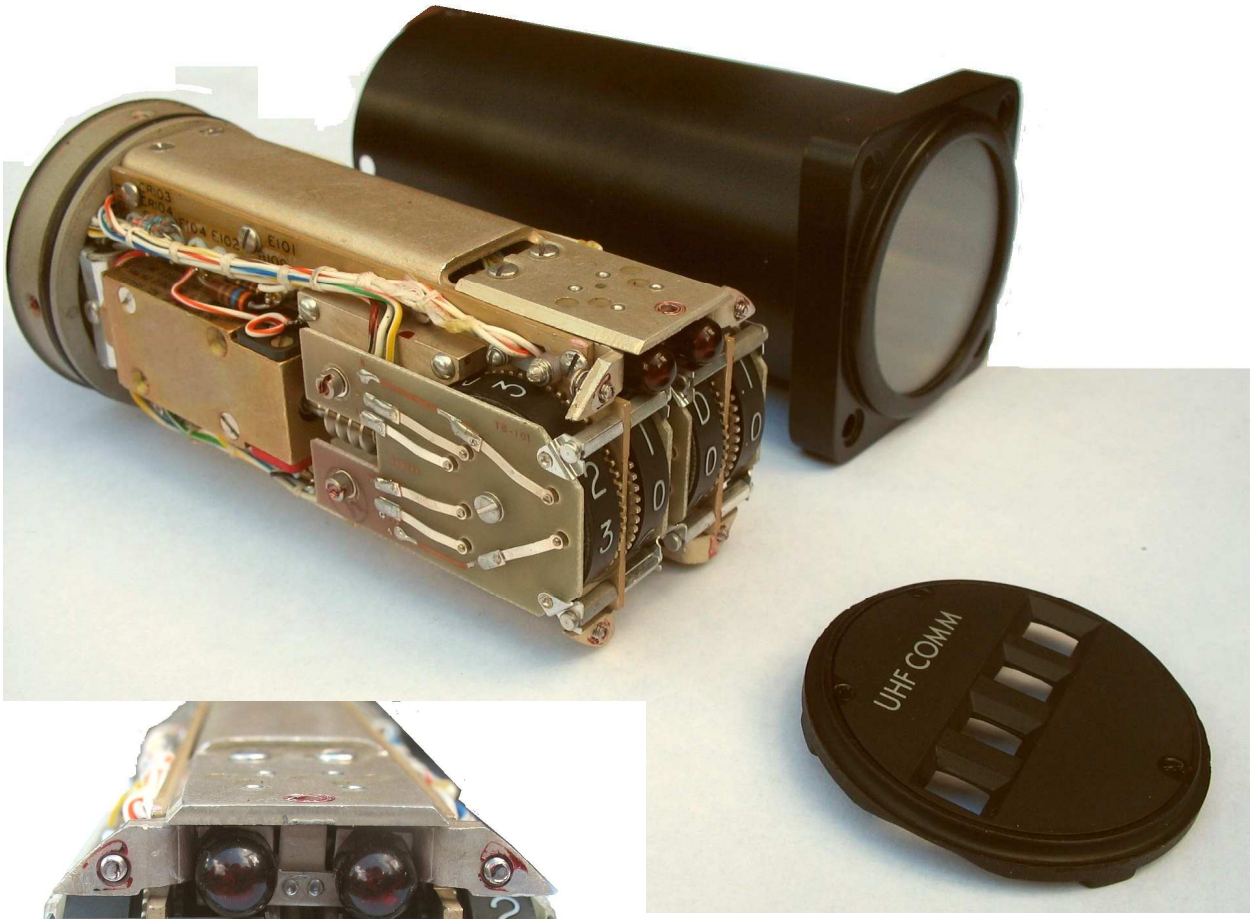
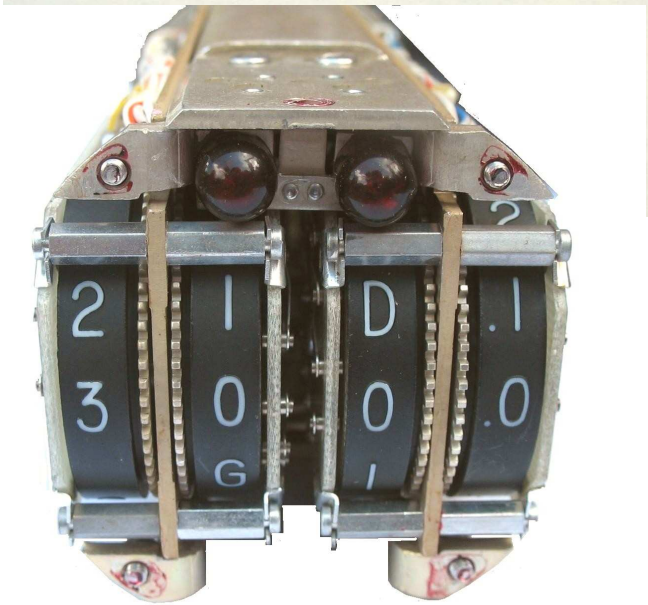
ID-573/ARC

