  | D <sub>4</sub>  |
| 21  | A <sub>3</sub>  | 44  | D <sub>3</sub>  |
| 22  | A <sub>2</sub>  | 43  | D <sub>2</sub>  |
| 23  | A <sub>1</sub>  | 42  | D <sub>1</sub>  |
| 24  | A <sub>0</sub>  | 41  | D <sub>0</sub>  |
| 25  | Phase 4         | 40  | V <sub>SS</sub> |
| 26  | V <sub>SS</sub> | 39  | Not connected   |
| 27  | V <sub>DD</sub> | 38  | Not connected   |
| 28  | Phase 3         | 37  | Not connected   |
| 29  | DBIN            | 36  | IC <sub>0</sub> |
| 30  | CRUOUT          | 35  | IC <sub>1</sub> |
| 31  | CRUIN           | 34  | IC <sub>2</sub> |
| 32  | INTREQ          | 33  | IC <sub>3</sub> |

Quelle: <http://www.cpu-world.com/info/Pinouts/>





## PROZESSOREN Sonstige

| Z8002                         | 6809                         |
|-------------------------------|------------------------------|
| <p>ZILOG Z8000 16-Bit CPU</p> | <p>Motorola 8-Bit CPU</p>    |
| HD46505                       | 2C03B                        |
| <p>CRT Controller</p>         | <p>PAL Grafik Controller</p> |



## Audio Generatoren

| AY-3-8910 / YM2149                                   | YM2151                                             |
|------------------------------------------------------|----------------------------------------------------|
| <p><b>Audio Generator + Port</b></p> <p>Top View</p> | <p><b>FM Sound Generator</b></p> <p>• Top View</p> |
| YM3012                                               | MSM5205                                            |
| <p><b>Stereo DAC</b></p>                             | <p><b>Speech Synthesizer</b></p>                   |
| SN76489                                              | MSM6295                                            |
| <p><b>Sound Generator</b></p>                        | <p><b>Voice Synthesis IC</b></p>                   |

**Audio Generatoren**

| YM3014B                                                                                                                                                                                                                                                                                                                              |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <p>Serial D/A Converter</p> <p>Pinout diagram of the YM3014B Serial D/A Converter:</p> <ul style="list-style-type: none"><li>Pin 1: VDD</li><li>Pin 2: T0 BUFF</li><li>Pin 3: LOAD</li><li>Pin 4: SD</li><li>Pin 5: <math>\phi</math> I CLOCK</li><li>Pin 6: GND (<math>V_{ss}</math>)</li><li>Pin 7: RB</li><li>Pin 8: MP</li></ul> |  |

