

# Contents

<b>1</b>	<b>1X</b>	<b>5</b>
1.1	Summary . . . . .	6
1.2	1C . . . . .	7
1.2.1	1C - 1DH* . . . . .	7
1.2.2	XYZW . . . . .	8
1.3	1D . . . . .	9
1.3.1	1D - 1M . . . . .	9
1.3.2	XYZW . . . . .	9
1.4	1H . . . . .	11
1.4.1	Gazzilli after 1S/1N . . . . .	12
1.4.2	1H - 2S* (same as 1S - 2N*) . . . . .	12
1.4.3	1H - (X) . . . . .	12
1.4.4	PH response . . . . .	13
1.5	1N . . . . .	14
1.5.1	after Stayman . . . . .	14
1.5.2	after Jacoby transfer . . . . .	15
1.5.3	after range ask . . . . .	16
1.5.4	after minor transfer . . . . .	16
1.5.5	after major splinter . . . . .	16
1.5.6	after majors GF . . . . .	16
1.5.7	comp . . . . .	16
1.5.8	after doubled . . . . .	17
1.5.9	other . . . . .	17
1.6	1S . . . . .	18

1.6.1	Gazzilli after 1N*	18
1.6.2	1S - 2N*	19
1.6.3	1S - (X)	20
1.6.4	PH response	20
1.7	2C	21
1.8	2N	22
<b>2</b>	<b>pre</b>	<b>23</b>
2.1	2D/NV (multi)	24
2.2	2H/NV (Ekren)	24
2.3	2S/NV (wild)	25
2.4	2D/V (multi)	26
2.5	2M/V (nat)	26
2.6	4-th seat	27
2.7	higher preempt	28
<b>3</b>	<b>comp</b>	<b>29</b>
3.1	Gladiator	30
3.2	other	31
3.2.1	vs transfer openings	31
3.3	overcall	32
3.3.1	weak	32
3.3.2	balancing overcall	32
3.4	unusual & Michael	34
3.5	vs 1N	35
3.6	vs pre	36
3.6.1	vs nat	36
3.6.2	vs multi	36
3.6.3	vs Ekren	36
3.6.4	vs transfer preempt	37
3.6.5	misc	37
3.7	vs prec	38

3.8	X . . . . .	39
3.8.1	support X . . . . .	39
<b>4</b>	<b>util</b>	<b>41</b>
4.1	1-2-3 Stops . . . . .	42
4.2	1m - 1M; 2N . . . . .	43
4.3	2NT . . . . .	44
4.4	Forcing Pass . . . . .	45
4.4.1	XX = Q . . . . .	45
4.4.2	(3X) - X - (5X) - P = F . . . . .	45
4.5	suit GT . . . . .	46
4.6	transfer Lebensohl . . . . .	48
4.7	normal Lebensohl . . . . .	48
4.8	maximum X . . . . .	49
4.9	Rubens . . . . .	50
4.10	Slam bidding . . . . .	51
4.10.1	cuebid . . . . .	51
4.10.2	FF . . . . .	51
4.10.3	kickback RKC . . . . .	51
4.10.4	ERKC . . . . .	51
4.10.5	ORKC . . . . .	52
4.10.6	2-suied RKC . . . . .	52
4.11	UwU . . . . .	53
4.12	XYZW . . . . .	54
4.12.1	2wPCB . . . . .	54
4.12.2	PLOB . . . . .	54
4.12.3	after 2N = 18-19 bal . . . . .	55
<b>5</b>	<b>cardplay</b>	<b>57</b>
5.1	lead . . . . .	58
5.2	signal . . . . .	59
5.2.1	Smith echo . . . . .	59

---

5.2.2	other . . . . .	59
-------	-----------------	----

# Chapter 1

1X

## 1.1 Summary

```
# 1m = 11p bal either: AAK, (43)(42) or good 5m(332)
# open 11p 6+m or concentrated 54 quite often
1C*: (11)12+, 2+C
1D : (11)12+, 5+D or 4441; or 17-18 5D332
# open 1M 11p quite often
1M : 11+, 5+M
1N : 14-16, bal, could be 14-15, 5M(332)
2C*: 22+, any; or 16+ 4-L
2D*: 3-7(V)/9(NV), some 6+M
# 2M/V
2M : 8-10, 6+M
# 2M/NV
2H*: 3-9, 44+M
2S : (0)3-8, 5+S # usually 5
2N : (19 w/ 5m)20-21, (s)bal
3X : nat pre
3N*: gambaling
4X : nat pre
4N : strong mms, slam interest
5m : nat pre
5M : nat, slam interest
```

## 1.2 1C

```

1C -
1D*: 4+H
1H*: 4+S
1S*: inv+, 4+D; or 5+D
    - 1N : min, 2-D or 4333 or don't want to play in 2D
    - 2C : min unbal
    - 2D : 3+D
1N : 6-10
2C*: GF, 4+C # inv if PH
    - 2D*: 12-14
    - 2M : 15+, nat, usually 3+M
    - 2N : 17-19
    - 3C : 15-17, 6+C
    - 3X*: spl
2D*: inv, 4+C # constr if PH
    - 2M : 15+, nat, usually 3+M
    - 2N : nat min
    - 3C : nat min
    - 3X*: spl
    - 3N : 13-14, nat
2H*: 3-7, 5S4H(+)
2S : 3-7, 6+S # not interested in 17-18 bal, 2-M
    - 2N*: feature (short) ask, inv+
2N : nat inv
3C*: 5-7, (5)6+C # weaker if PH
3X : 7+X, about 6-6.5 tricks

```

### 1.2.1 1C - 1DH\*

```

1C - [1M-1];
1H*: 12-17, 4+S # 18+ bids 1S
1S*: 16+, any; or min unbal
1N : 11-13, bal
2C*: (13)14-15, 6+ good C # 2 of AKQ
2D*: (13)14-15, 6C4D+
(1D/) 2H*: (13)14-15, 6C4H+
2M : min, 4+M # subseq: see util/GT
2N : 17-19, bal
3C : (15)16-17, 6+ good C
[2M+1]~[3M-1]: inv+, 4+M, spl
3M : 17-19, 4M bal
3N*: solid (6)7+C
[3M+1]~[4M-1]: 18-21, 4+M, void spl
4M : 20-21, 2425

```

---

```
# M = S
```

---

```
1C - [1M-1]; 1S*  
1N*: 8+  
  - 2C*: nat min  
  - 2M*: 3M min  
  - 2D+: nat GF  
2X : s/o  
2N+: nat ST
```