The frequency indicator **ID-573/ARC** is actuated by he control box type C-**1057B/(ARC-34)**. This type indicator is constructed so that additional indicators may be slaved, in series relationship, from previous indicators. Normally, all track the tuning and indicate the tuned frequency. However, when the +27V for a slave is interrupted, the slave "stores" the last displayed frequency to "remember" temporary used frequencies during flight. (Patent US3775690)
The electromechanical indicator ID-573/ARC requires slightly less than 1.2 seconds to completely change indication from 225.0 to 399.9, thus for this type indicator, the 27.5V must be maintained for approximately this length of time so that the recall indicator can change to the tuned indication.



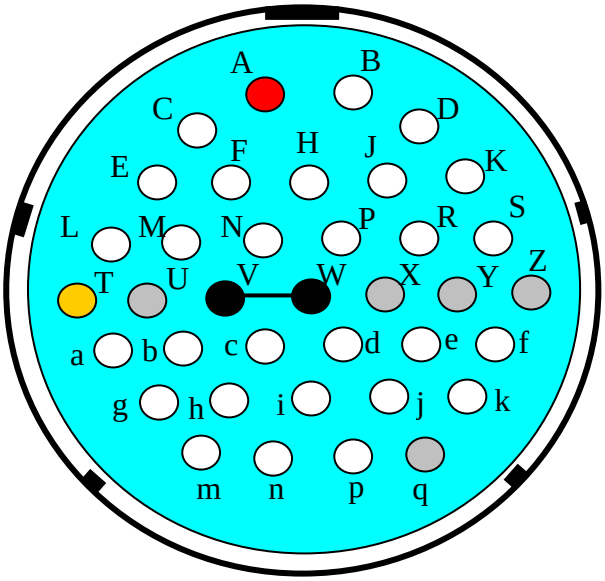


All four discs rotate in 30 deg steps
over 12 positions marked:
Disc 1: 2 3 * 2 3 * 2 3 * 2 3 *
Disc 2: G 0 1 2 3 4 5 6 7 8 9 *
Disc 3: D 0 1 2 3 4 5 6 7 8 9 *
Disc 4: * 0 1 2 3 4 5 6 7 8 9 *
* no character
Illumination by 6 (red) lamps 4.5V/65mA,
1 inside each disc, and two on top to
illuminate "UHF COMM"