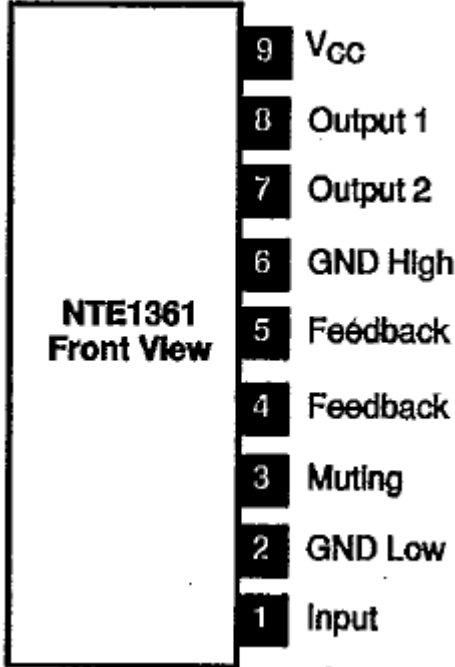
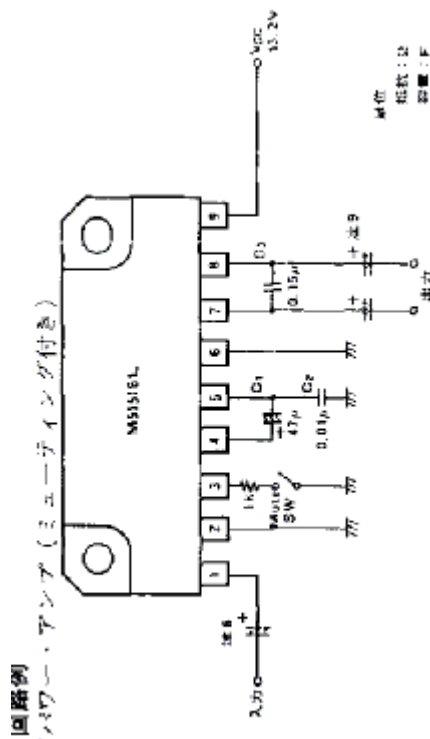
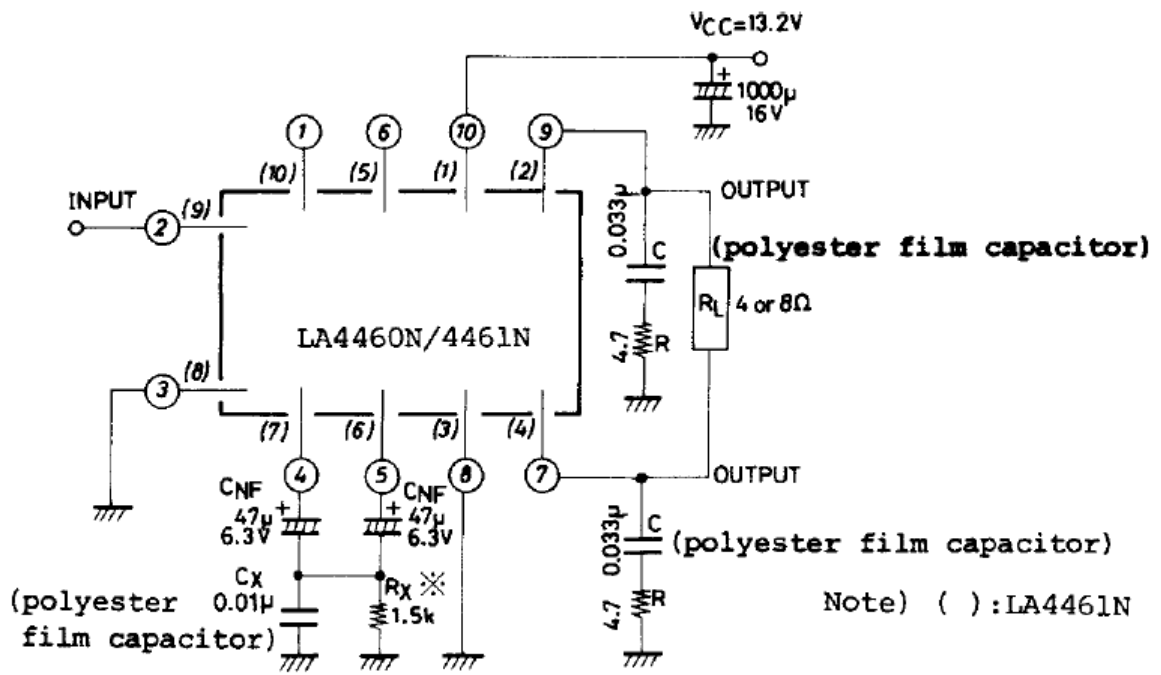


## Analog ICs und Audio-Verstärker

|                                                                       |                                                    |
|-----------------------------------------------------------------------|----------------------------------------------------|
| <p><b>LM324</b><br/>Quad OP-AMP</p>                                   | <p><b>LM380</b><br/>Amp 2,5W</p>                   |
| <p><b>NE555</b><br/>Timer / Multivibrator</p>                         | <p><b>NE556</b><br/>Dual Timer / Multivibrator</p> |
| <p><b>μPC1181/1182</b><br/>12V 9W</p> <p>μPC1182H REVERSE PINNING</p> | <p><b>LA6358</b><br/>Dual-OPAMP</p> <p>LA6358N</p> |



## Analog ICs und Audio-Verstärker – Teil 2

| NTE1361                                                                                                                                                                                                                                                                                                                                                                                                                                             | M51516L                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>12W 18V</p>  <p><b>NTE1361<br/>Front View</b></p> <p>9 Vcc<br/>8 Output 1<br/>7 Output 2<br/>6 GND High<br/>5 Feedback<br/>4 Feedback<br/>3 Muting<br/>2 GND Low<br/>1 Input</p>                                                                                                                                                                               | <p>12W 18V</p>  <p><b>M51516L</b></p> <p>12Wパワースピーカアンプ (ミニステライジング付)</p> |
| LA4460/4461                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                            |
| <p>12W max. 18V</p>  <p><b>LA4460N/4461N</b></p> <p>INPUT (2) (9) (10) (5) (1) (2) OUTPUT (polyester film capacitor) <math>R_L</math> 4 or 8Ω</p> <p>OUTPUT (polyester film capacitor) <math>C</math> 0.033μ</p> <p>6.3V 47μ CNF 4.7μ R 0.01μ Cx 1.5k <math>R_X</math>※</p> <p>Note) ( ): LA4461N</p> <p><math>R_X</math>※ is for starting time adjustment.</p> |                                                                                                                                                            |