---

## 1.2.2 XYZW

---

```
1C - 1D*; 1H* - 1S*: see utils/XYZW/PLOB  
1C - 1DH; 1N - ...: see utils/XYZW/2wPCB  
1C - 1S ; 1N - ...: no 2-way
```

---



## 1.3 1D

```

1D - # 11-21, 4+D unbal; 17-18, 5+D bal
1M : 6+, 4+M
1N : 6-10, (4)5+C
2C : GF, 5+C
    - 2D : min
    - 2N : 17-18 bal
    - 3C : 14+, 4+C
2D : 6-9, 3+D
2H : 3-7, 5S4H(+)
2S*: inv+, 3+D
    - 2N : 17-18 bal
2N : nat inv
3C : inv, 6+C
3D : 3-6, 4+D
3M : 7+M, about 6-6.5 tricks, NF

```

### 1.3.1 1D - 1M

```

1D - 1M;
1S : 12-17, 4+S # 18+ bids 1N
1N*: 16+, any; or min unbal
2C : min 4+C
2D*: (13)14-15, 6+ good D # 2 of AKQ
(1S/) 2H*: (13)14-15, 6D4H+
2M : min, 4+M # subseq: see util/GT
2N : 17-19, 5+D bal
3D : (15)16-17, 6+ good D
[2M+1]~[3M-1]: inv+, 4+M, spl
3M : 17-19, 4M bal
3N*: solid (6)7+D
[3M+1]~[4M-1]: 18-21, 4+M, void spl
4M : 20-21, 2452

```

```

1D - 1M; 1N*
2C*: 8+
    - 2D*: nat min
    - 2M*: 3M min
    - 2oM+: nat GF
2X : s/o
2N+: nat ST

```

### 1.3.2 XYZW

---

1D - 1H; 1S - 2C\*: see utils/XYZW/PL0B

---

## 1.4 1H

```

1H - # 12-21, 5+H
1S : 4+S, F1
1N*: F1; 4-6, 3+H [2H]; inv, 3H [3H/4H]; constr. 5+H [4H]; 5-11, 2-H;
    12-14, 4-S bal [3N]
2C : GF, nat
2D : GF, nat
2H : 7-9, 3+H # subseq: see util/GT
2S*: 12+, 4+H
2N*: 8-10/13-14, 4+H, C/S spl
    - 3C*: ask
      - 3D*: C spl
      - 3H*: S spl, 8-9
      - 3S+: S spl, 12-13, cue-bid
3C*: 10-11, 4+H bal; or 12-14, 3H bal # the latter is GF
    - 3D*: ask, ST
      - 3H*: 10-11, 4+H bal
      - 3S+: cue
    - 3H : light opening; or min, 5H(332)
    - 3S+: spl
    - 3N : s/o (CoG)
    - 4H : s/o
3D*: 8-10/13-14, 4+H, D spl
3H : pre
3S+: (10)11-12, 4+H, void spl
3N*: 10-11, some spl
4H : pre

```

```

1H - 1SN: F1
1N : 11-15, nat
2C*: 16+, any; or 11-15, 6+H
2D : 11-15, 4+D
2H*: 11-15, (2)4+C
# 1H - 1N*; 2DH- 2S*: inv raise in m
(1S/) 2S : 11-15, 4+S
(1N/) 2S*: 14-16, 6+H, 4+S
2N*: 14-16, 6+H, 4+m
    - 3C*: ask
      - 3D : 4+D
      - 3H*: 4+C
    - 3D : nat 6+D, F
3m : 14-16, 5+m, NF
3H : 14-16, 7+H
(1S/) 3S*: 14-16, 6H4S(+), NF
(1N/) 3S : inv, 6H5S(+), NF
3N*: GF, solid 7+H

```

### 1.4.1 Gazzilli after 1S/1N

```

1H - 1SN; 2C*
2D*: 8+, any
- 2H : 12-15, 6+H
- 2S* → 2N*: (18)19+; or 16-18 bal w/ 3S # 19+ bal open 2C*
    - 3N*: 16-18 bal w/ 3S
    - 3C+: same as below except 3N*
- 2N*: 5+m
    - 3C*: ask
        - 3D : 16-18, 5+D
        - 3H*: 16-18, 5+C
        - 3S*: 19-21, 5+C
        - 3N*: 19-21, 5+D
- 3m : 4+m # may be 65
    - 3H : 2H
    - 4H : min, 3+H
- 3H : 6+H
- (1S/) 3S : 4+S
- (1N/) 3S : 5+S
- 3N : 16-18, bal w/o 3S
2H+: 4-7, nat
# after a weak nat response
- 2N*: GF wating, could be 6+H
- 3X : nat GF # except raise = nat inv
- 3H : inv, 6+H
2N*: 12-14 bal
- 4H : 12-15, 6+H
- bid: nat and strong
3H : 10-11(12), 3H
4H : nat

```

### 1.4.2 1H - 2S\* (same as 1S - 2N\*)

### 1.4.3 1H - (X)

```

1H - (X);
P : weak or some unbal inv # then bid/X = inv
XX : 10+, s-bal, usually not concentrated # forcing pass on
1S : 5+S, F1 # system on, may be psyche but rare
1N*: 5+C, 6-10; or 4+C, GF
2C*: 5+D, 6-10; or 4+D, GF
2D*: 3+H, 4-6 or 10+
2H : 3+H, 7-9
2S+: system on

```

### 1.4.4 PH response

```
P - 1H;  # 12-21, 5+H
1S : 4+S
1N*: NF, 5-11, 2-H
2C*: 9-11, 3+H  # Drury
    - 2D*: reinv
    - 2H : s/opening
    - 2S+: nat ST
2D : inv, nat
2H : 6-9, 3+H
2S : 4-7, 6+S
2N*: 8-10, 4+H, some spl
3m*: 8-10, (54+) H and m
3H : pre
3S+: 10-11, void spl
3N*: GF, 5+H  # ?
4H : pre
```

## 1.5 1N

```

1N -
2C*: ask 4M, may be 5S inv or Garbage
2D*→2H*: 5+H
2H*→2S*: 5+S
2S*: range/minor ask. inv; or 55m s/o; or 55m GF
2N*→3C*: 6+C
3C*→3D*: 6+D
3D*: 54+m, spl S
3H*: 54+m, spl H
3S*: 55Ms, GF+
3N : s/o
4C*: Gerber, ask number of A # resp 04/1/2/3
4D*→4H*: s/o or ST
4H*→4S*: s/o or ST
4S*: better quant
4N*: weaker quant