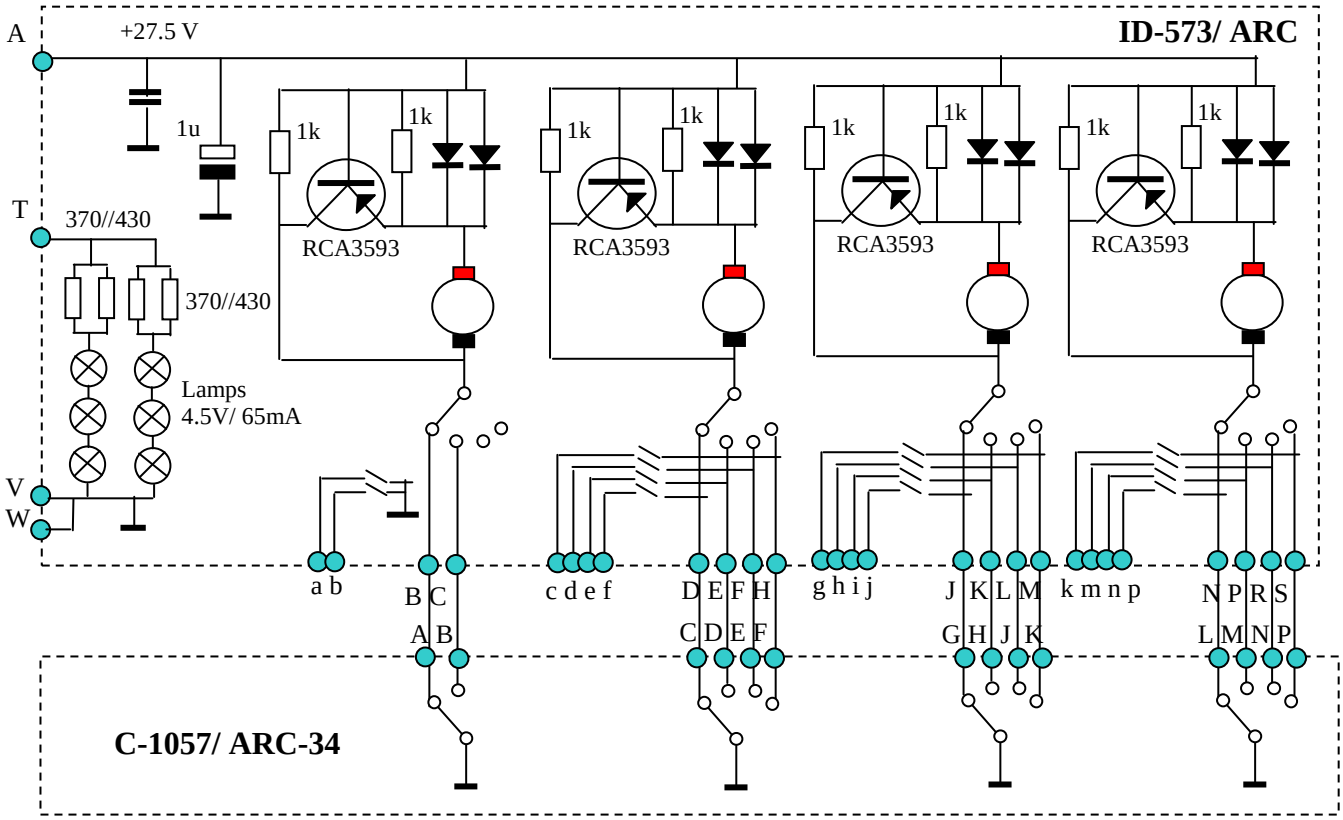
Connector

The 37-pin connector has pins with a capital and with a lower case letter. The capital pins connect to the C-1057 control panel. The lower case pins connect to the next ID-573 in the line (slave output)

Signal	C-1057	Master To slave	
+ 27.5V	R	A	
100Mhz digit a	A	B	a
b	B	C	b
10 MHz digit a	C	D	c
b	D	E	d
c	E	F	e
d	F	H	f
1 MHz digit a	G	J	g
b	H	K	h
c	J	L	i
d	K	M	j
0.1 MHz digit a	L	N	k
b	M	P	m
c	N	R	n
d	P	S	p
Panel lamps		T	q nc
nc		U	
gnd (lamps)		V	
gnd	S.	W	
nc		X	
nc		Y	
nc		Z	