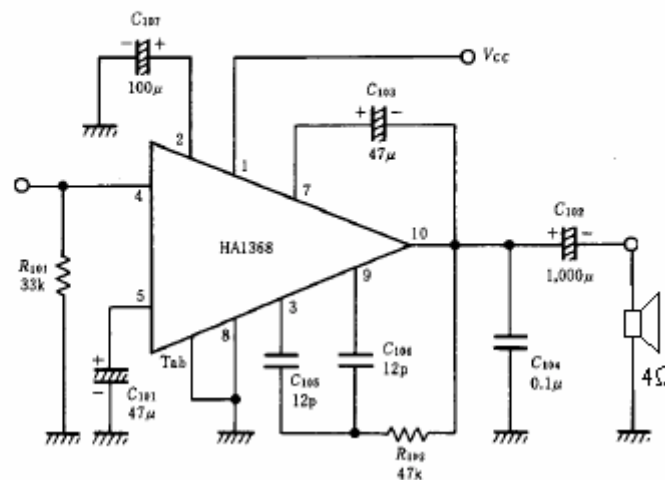
## Analog ICs und Audio-Verstärker – Teil 3

## HA1368

5,3W

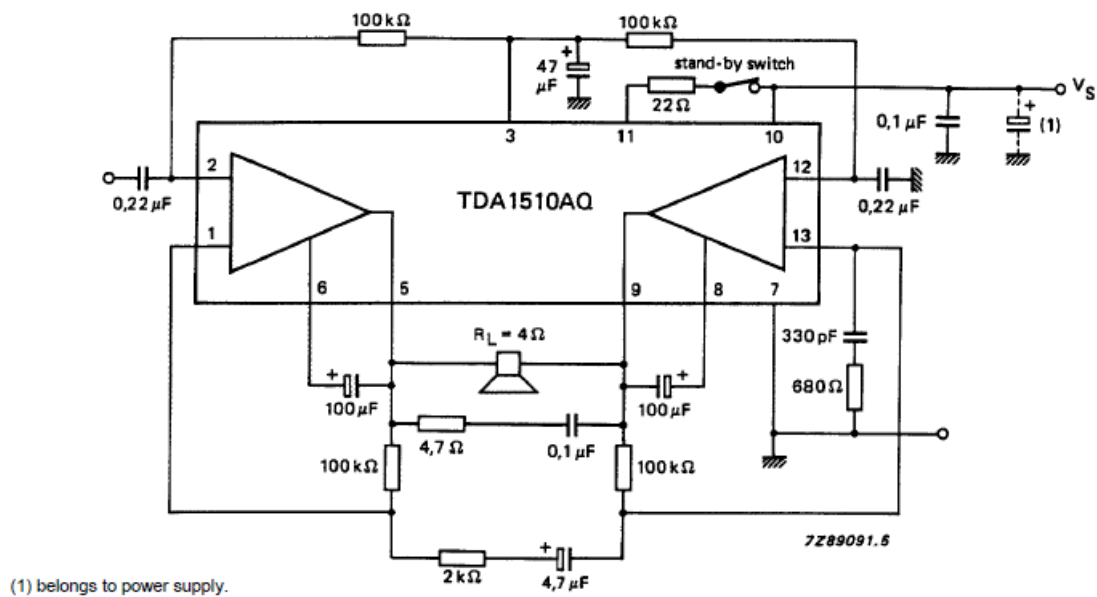
HA 1368 = Standard Pinout

HA 1368/R = Reverse Pinout



## TDA1510

24W Bridge Amplifier



(1) belongs to power supply.

Fig.3 Test and application circuit; Bridge Tied Load (BTL).



### Analog ICs und Audio-Verstärker – Teil 4

| LM3900        |  |
|---------------|--|
| Quad OpAMP 5V |  |
|               |  |