```

### 1.5.1 after Stayman

```

1N - 2C;
(X)- XX : good (AQTx+) C
  - P : no stopper
    - XX : near-bal, Stayman
    - 3C*: spl C
  - 2D+: same, but have stopper
2D*: no 4M
  - 2H*: Garbage
  - 2S : 5+S inv, may not have 4H
  - 2N : inv
  - 3m : 5+m # promises 4M
  - 3M : 5oM4M, GF
  - 3N : s/o
  - 4C*→4H*: 46xx+ # 4D* = super acc.
  - 4D*→4S*: 64xx+ # 4H* = super acc.
  - 4M : s/o
2M : 4+M
  - (2H/) 2S : 5+S inv
  - 2N : inv
  - 3m : 5+m, GF # promises 4oM
  - 3M : inv
  - (2H/) 3S*: spl or bal ST
    - 3N*: not max, waiting
    - 4H : min
  - (2S/) 3H*: bal ST

```

- 3N : 4oM, CoG
- 4X\* : spl
- 4M : s/o
- 4N : quant
- (2H/) 4S\* : better quant

## 1.5.2 after Jacoby transfer

```

1N - 2D/H*;
(X)- P : 2- fit
      - XX* : re-transfer, then bid = at most inv
      - bid: system on
      - XX : 2- fit, good (AQTx+) D
      - 2H/S* : 3+ fit
2H/S* : tr. acc
      - P : s/o
      - (2H/) 2S : 5H4S inv
        - 2N : s/o
          - 3m : 5+m, s/o
      - (2H/) 2N : nat inv
      - (2S/) 2N* : (6+S) bal ST
      - 3m : 4+m, ST
      - 3M : 6+M, inv
      - (2H/) 3S* : spl or bal ST
        - 3N* : not max, waiting
        - 4H : min
      - (2S/) 3H* : 55Ms inv
      - 3N : CoG
      - 4X* : spl
      - 4M : mild ST
      - 4N : quant
      - (2H/) 4S* : better quant
# 1N - 2H*; 2S*- 4H : 55+Ms, CoG
# super acc. after 1N - 2D*
2S* : max, 4+H, xx in S
2N* : max, 4+H, otherwise
3C* : max, 4+H, xx in C
      - 3D* → 3H* : re-transfer # applies to 2S, 2N, 3C
3D* : max, 5H
3H* : max, 4+H, xx in D
# super acc. after 1N - 2H*
2N* : max, 4+S, otherwise
3m* : max, 4+S, xx in m
      - 3H* → 3S* : re-transfer # applies to 2N, 3m
3H* : max, 5S
3S* : max, 4+S, xx in H

```

### 1.5.3 after range ask

```

1N - 2S;
2N*: min
  - 3C*: 55ms, min
  - 3M*: GF, spl M
3m : max, m is better
  - P : s/o
  - 3M*: GF, spl M
  - 3N : s/o

```

### 1.5.4 after minor transfer

```

1N - 2N*/3C* → 3C*/3D*
      - 3N : mild ST
      - bid: nat, usually 64, CoG or ST

```

### 1.5.5 after major splinter

```

1N - 3DH;
(3D/) 3H : no S stop, 4+ good H
(3D/) 3S*: no S stop, 5+ good H
(3H/) 3S : no H stop, 4+ good S
3N : s/o
4m : (3)4+m
4H+: C = D (3+), resp. to 2RKC
# 4H = 0/3/6 (+0.5), 4S = 1/4 (+0.5), 4N = 2/5, 5C = 2.5/5.5

```

### 1.5.6 after majors GF

```

1N - 3S;
4C*: mid+, 3+H
  - 4D*: mild ST (re-inv)
4D*: mid+, 3+S
  - 4H*: mild ST (re-inv)
3N : s/o
4M : min s/o

```

### 1.5.7 comp

```

1N - (2X = nat) - X* : t/o
# otherwise UwU

```



### 1.5.8 after doubled

```

1N - X;
XX*: GF, FP on, penalty oriented
P* → XX*: forced
    - P* : s/o
    - 2X : X and higher suit 44+, weak
      # if opp. bid, then 2N = inv, X = t/o, bid = NF but constr/inv
2X : nat s/o
2N*: no agreement
3X : nat s/o
3N : s/o

```

### 1.5.9 other

```

1N -(2X)- P -(P)- X* : t/o

```

## 1.6 1S

```

1S - # 12-21, 5+S
1N*: F1; 4-6, 3+S [2S]; inv, 3S [3S/4S]; constr. 5+S [4S]; 5-11, 2-S;
    12-14, 2-S bal [3N]
2C : GF, nat
2D : GF, nat
2H : GF, nat
2S : 7-9, 3+S # subseq: see util/GT
2N*: 12+, 4+S
3C*: 8-10/13-14, C/D spl
    - 3D*: ask
      - 3H*: C spl
      - 3S*: D spl, 8-9
      - 3N+: D spl, 12-13, cue-bid
3D*: 10-11, 4+S bal; 12-14, 3S spl # the latter is GF
    - 3H*: ask, ST
      - 3S*: 10-11, 4+S bal
      - 3N+: cue
    - 3S : light opening; or min, 5(332)
    - 3N : s/o (CoG)
    - 4X*: spl
    - 4S : s/o
3H*: 8-10/13-14, H spl
3S : pre
3N*: (10)11-12, some spl
4X*: 10-12, X void
4S : pre

```

### 1.6.1 Gazzilli after 1N\*

```

1S - 1N*: F1
2C*: 16+, any; or 12-15, 2+C
2D : 12-15, 4+D
2H : 12-15, 4+H
2S : 12-15, 6+S
2N*: 14-15(16), 6+S, 4+X, strength concentrated
    - 3C*: ask
      - 3X : 4+X
      - 3S*: 4+C
    - 3X : nat 6+X, F
3X : 14-15(16), 5+X, strength concentrated, NF
3S : 15-17, (s-)solid 6+S
3N*: GF, solid 7+S