Gray: not connected
Red: + 27.5V, Black: ground
NOTE: A and B are ***NOT*** in line with C and D

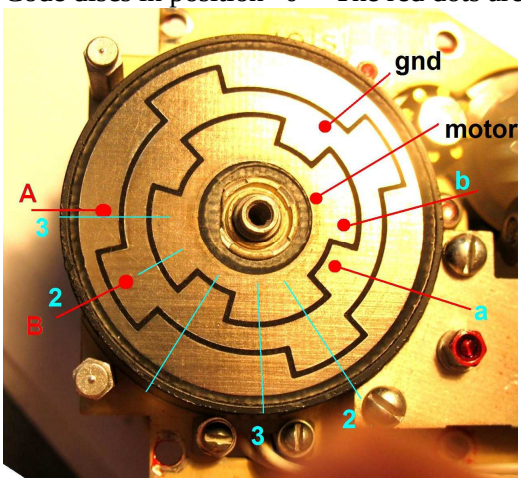


The 37-way jam nut connector with A and B pins offset is exotic. It can be replaced with a more common 15 pin D-sub connector, when the slave outputs are not used, the lamp and 27V lines are tied together internally, and the shell is used as ground for the lamps.

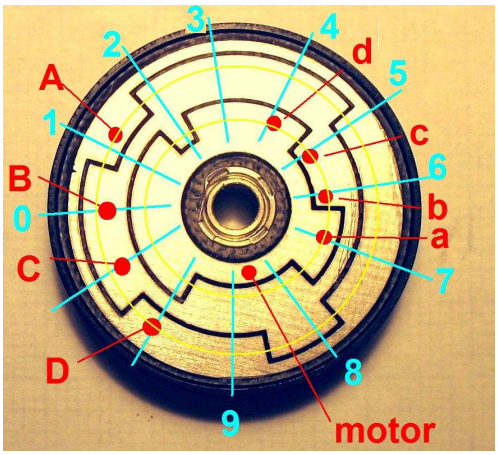
Code switches

The code switches are directly attached to the number displaying wheels. There is a light bulb inside each wheel. The wheels make 12 steps in one revolution in approx. 1 second.
The wheels turn only upward – they make nearly one complete revolution when the number is decreased by 1.

Code discs in position “0” The red dots are the wipers.



Code disc 100MHz



Code disc 10, 1 and 0.1 MHz

```
   C D E F
   G H J K
   L M N P

   a b c d
-----------
0    X X
1  X   X X
2  X X   X
3  X X X
4    X X X
5      X X
6        X
7  X
8    X
9      X
#  X     X
*  X X
```

The letters a-b-c-d are the inputs from the C-1057 control panel. (Connector pins have capitals !)
The letters A-B-C-D are outputs to the next ID-573 in the chain when installed (lower case pins)
The active (grounded) input lines are connected to the slave output lines. The non-active output lines are tied together. Example (see picture) b and c are connected to B and C. The non-active lines A and D are interconnected.

The AN/ARC-34 type communication set has the following coded signal information on the indicator control lines, where *x* represents a grounded line signal, and blank indicates an ungrounded or open line signal.