```

```

1S - 1N*; 2C*: 16+, any; or 12-15, 6+S

```

```

2D*: 8+, any
  - 2S : 12-15, 6+S
  - other : nat and GF
2H : 5-7, 5+H
2S : 4-7
# bids below applies to both 2H and 2S
  - 2N*: GF, some 6+S
    - 3C*: ask
      - 3X : 4+X
      - 3S*: 4+C
      - 3N : no 4-card suit
  - 3X : GF, 5+X # except raise = inv
  - 3S : inv, 6+S
2N*: 12-14, bal
  - 4S : 12-15, 6+S
  - bid: nat and strong
3C+: 5-7, nat # 2N usually mms, 3H probably 7+H
3N : 12-14, bal
3S : inv, 3S
4S : nat

```

```

1S - 1N*; 2C*- 2D*;
2H*: (18)19+; or 16-18 bal w/ 3H # 19+ bal open 2C*
  - 2S*: waiting
    - 2N+: same as below
  - 3X : nat good 6+X, ST
2S : 12-15, 6+S
2N : 16-18, some 5+X
  - 3C*: ask
    - 3D : 5+D
    - 3H : 5+H
    - 3S*: 5+C
3X : 16-18, 4+X
  - 3S : 2+S
3S : 16-18, 6S(331) or (322) or 7+S
3N : 16-18, bal w/o 3H
  - 4m : 6+m, ST

```

## 1.6.2 1S - 2N\*

```

1S - 2N*: 12+, 4+S
3X : X short # then 3N = FF
3S : 14+, w/o shortness # then 3N = FF
3N*: FF, 12-13, w/o shortness
(TBD) after 3S/3N, choose from spl or cue-bid
# 4X usually with controls in two other suits, otherwise bid 3X instead

```

```

4m : 5+m
    - +1*: ask
      - 4S : min
4H : 5+H, extra
4S*: 5+H, min

```

### 1.6.3 1S - (X)

```

1S - (X);
P : weak or some unbal inv # then bid/X = inv
XX : 10+, s-bal, usually not concentrated # forcing pass on
1N*: 5+C, 6-10; or 4+C, GF
2C*: 5+D, 6-10; or 4+D, GF
2D*: 5+H, 6-10; or 4+H, GF
2H*: 3+S, 4-6 or 10+
2S : 3+S, 7-9
2N+: system on

```

### 1.6.4 PH response

```

P - 1S - # 12-21, 5+S
1N*: NF; 4-6, 3+S [2S]; 5-11, 2-S
    - 2C*: 16+, any; or 12-15, 6+H
      - 2D*: 8+
    - 2D : 12-15, nat
    - 2H : 12-15, 4+H
    - 2S*: 12-15, nat C
2C*: inv+, 3+S # Drury
    - 2D*: min bal
    - 2H : nat
    - 2S : light opening
    - 2N+: same as after 1H - 2H
2D : inv+, nat
2H : inv+, 5+H
2S : 7-9, 3+S
2N*: 8-10, 4+S, some spl
3X*: 8-10, (54+) S and X
3S : pre
3N*: 12-14, 3H, bal w/o 6m, CoG
4X*: 10-12, X void spl
4H : pre

```

## 1.7 2C

```

2C*-
2D*: 0-1 CT
  - 2H* → 2S*- 2N : 22-24 (s)bal
    - 3X : 22+, nat, 5+H
    - 3N : 22-24, 5H(332)
  - 2N*: 4-7, 5+S
  - 2S : 22+, 5+S
    - 3C*: cheaper minor, 0-3
  - 2N : 25-27 (s)bal
  - 3C : nat, 5+C
    - 3D*: cheaper minor, 0-3
  - 3D : GF, 5+D
  - 3M : nat solid ST
  - 3N : 25-27 # 4-th seat: 26-27
  - 4m : nat solid ST
  - 4M : 8.5+ tricks
  - 5m : 8.5+ tricks
2H*: 2CT
2S*: 3CT = AK
2N*: 3CT = KKK
  - resp. same as 2N opening
3C*: 4+CT
  - 3N : nat, forcing to 4N
    - 4C+: resp. same as 2N opening (1 level higher)
3X : exactly A or K in X, 7+X, GF
3N*: exactly A or K in C, 7+C

```

## 1.8 2N

```

2N -
3C*: ask 5M # could be s/o 3N
  - 3D*: some 4+M
    - 3M*: 4+oM
    - 3N : s/o
  - 3M : 5+M
    - (3H/) 3S*: H fit ST
    - (3S/) 4H*: S fit ST
    - 4m : 5+m ST
3D* → 3H*: 5+H
  - 3S : 4+S
  - 3S*: 3433
  - 3N+: 4H, cue # 3N = S
  - 4H : 3H
3H* → 3S*: 5+S
  - 3N*: 4333
  - 4C+: 4S, cue
  - 4S : 3S
3S* → 3N*- 4C*: (6)5+C, ORKC(C)
  - 4D*: 2-C, or bad 3C
  - 4H+: same as resp. of RKC
  - 4D*: (6)5+D, ORKC(D)
  - 4H*: 2-D, or bad 3D
  - 4S+: same as resp. of RKC
  - 4H*: 54+mms, C > D
  - 4S*: 54+mms, D > C
  - 4N*: 55+mms
  - 4C*: TODO
3N*: 54xx+
4C*: Gerber
4D* → 4H*: 6+H, MST
4H* → 4S*: 6+S, MST
4S*: good Quant
4N*: bad Quant

```

## Chapter 2

pre

## 2.1 2D/NV (multi)

```

2D - # 3-9, 6+M
P : s/o
2M/3M/4H*: P/C
4S : s/o
2N*: F1
  - 3C*: min
    - 3H*: P/C
  - 3D*: H, mid
  - 3H*: S, mid
  - 3S*: H, max
  - 3N*: S, max
3C : s/o
3D*: some 5+M, GF
  - 3H : 6+H
    - 3S : 6+S
    - 3N : 5S
  - 3S : 6(2-)xx
  - 3N*: 6322
  - 4C*: 63xx+, spl D
  - 4D*: 63xx+, spl C max
  - 4H*: 63xx+, spl C min
3N : s/o
4C*: fit in both majors, slam interest, ask
  - 4D*: H
  - 4H*: S
4D*: s/o 4M, not allowing re-raise

```

```

2D*-(X) -
P* : to play, may be strong (then X = pen.)
XX : bad majors, strong. partner may P with (3)4+D
2M+: same

```

## 2.2 2H/NV (Ekren)

```

2H*- # 3-8, 4+MMs
2S : s/o
2N*: ask
  - 3C*: min
    - 3D*: ask
      - 3M*: 5+M
      - 3N : 44Ms
      - 4m*: 55Ms, spl m
    - 3M : s/o

```



```

- 3D*: mid+, 5+H # will bid 3N if max
- 3H*: mid+, 5+S # will bid 3N if max
- 3S*: GF, 55M+
- 3N*: max, 44Ms
- 4m : max, 553m0
3m : nat constr. # usually P, unless with very good hand or fit
3M : s/o
3N : s/o
4C*: ask, ST
4D*: pick a 4M, not allowing re-raise
4M : s/o

```

## 2.3 2S/NV (wild)

```

2S -
2N* → 3C* - P : s/o
            - 3D : s/o
            - 3H : 5+H, GF
            - 3S : inv
            - 3N : no fit, slam interest
3X : nat inv NF
3S : s/o
3N : s/o
4C*: ORKC
4D* → 4S : re-raise not allowed
4M : s/o

```

## 2.4 2D/V (multi)

```

2D - # 3-7, 6+M
P : s/o
2M/3M/4H*: P/C
4S : s/o
2N*: F1
  - 3C*: min
    - 3H*: P/C
  - 3D*: H, mid
  - 3H*: S, mid
  - 3S*: H, max
  - 3N*: S, max
3C : s/o
3D*: some 5+M, GF
  - 3H : 6+H
    - 3S : 6+S
    - 3N : 5S
  - 3S : 6(2-)xx
  - 3N*: 6322
  - 4C*: 63xx+, spl D
  - 4D*: 63xx+, spl C max
  - 4H*: 63xx+, spl C min
3N : s/o
4C*: fit in both majors, slam interest, ask
  - 4D*: H
  - 4H*: S
4D*: s/o 4M, not allowing re-raise

```

## 2.5 2M/V (nat)

```

2M - # 8-11, 6+M
2S : nat F
2N*: ask short
  - 3X*: spl
3M : s/o
3N : s/o
4C*: ORKC
4D*: s/o 4M, not allowing re-raise
4M : s/o

```

## 2.6 4-th seat

```
2D : 8-13, nat  
2M : 8-13, nat  
2N : 22-23 bal # 2C = 20-21/24+ bal  
3X : nat solid ST
```

## 2.7 higher preempt

```
3X : nat pre
3N*: gambaling
4X : nat pre
4N : strong mms, slam interest
5m : nat pre
5M : nat, slam interest
```

# Chapter 3

comp

## 3.1 Gladiator

```
(1M) - 1N - (P) -
2C*→2D*: tranfer accepted
    - 2M*: GF, 4+oM
    - 2oM: s/o
    - 2N*: inv
    - 3C : s/o
    - 3X : 6+X inv
    - 3M*: GF, 4oM, short in M
    - 3N*: 54+mms CoG, usually extra
2X : inv, 5+X
2M*: inv, 4+oM
2N : inv, 5+C, NF # because may not able to pen. 2M
3X : GF, 5+X
3M*: GF, w/o 4oM, short in M # 2C* then 3M is 4oM
```

```
(1m) - 1N - (P) -
# similar, but D is the cuebid suit
2C*→2D*: tranfer accepted
    - 2M : s/o
    - 2N*: inv
    - 3C : s/o
    - 3X : 6+X inv
    - 3N*: 54+mms CoG, usually extra
2D*: inv+, Stayman
2M : inv, 5+M
2N : inv, 5+C, NF
3X : GF, 5+X
```

```
1m -(1M)- P -(P) ; 1N -(P) - Galdiator
(1X)- X* ; ... 2N - Gladiator
```

## 3.2 other

### 3.2.1 vs transfer openings

```
(1M-1*)- # 4+M  
1M*: 16+, t/o; or 19+, any  
X* : 10+, t/o; or 16-18, any
```

```
(1S*)- # 4+D  
X* : t/o  
2D*: MMs
```

```
(1D*)- # 44+M  
1M : nat  
X* : minor-oriented t/o
```

### 3.3 overcall

```
(1X)-
1Y : 8+, 5+Y # resp: Rubens
1N : 15-18 # resp: Gladiator
# Y < X
2Y : 10+, 6+Y; or 12+, 5+Y # resp: Rubens
(1m/)2X*: unusual if 1m promise 3+m. otherwise nat.
        # after a nat overcall
        -(2C/)2D*: cuebid. F1
        -(2D/)3C*: cuebid. F1
(1M/)2X*: unusual
2N*: unusual
(1m/)3X*: nat pre
(1M/)3M*: ask fot stopper
```

#### 3.3.1 weak

```
(1m) -
# style: the stronger the hand, more shapely to pre 2M

# V/NV
P : # may be lengthy but not enough values, ex: AJxxxxx.xxx.xx.x
1M : (8)9-16(17), 5+M
2M : 13-16, 6+M, 5.5 Loser

# V/V
1M : 8-17, 5+M # could be weaker (LD) if partner PH
2M : 6+M, pre # usually not 6322; unless ex: KQJ9xx.xx.Kxx.xx

# NV/NV
1M : 8-17, 5+M # 4oM or afraid of losing game
2M : (5)6+M, pre # usually unbal and partner PH if 5M
# KQxxx.JTxx.x.Qxx: 2S
# KJxxx.xxx.QJTxx: 1S/2S
# KQJxx.xxx.Qxx.xx: 1S/1-2S

# NV/V
1M : 8-17, 5+M # 4oM or afraid of losing game
2M : 5+M, pre # wild if partner PH
# KQJxx.xxx.Qxx.xx: 1S/2S
# KJxxx.xx.xxx.xxx: P/2S
```

#### 3.3.2 balancing overcall



```
(1X)- P -(P)-  
# natural overcalls can be one Q lighter  
1N : 12-15(13-16), bal  
X* : t/o, could be (one Q) lighter  
# X then 1N/2N = 16-18, bal. slightly stronger if X = M  
2N : 19-21, bal  
2X*: GF, any  
# Y > X  
2Y : 13-16, 6+Y, 5.5 Loser # 3Y : similar range, 1 less Loser  
# Y <= X  
3Y : 7+Y, (4.5)5 Loser
```