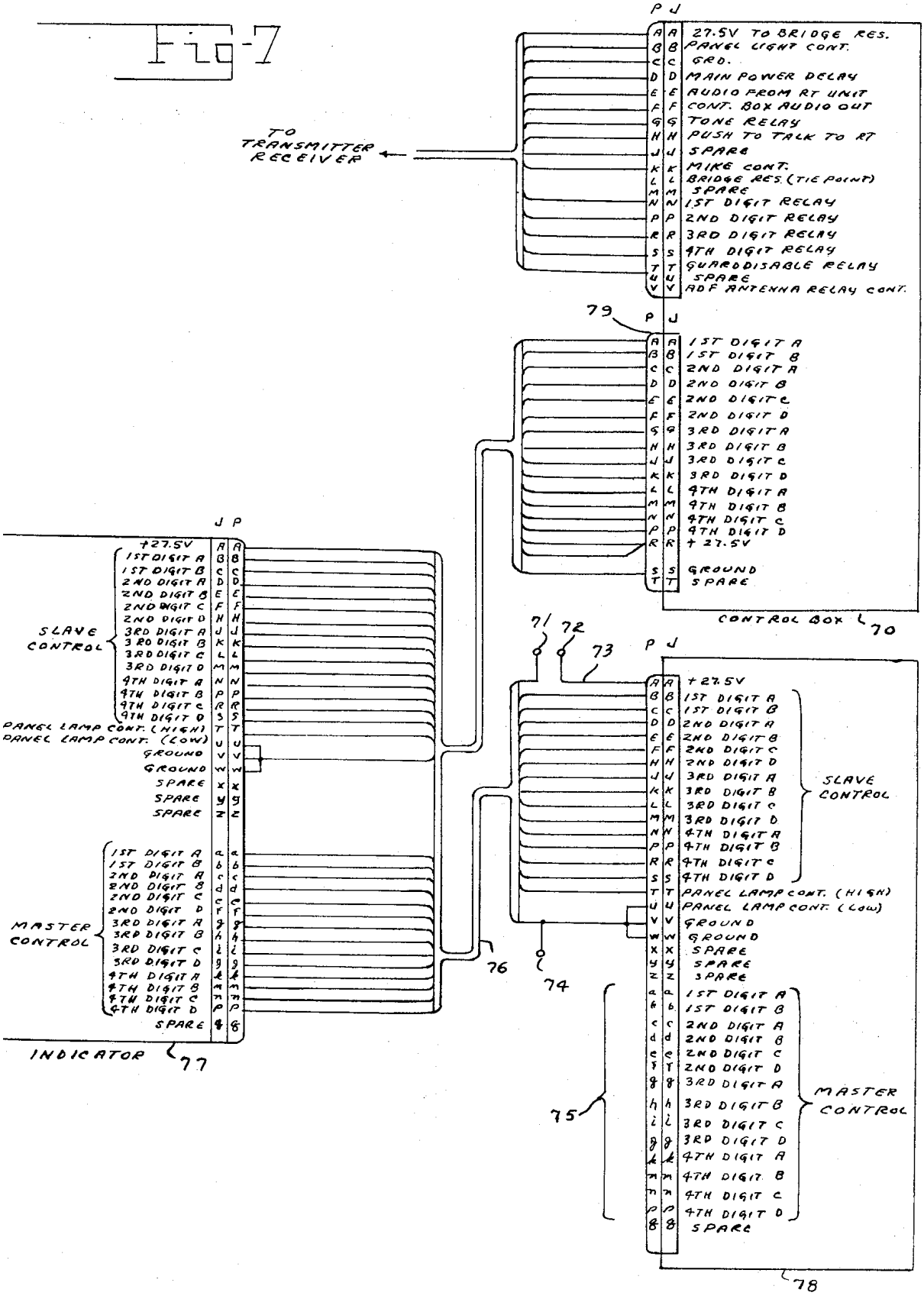
ARC43 Displayed digit	0	1	2	3	4	5	6	7	8	9	#	*
Indicator control line a		x	x	x				x			x	x
Indicator control line b	x		x	x	x				x			x
Indicator control line c	x	x		x	x	x				x		
Indicator control line d		x	x		x	x	x				x	

Motor

The indicator has 4 independent motors, each driving one display wheel. When the right position is reached, a quick stop is made by shorting the motor using the point contact germanium transistor RCA3593.

The unloaded motor current is 50mA, regardless of the voltage. Loaded with the transmission and code wheels, the current per motor is approx. 100mA (2.5W).
- When the motor is removed and replaced, take care that the spindle is not too close to the nylon gear. Otherwise the motor might get stuck.
- Never apply 27V directly to a motor. The quick stop transistor across the motor will conduct in that case, and gets shorted. It is rather difficult to find a new RCA3593.