### 3.4 unusual & Michael

```
# 10-16
(1M) - 2M*: 5+oM, 5+m
      - 3m*: P/C
      - 2N*: ask, inv+
        - 3m : 5+m, min
        - 3H*: 5+C, max
        - 3S*: 5+D, max
        - 3N*: no agreement
        - 4m : 6+m
        - 4M*: void M, probably 6+oM
        - 4oM: 6+oM
(1M) - 2N*: 55+m

# if 1C = 2+C
(1C) - 2C : 5+C
# otherwise
(1C) - 2C*: 54M
(1C) - 2D*: 55(+)M
      - 2N*: ask, inv+
        - 3m : feature, min
        - 3H*: feature C, max
        - 3S*: feature D, max
        - 3N*: no agreement
        - 4m*: void m
        - 4M : 6+M
(1C) - 2N*: x55x+

# if 1D = 3+D
(1D) - 2D*: 55+M # subseq. same as (1C) - 2D
(1D) - 2N*: x5x5+
# else
(1D) - 2D : nat
```

```
(1X) - (1Y) - 1N : nat 15-18
(1X) - (2X) - 2N*: unusual
```

```
(1X)- 2m -(2X)- P -(P) - 2N*: 64+ mms
```

## 3.5 vs 1N

```

(1N)-
# if NP
X  : (14)15+
  - ...: TODO
# if PH
X* : 4M5m
  - 2X*: P/C
  - 2S : nat s/o
# all bids below could be lighter balancing seat
2C*: 10+; 6+D, or some 5M4m+; could be 8+ if 55
  → 2D*: P/C
  - 2M : nat 6+M
  - 2N*: F, ask
    - 3C*: min
      - 3D*: P/C
    - 3X : max, nat
2D*: 10+, (44)54+M; or 8+, 55+M
2M : 8+, 6+M
2N*: 55ms
3X : nat pre (comp)

```

## 3.6 vs pre

### 3.6.1 vs nat

```
(2M) -
X* : t/o
2S : 12-17, 5+S
2N : 15-18
    - 3C* → 3D* - P : s/o
      - 3oM: s/o
      - 3M*: 4oM
    - 3D : 5+D, inv
    - 3oM: 5+oM, inv
    - 3M*: 5+oM, GF
3X : (14)15-18, 5+X
3M*: ask for stopper
3N : s/o
4m*: 5+H, 5+m
```

### 3.6.2 vs multi

```
(2D*)- # weak, some 6+m
X : 13-15/19+, near bal; or 17+, any
P* : may be some 10-13 t/o against M [X]
2M : 12-17, 5+M
2N : 16-18, bal
3m : 15-17, 5+m
3M : 15-18, 6+M
3N : s/o
4X : nat strong NF

(2D*)- X -(2M)-
X* : some 4+M. inv(+)
```

### 3.6.3 vs Ekren

```
(2D*)-
X : 14+, near-bal
2H*: 14+, 5+C
2S*: 14+, 5+D
2N*: 16+, mms
3C*: 12-15, mms
3D : nat NF
3M : 15-17, 6+M
```

### 3.6.4 vs transfer preempt

```
(3X-1*)- # transfer pre to 3X
P* : then X = pen
X* : 15-17 [P]; or 18+ near-bal [X]
3X*: 18+, t/o
bid: nat
```

### 3.6.5 misc

```
1m - (3M) - X*: ask for stopper; may have 4oM
1m - (3M) - P - (P) - X*: ask for stopper; may have 4oM
# resp: pen with KJxx+ (IP) or equivalent values, otherwise
# 5 good oM [3/4oM] > 1.5 stop [3N] > 4 good oM [3/4oM] > 1 stop [3N]
```

## 3.7 vs prec

```

(1C*)- # strong
# be a bit decipline when V
X* : 12+, 4H5m or 5+H
  - 1D*: ask
    - 1H : 5+H
    - 2m : 5+m
1D*: 12+, 4S5m or 5+S
  - 1H*: ask
    - 1S : 5+H
    - 2m : 5+m
1H*: (Rank) 0-10, 44+m or 44+M
1S*: (Odd) 0-10, 4C4H or 4D4S
1N*: (Color) 0-10, 4D4H or 4C4S
  # bids below apply to 1H*/1S*/1N*
  # even after opp. bids
  # if you have your own suit, bid twice
  - 1N : nat, (17)-(20)
  - bid: P/C
  - 3M+: nat
2m : 10+, 5+m
2M+: nat pre
2N*: mms, pre

```

## 3.8 X

(1X) - X\* -(P) -  
 2X\*: inv+ w/o stopper; or GF

X is usually t/o (or optional / just strong) unless after a FP XX, or 1N - (2M)

### 3.8.1 support X

1X - 1Y - (1Z/1N/2Z < 2Y) - X\*: 3-card Y # also applies to 1C - 1S\*  
 new suit: NF

1X - 1Y - (X) - XX\*: 3-card Y  
 bid: System on





# Chapter 4

util

## 4.1 1-2-3 Stops

```
1m - (1X); 2m  
2X*: inv+  
2N : inv  
3m : s/o
```

```
1M - (X); 2X-1*: (5)6+X, 6-10; or 4+X, GF  
3X : s/o against weak variant
```

## 4.2 1m - 1M; 2N

```

1m - 1H(-1); 2N -
3C*: ask
  - 3D : 4+D [m = C], or catchall [m = D]
  - 3H : 3H
  - 3S : 4S # could have 3H if m = C
  - 3N*: 5+C [m = C], or 4S3H [m = D]
3D : 5+D [m = C], or 3+D [m = D], MST+
3H : 6+H, MST+
3S*: (4)5+C
3N : s/o
4m : 5H5m
4H : s/o

```

```

1m - 1S(-1); 2N -
3C*: ask
  - 3D : 4+D [m = C], or catchall [m = D]
  - 3H : 4H # could have 3S if m = C
  - 3S : 3S
  - 3N*: 5+C [m = C], or 3S4H [m = D]
3D : 5+D [m = C], or 3+D [m = D], MST+
3H*: (4)5+C
3S : 6+S, MST+
3N : s/o
4X : 5H5X, MST+
4S : s/o

```

## 4.3 2NT

```
# B = bid, all (B) here are NF raise, or bids that (may be) weak
1Y -(2X)- 2N : nat
1X -(2Y)- 2N : nat
1N -(2X)- 2N : tr. Leb
(2C)- X* -(P) - 2N : nat
(2X)- X* -(P) - 2N : Leb
(1C)- X* -(2C)- 2N : nat
(1X)- X* -(2X)- 2N : Leb
(1X)- 1Y -(B) - 2N : nat
(1Y)- 2X -(B) - 2N : nat
1X -(2M)- X* -(P) - 2N : good-bad
1X -(1Y)- X/B-(2Y)- 2N : good-bad
1X -(1Y)- X/B-(2Z)- 2N : good-bad
1Y -(2C)- X/B-(P) - 2N : nat
1Y -(2X)- X/B-(P) - 2N : good-bad
1Y -(2X)- P -(P) - 2N : t/o, usually 64+mms
1Y -(B) - P -(2X)- 2N : t/o, usually 64+mms
(2M)- P -(P) - X* -(P) - 2N : Leb
(1X)- P -(2X)- X* -(P) - 2N : Leb
(1X)- X* -(B) - X* -(P) - 2N : normal Leb (good-bad)
(1X)- 1Y -(B) - X* -(P) - 2N : normal Leb (good-bad)
(1Y)- 2X -(B) - X* -(P) - 2N : normal Leb (good-bad)
(1C)- 2X -(2C)- X* -(P) - 2N : nat
(1X)- 1N -(2X)- X* -(P) - 2N : min nat

# general rules for other situations:
# tr. Leb applies only after 1N - (2X) and (1S)- 2H -(2S)
# ... X* -(P) - 2N = usually normal Leb (good-bad)
# ... X* -(B) - 2N = normal Leb (good-bad) if X = neg or t/o
# otherwise, free bid 2N is nat if inv is possible; otherwise t/o
# if there is not possible for inv+ (ex: balancing X by 1N opener), then 2N
  = nat
```

## 4.4 Forcing Pass

4.4.1  $XX = Q$

4.4.2  $(3X) - X - (5X) - P = F$

## 4.5 suit GT

```

1S - 2S - # or anytime showing 4-4 fit in 2S
2N*: ask
  - 3X*: feature in X # at least KJ/QJT
  - 3S : min, w/o feature
  - 3N*: max, w/o feature
  - 4X*: spl X
3X*: HSGT/ST in X # request void/x/xx/Qx/A(+)/K(+)
3S : 6+S inv
3N : s/o
4C+: spl

```

```

1H - 2H - # or anytime showing 5-3 fit in 2M
2S*: ask
  - 2N*: feature in S # at least KJ/QJT
  - 3m*: feature in m
  - 3H : min, w/o feature
  - 3S*: max, w/o feature
  - 3N*: spl S
  - 4X*: spl X
2N*: HSGT/ST in S # request void/x/xx/Qx/A(+)/K(+)
3m*: HSGT/ST in m
3H : 6+H inv
3S+: spl
3N : s/o

```

```

1m - 1S[-1] - 2S - # or anytime showing 4-4 fit in 2S
2N*: ask
  - 3m*: good m
  - 3X*: spl X
  - 3S : min, w/o short
  - 3N*: max, w/o short
2N*: HSGT/ST in S # request void/x/xx/Qx/A(+)/K(+)
3m*: HSGT/ST in m
3H : 6+H inv
3S+: spl
3N : s/o

```

```

1m - 1H[-1] - 2H - # or anytime showing 4-4 fit in 2H
2S*: ask
  - 2N*: spl S
  - 3m*: good m
  - 3om: spl om
  - 3H : min, w/o short
  - 3S*: max, w/o short
2N*: HSGT/ST in S # request void/x/xx/Qx/A(+)/K(+)

```

```
3m*: HSGT/ST in m
3H : 6+H inv
3S+: spl
3N : s/o
```

---

## 4.6 transfer Lebensohl

```

transfer Leb over (2M)-
2S : NF
2N*→3C*- P* : s/o
      - 3D*: s/o
      - 3oM: s/o
      - 3M*: 5+C, GF
      - 3N : half stop
      - 3X : 18+, nat
3X*→3X+1: 5+[X+1], inv+; if X+1 = M, then Stayman
      - 3M : max, but ask stop
3S*: ask stop
3N : s/o

```

## 4.7 normal Lebensohl

```

nomal Leb over (2M) -
(2H/) 2S : NF
2N*→3C*- 3X : s/o
      - 3M*: 4+oM, GF, have stopper
      - (2H/) 3S : 5+S, inv
3X [X < M]: 5+X, inv
3M*: 4+oM, GF, no stopper
3X [X > M]: 5+X, GF

```



## 4.8 maximum X

```

fit in 2M - (opp. comp to 3X) -
# if X = M - 1
X*   : inv+  # allow pen with low probability
# otherwise
3M-1: inv+

```

```

(1m) - 2H [V/NV] - (3D) - X*   : 2+H, inv
(1m) - 2H [V/NV] - (3C) - 3D*  : 2+H, inv

```

## 4.9 Rubens

```

(1X)- 1Y -(P/X)-
XX : 10+, near bal
1N : nat, 9-11
2N : nat, 12-14
# if Z < X
2Z : 10+, nat F1
# if X < Z < Y (transfer from opp's suit)
2Z-1 → 2Z*: 10+, nat F1; or s/o in Z
      - 3Z : s/o
2Y-1: cuebid. 10+, 3+Y; or GF w/o stopper
2Y : constr raise
# Z > Y
2Z : 13-15, 6+Z, inv
# jumps
3Z : 13-15, 6+Z, inv
3X*: mixed raise. 9-11, 4+Y
3Y : pre

```

```

(1Y)- 2X -(P/X)-
XX : 10+, near bal
2N : nat inv
# if Z < Y
2Z : 10+, nat F1
# if Y < Z (transfer from opp's suit)
2Z-1 → 2Z*: 10+, nat F1; or s/o in Z
# if Z < Y (transfer from opp's suit in 3rd-level)
3Z-1 → 3Z*: GF; or s/o in Z
3Y-1: cuebid. 10+, 3+Y
3Y : constr raise

```

## 4.10 Slam bidding

### 4.10.1 cuebid

```
cue = 1/2nd ctrl
# if opener shows a suit (unless 1C - 1X; 1N/2N), then
opener's cue on that suit = 2 of AKQ, usually source of tricks
resp's cue on that suit = never shortness, can be Q
cuebid denies lower control
```

### 4.10.2 FF

```
[fit in 3M] -
4M : min
3M+1*: FF, mild slam interest
4X*: cuebid, strong slam interest
```

### 4.10.3 kickback RKC

```
[fit in S] - 4N*: ask number of keycards # 4 Ace + Trump K
5C*: 0/3 keycards
  - 5H*: escape to 5S if 0-keycards
5D*: 1/4 keycards
  - 5S*: P if 1-keycard
5H*: 2/5 keycards w/ Trump Q
5S*: 2/5 keycards w/o Trump Q
5N*: 0/2/4 keycards, some void
  - 6C*: ask
    - 6X*: void in X
6X*: 1/3 keycards, void in X
```

```
[fit in X] - [4X+1]*: ask number of keycards
# similar responses, 5N replaces void in [X+1]
[fit in H] - (4S); 4N*: RKC
```

### 4.10.4 ERKC

```
[fit in X] -
# if opener already shows non-void Y, then it is just cue-bid
5Y*: ask number of keycards, excluding Y
  - +1*: 0/0+Q
  - +2*: 1
```

```

- +3*: 1+Q
- +4*: 2
- +5*: 2+Q
- +6*: 3
- +7*: 3+Q
...