Fig-7


P J
A A 27.5V TO BRIDGE RES.
B B PANEL LIGHT CONT.
C C GRD.
D D MAIN POWER DELAY
E E AUDIO FROM RT UNIT
F F CONT. BOX AUDIO OUT
G G TONE RELAY
H H PUSH TO TALK TO RT
J J SPARE
K K MIKE CONT.
L L BRIDGE RES. (TIE POINT)
M M SPARE
N N 1ST DIGIT RELAY
P P 2ND DIGIT RELAY
R R 3RD DIGIT RELAY
S S 4TH DIGIT RELAY
T T GUARD DISABLE RELAY
U U SPARE
V V ADF ANTENNA RELAY CONT.
TO TRANSMITTER RECEIVER
79
P J
A A 1ST DIGIT A
B B 1ST DIGIT B
C C 2ND DIGIT A
D D 2ND DIGIT B
E E 2ND DIGIT C
F F 2ND DIGIT D
G G 3RD DIGIT A
H H 3RD DIGIT B
J J 3RD DIGIT C
K K 3RD DIGIT D
L L 4TH DIGIT A
M M 4TH DIGIT B
N N 4TH DIGIT C
P P 4TH DIGIT D
R R +27.5V
S S GROUND
T T SPARE
CONTROL BOX 70
J P
+27.5V A A
SLAVE CONTROL
1ST DIGIT A B B
1ST DIGIT B C C
2ND DIGIT A D D
2ND DIGIT B E E
2ND DIGIT C F F
2ND DIGIT D H H
3RD DIGIT A J J
3RD DIGIT B K K
3RD DIGIT C L L
3RD DIGIT D M M
4TH DIGIT A N N
4TH DIGIT B P P
4TH DIGIT C R R
4TH DIGIT D S S
PANEL LAMP CONT. (HIGH) T T
PANEL LAMP CONT. (LOW) U U
GROUND V V
GROUND W W
SPARE X X
SPARE Y Y
SPARE Z Z
MASTER CONTROL
1ST DIGIT A a a
1ST DIGIT B b b
2ND DIGIT A c c
2ND DIGIT B d d
2ND DIGIT C e e
2ND DIGIT D f f
3RD DIGIT A g g
3RD DIGIT B h h
3RD DIGIT C i i
3RD DIGIT D j j
4TH DIGIT A k k
4TH DIGIT B m m
4TH DIGIT C n n
4TH DIGIT D p p
SPARE 8 8
INDICATOR 77
71
72
73
P J
A A +27.5V
B B 1ST DIGIT A
C C 1ST DIGIT B
D D 2ND DIGIT A
E E 2ND DIGIT B
F F 2ND DIGIT C
H H 2ND DIGIT D
J J 3RD DIGIT A
K K 3RD DIGIT B
L L 3RD DIGIT C
M M 3RD DIGIT D
N N 4TH DIGIT A
P P 4TH DIGIT B
R R 4TH DIGIT C
S S 4TH DIGIT D
SLAVE CONTROL
T T PANEL LAMP CONT. (HIGH)
U U PANEL LAMP CONT. (LOW)
V V GROUND
W W GROUND
X X SPARE
Y Y SPARE
Z Z SPARE
a a 1ST DIGIT A
b b 1ST DIGIT B
c c 2ND DIGIT A
d d 2ND DIGIT B
e e 2ND DIGIT C
f f 2ND DIGIT D
g g 3RD DIGIT A
h h 3RD DIGIT B
i i 3RD DIGIT C
j j 3RD DIGIT D
k k 4TH DIGIT A
m m 4TH DIGIT B
n n 4TH DIGIT C
p p 4TH DIGIT D
8 8 SPARE
MASTER CONTROL
75
76
74
78