```

### 4.10.5 ORKC

```

preempt in X (not C) - 4C*: ORKC
4D*: min
4H+: same as resp. to RKC

```

### 4.10.6 2-suited RKC

```

1M - 2X; 3X - 3M; ... [4M+1]: 2-suited RKC
# Queen of M and X act as 0.5 keycards
+1*: 0/3/6 keycards # may +0.5
  - +2*: ask if there's extra 0.5
    - 5M*: no
+2*: 1/4/7 keycards # may +0.5
  - +3*: ask if there's extra 0.5
    - 5M*: no # +4 = 5M
+3*: 2/5 keycards
+4*: 2.5/5.5 keycards

```

## 4.11 UwU

TBD (low-low, high-high)

## 4.12 XYZW

### 4.12.1 2wPCB

(<https://www.ptt.cc/man/BridgeClub/D6D1/D49B/D130/M.924860463.A.html>)

```

1X - 1Y; 1N
2C* → 2D*: transfer accepted
    - P : s/o
    - 2M : s/o, choose a partial [M ≤ Y]; inv, 5+Y, 4+M [M > Y]
    - 2N*: inv
    - 3Z : inv, 6+Z [Z = Y] or 4+Z [Z = X] or 5+Z and 4Y [otherwise]
    - 3N*: 5332, CoG # different from BTUBWS
    - 2Y*: max, 3Y
2D*: GF, ask
    - 2M : 3M [M = Y] or 6M [M = X] or 4M [otherwise]
    - 2N : nat
    - 3X : good 5+X
2M : inv, 5+M [M = Y] or 4+M [otherwise], NF
2N* → 3C*: transfer accepted
    - P : s/o
    - 3D : 4-5Y, CoG, no slam interest. spl D.
    - 3H*: ask if 5Y
    - 3H : 4-5Y, CoG, no slam interest. spl H. # spl C if Y = H
    - 3S*: ask if 5Y
    - 3S : 5Y, CoG, no slam interest. spl S. # spl C if Y = S
    - 3N : 4Y, CoG, no slam interest. spl S. # spl C if Y = S
    # a bit diff from BTUBWS. similar to 1N - 2S; any - 3M*
3Z : ST, 4+Z [Z = X] or semi-solid 6+Z [Z = Y] or 5+Z [otherwise]
3N : s/o
4C+: 7+Y, spl
    - 4M : waste
4Y : s/o

```

### 4.12.2 PLOB

```

1C - 1D*; 1H*-
# 2S* is usually F1 only
1S*: any (9)10-14
    - 1N : 12-14, 2H bal
    - 2C : s/o
    - 2C : 12-14, 2-H, (5)6+C
    # bids below applies to both 1N and 2C
    - 2D*: F, not prefer to declare NT
    - 2H : s/o
    - 2S : s/o

```

```

- 2N+: nat inv
- 2D*: GF ... (TBD)
- 2H : F, 3H
- 2S*: F
- 3S : inv
- 2S*: GF, not prefer to declare NT
1N : nat NF
2X : s/o
- 2S*: F
- 2N+: nat inv
- 3S*: 6+C, 5+S, F
2N*: 15+, catchall
3C*: fit in C, ST
3D*: 5+H, 5+D, ST
3H*: 6+H, ST
3S*: 4+S, ST
3N*: 18-19, 4H

```

```

1D - 1H; 1S -
1N : nat NF
2C*: any (9)10-14
- 2D : 12-14, 2-H
- P : s/o
- 2H : s/o
- 2S*: F, not prefer to declare NT
- 2N : min
- 3N : max
- 2N+: nat inv
- 2H : F, 3H
- 2S*: general GF
- 2N+: nat GF
2X : s/o
2N*: 15+, catchall
3C*: 5+H, 5+C, ST
3D*: fit in D, ST
3H*: 6+H, ST
3S*: 4+S, ST
3N*: 18-19, 4H

```

### 4.12.3 after 2N = 18-19 bal

```

1m - 1M(-1); 2N-
3C*: major-oriented ask, promises 5+M
3D*: fit in opener's suit, ST
3M : 6+M, ST
3oM: nat, 4+oM [M = H]; or 5+oM [M = S]

```

```
3N : s/o  
4om: nat 5+M, 5+om  
4m : RKC(om) # usually 6+om
```

---



# Chapter 5

## cardplay

## 5.1 lead

```
# lead vs suit: 3-low
# A/K = ask for count/att, but vs slam K = ask for count
A : Ax, AK, AKQ+, (AK+)
K : Kx, AKx, KQ+, (AK+)
Q : Qx(+), QJ+, (AQJ+)
J : Jx(+), JT+, AJT+, KJT+, (AJx), (KJx)
T : Tx, T9+, AT9+, KT9+, QT9+
hi-X: Xx, xXx+
lo-X: xXx+, HxX, HxXx, HxxxX, HxXxxx..., (xxX+)
# lead vs NT: 4-th
A : Ax, AKQ+, AK
K : Kx, KQ+, AKx, AKJT+
Q : Qx(+), QJ+, AQJ+, KQT9+, (AQx)
J*: Jx(+), JT+
T*: Tx(+), T9+, AJT+, KJT+
9*: 9x(+), AT9+, KT9+, QT9+, [AKT9+], [AQT9+] # exceptionally
hi-X: Xx, xXx+, (Xx+)
lo-X: HxX, HxxX+, HHxX+, xXx+
```

## 5.2 signal

```
UDCA: lo = enc/even
# vs suit
partner's lead: att, s/p
declarer's lead: cnt, s/p
discarding: att
# vs NT
partner's lead: att, s/p
declarer's lead: cnt, s/p
discarding: lav
```

### 5.2.1 Smith echo

```
# vs NT, declarer wins the lead, then on the next round available for
  signal,
# if first round x - x - H - win
both defenders' lo: enc leading suit
# if first round x - win - [att] - x
leader's lo: enc leading suit
# note: on/off may depends on dummy/lead
```

### 5.2.2 other

```
# vs suit, knowing partner empty
hi/lo = S/P
```